**//word file for reference purpose only**

**Request for Proposal for**

**Selection of Vendor for Continuity of Data Centre (Server Farm)**

**TENDER DOCUMENT**

**No. 4-61 (Vol-I)/IT/ICFRE/2016-17/ Dated:**

**(Against this office tender Notice No. 4-61 (Vol-I)/IT/ICFRE/2016-17/ )**

Indian Council of Forestry Research & Education

P.O. NEW FOREST, DEHRADUN - 248 006



**Proprietary & Confidential**

This Request for Proposal (RFP) is both confidential and proprietary to Indian Council of Forestry Research and Education (ICFRE) and ICFRE reserves the right to recall the RFP in its entirety or in part thereof. Vendors agree that they will not duplicate, distribute or otherwise disseminate or make available this document in its entirety or in part thereof, or the information contained in it without the express written consent of ICFRE.

Notwithstanding the foregoing, vendors may make this document available to those employees who have a need to know its contents in order to participate in the preparation of the response; however, vendors must first communicate the terms and conditions of this section to such employees. Vendors shall not include or reference this RFP in any publicity without prior written approval from ICFRE. Vendors must accept all of the foregoing terms and conditions without exception. All responses to the Request for Proposal submitted within the stipulated time will become the property of ICFRE and will not be returned.

**Notice Inviting e-Tender**



**INFORMATION TECHNOLOGY DIVISION**

**INDIAN COUNCIL OF FORESTRY RESEARCH AND EDUCATION**

**P.O New Forest- Dehradun**

(An Autonomous Body of Ministry of Environment, Forests and Climate Change, Government of India)

**No. 4-61 (Vol-I)/IT/ICFRE/2016-17/ Dated:**

**E-TenderNotice**

**For Selection of an Agency for Continuity of Data Centre (Server Farm) at Indian Council of Forestry Research and Education (ICFRE), Dehradun for a period of five (5) Years**

e-Tenders are invited by ICFRE, Dehradun from the eligible and reputed firms/companies having experience in **DataCentre** Continuity/Upgrade, Operation and Maintenance of Data Centre. The selected firm/company has to provide Operations and Maintenance (a Comprehensive Maintenance Contract) for a period of five (5) years after successful Final Acceptance Testing (FAT)**.**

,

DDG (Admin)

ICFRE, Dehradun

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# Acronyms and Abbreviations

| **Abbreviation** | **Description** |
| --- | --- |
| ADG | Assistant Director General |
| BCP | Business Continuity Plan |
| CAPEX | Capital Expenditure |
| DC | Data Centre |
| DDG | Deputy Director General |
| DB | Database |
| DHCP | Dynamic Host Configuration Protocol |
| DNS | Domain Name Service |
| EMS | Enterprise Management System |
| FC | Fibre Cable |
| FTP | File Transfer Protocol |
| HDD | Hard Disk Drive |
| ICFRE | Indian Council for Forestry Research and Education |
| IFRIS | Indian Forestry Research Information System |
| IMAP | Internet Message Access Protocol |
| ISO | International Organization for Standardization |
| IT | Information Technology |
| ITIL | Information Technology Infrastructure Library |
| KVA | Kilo Volt Ampere |
| KVM | Keyboard, Visual and Mouse |
| LAN | Local Area Network |
| LDAP | Lightweight Directory Access Protocol |
| LS | Lump Sum |
| MPLS | Multi-Protocol Label Switching |
| NOC | Network Operations Centre |
| NMS | Network Management System |
| OEM | Original Equipment Manufacturer |
| OPEX | Operations Expenditure |
| POP3 | Post Office Protocol version 3 |
| RDBMS | Relational Database Management System |
| EMD | Earnest Money Deposit |
| PBG | Performance Bank Guarantee |
| FAT | Final Acceptance Test |
| SPOF | Single Point of Failure |
| O&M | Operation & Maintenance |
| FAQ | Frequently Asked Questions |
| AMC | Annual Maintenance Contract |
| TAN | Tax Deduction Account Number |
| PAN | Permanent Account Number |
| CAL | Client Access License |
| MAF | Manufacturers Authorization Form |
| IPR | Intellectual Property Rights |

# Request for Proposal (RFP) Datasheet

|  |  |  |
| --- | --- | --- |
| **Events** | **Date/Time** | **Venue** |
| Published Date | 26.05.2017 12.30 PM | ICFRE website and Central Public Procurement (CPP) Portal |
| Bid document download/Sale start date | 26.05.2017 01.30 PM | CPP Portal |
| Pre-bid Meeting | 06.06.2017 10:00 AM | Board Room, ICFRE Head Qtr, Dehradun |
| Bid submission start date | 09.06.2017 11.00 AM | CPP portal |
| Bid submission end date | 18.06.2017 11.00 AM | CPP portal |
| Opening date of technical bids | 19.06.2017 11.30 AM | Online |
| Opening date for Financial bids | 28.06.2017 11:00 AM | Online |

**Coordinating Officer:**

DDG (Admin)

Indian Council of Forestry Research & Education

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Email: [ddg\_admin@icfre.org](mailto:ddg_admin@icfre.org), head\_it@icfre.org

# Introduction

The Indian Council of Forestry Research and Education (ICFRE) is an autonomous body under the Ministry of Environment and Forest, Government of India and its mandate is to formulate, organize, direct and manage forestry research; transfer developed technologies to states and other agencies; and impart forestry education.

ICFRE, an apex body in the National Forestry Research System, has been undertaking the holistic development of forestry research through need based planning, promoting, conducting and coordinating research, education and extension covering all aspects of forestry.

ICFRE has nine Regional Research Institutes and four Research Centres located in different bio-geographical regions of the country to cater the forestry research needs of the nation. The regional research Institutes are located at Jodhpur, Dehradun, Shimla, Hyderabad, Coimbatore, Ranchi, Bangalore, Jorhat and Jabalpur and the centres are at Aizawl, Agartala, Chhindwara and Allahabad.

In view of growing needs of Information, Communication, Technology (ICT) based requirements of ICFRE along with its Institutes operating under its umbrella, ICFRE established a State of the Art, Tier-I, ISO 27001 Data Centre at its Headquarters at Dehradun, Uttarakhand in 2009.

This Data Centre of ICFRE is providing centralized services such as Internet, Applications, Email Solution, Data Security (Antivirus), Hosting of Website, Video Conferencingetc. to all its Institutes. The Data Centre is equipped with requisite IT & Non-IT Infrastructure which enables ICFRE and its institutions with seamless, reliable/robust, shared and secured infrastructure. Existing data centre is providing these gamut of services to 1500+ no. of officials/users. The data Centre is currently manned 24X7 to provide optimum service levels to its users.

In order to keep the Data Centre services abreast with the latest technologies, ICFRE felt a need to upgrade its Data Centre. For the same ICFRE invites the competent bidders to participate in the “RFP for Supply, Installation, Commissioning, Operations and Maintenance of Data Centre Infrastructure along with Buyback of obsolete components.

# Instruction to Bidders

## Completeness of Response

1. Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP document carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
2. Failure to comply with the requirements of this paragraph may render the Proposal non-compliant and the Proposal may be rejected. Bidders must:
3. Include all documentation specified in this RFP
4. Follow the format of this RFP and respond to each element in the order as set out in this RFP
5. Comply with all requirements as set out within this RFP

## Pre–Bid Meeting

### Pre-bid Conference

1. ICFRE shall hold a pre-bid meeting with the prospective bidders as per the date provided in the Schedule of RFP Bidding process.
2. The Bidders will have to ensure that their queries for Pre-Bid meeting should reach as per Schedule of Bid process sheet by post, facsimile or email as per the date and time mentioned in the Schedule of Bid process.

**The queries should necessarily be submitted in the following format in MS EXCEL ONLY:**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **RFP Document Reference(s)**  **(Section & Page Numbers)** | **Content of RFP requiring**  **Clarification(s)** | **Points of**  **clarification** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

1. ICFRE shall not be responsible for ensuring that the bidders’ queries have been received by them. Any requests for clarifications after the indicated date and time may not be entertained by ICFRE.

### Response to Pre-bid Queries and Issue of Corrigendum

1. ICFRE will endeavour to provide timely response to all queries. However, ICFRE makes no representation or warranty as to the completeness or accuracy of any response; neither response nor does ICFRE undertake to answer all the queries that have been posed by the bidders
2. At any time prior to the last date for receipt of bids, ICFRE may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum
3. The Corrigendum (if any) having clarifications to the queries from all bidders will be posted on CPP portal: <https://eprocure.gov.in/eprocure/app>and may be emailed to all participants of the pre-bid conference
4. Any such corrigendum shall be deemed to be incorporated into this RFP
5. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, ICFRE may, at its discretion, extend the last date for the receipt of Proposals.

## RFP Document Fees

1. The bidder may download the RFP document from the CPP portal: <https://eprocure.gov.in/eprocure/app>. The bidder shall submit, along with their Bids, RFP Document fees of **INR 5,000 only (INR Five Thousand only)** in the form of a **demand draft/bankers cheque**in favour of **“DDO, ICFRE Dehradun”** payable at Dehradun. Proposals received without or with inadequate RFP Document fees shall be rejected. If a company is registered with NSIC as MSME, tender fees is waived off. However, bidders have to provide a valid certificate (NSIC) at the time of bid submission.

## Earnest Money Deposit (EMD)

1. The bids should be submitted along with an **EMD of INR 5,00,000 (INR Five Lakh Only)** in the form of **FDR/BG**. The bids submitted without this EMD will be summarily rejected. The FDR/BG should be drawn in favour of **“DDO, ICFRE Dehradun”** payable at Dehradun. The FDR/BG should be valid for a period of Six Months (180 days) from the date of opening of bids.If a company is registered with NSIC as MSME, EMD is waived off. However, bidders have to provide a valid certificate (NSIC) at the time of bid submission.
2. The EMD of those bidders that are disqualified during the technical evaluation stage will be returned within a month from the date of the decision. The EMD of the remaining unsuccessful bidders will be returned within a month from the date of signing the agreement with the successful bidder. The EMD of the successful bidder shall be returned within one month of receipt of Performance Bank Guarantee. The bidders shall not claim any interest on the EMD.
3. Failure of the successful bidder to comply with the requirement of the Contract shall constitute sufficient grounds for the annulment of the Contract and forfeiture of the bid security (EMD), in which case ICFRE may award the Contract to the next successful bidder(s) or call for new bids.
4. The Earnest Money will be forfeited on account of one or more of the following reasons:
   1. The Bidder withdraws his bid during the period of bid validity specified by him on the bid letter form.
   2. Bidder does not respond to requests for clarification of their bid
   3. Bidder fails to co-operate during the bid evaluation process, and
   4. In case of a successful Bidder, the said Bidder fails
      1. To sign the Contract Agreement in stipulated time; or
      2. To furnish Performance Bank Guarantee

## Performance Bank Guarantee

1. The Vendor shall carry out the services in conformity with general professionally and technically accepted norms relevant to such assignments that are required for the project and which are to the entire satisfaction of ICFRE.
2. In the event of any deficiency in services, the Vendor shall promptly re-provide the services at no additional cost to ICFRE.
3. Within 7 days of receipt of Letter of Intent (LoI) from ICFRE, the successful bidder shall submit the acceptance of the same.
4. Within 30 days of the acceptance of Letter of Intent (LoI), the successful Bidder shall furnish the Performance Bank Guarantee on a stamp paper of INR 100/- (Rupees One Hundred only), for an amount equivalent to 10% of the total Contract value for the period of the Contract plus 180 days from the date of signing of the Agreement.
5. Contract Agreement shall be signed within 40 days from LoI Acceptance.
6. The Bank guarantee must be drawn in favour of the DDO ICFRE, Dehradun. The format of Bank Guarantee should be as prescribed in this RFP.
7. Failure of the successful Bidder to comply with the requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the Performance Bank Guarantee. In case of exigency, if ICFRE gets the work done from elsewhere, the difference in the cost of getting the work done will be borne by the successful Bidder.
8. **Forfeiture of Performance Bank Guarantee** – The Performance Bank guarantee amount in full or part may be forfeited in the following cases -
   1. When the terms and conditions of contract are breached.
   2. When the Vendor fails to perform work satisfactorily.
9. Notice for 30 days will be given in case of forfeiture of Performance Bank Guarantee. However the time period can be extended by ICFRE at its sole discretion.
10. **Release of Performance Bank Guarantee**: The Performance Bank Guarantee deposited will be returned back after successful completion of the contract period.

## Venue for submission of Bids

Bids must be submitted online at the CPP portal: <https://eprocure.gov.in/eprocure/app>.

## Validity of Bids

The bids submitted by the bidders shall be valid for at least 180 days from the date of submission of bids.

## Disqualifications

Without prejudice, the bidders may be disqualified and their bids may be dropped for further consideration for any of the reasons listed below:

* 1. Material misrepresentation by Bidder in the RFP document.
  2. Failure by such Bidder to provide the information required herein.
  3. Non-submission of EMD of INR 5,00,000/- (INR Five Lakh only) would be rendered non-responsive and will be out rightly rejected.
  4. During validity of the bid or its extended period, if any, the bidder increases his quoted prices.
  5. Conditional bids.
  6. If found to have a record of poor performance such as abandoning work, not properly completing the contract, inordinately delaying completion, being involved in litigation or financial failures, etc.
  7. Failed to provide clarifications related thereto, when sought
  8. Submitted more than one bid. This will cause disqualification of all such bids submitted by such bidders
  9. Bidders who are found to canvass, influence or attempt to influence in any manner for the qualification or selection process, including without limitation, by offering bribes or other illegal gratification shall be disqualified from the process at any stage.
  10. A Bid not valid for at least 180 days shall be considered as non-responsive and would be disqualified.

## Right to Accept/Reject Any Proposal or All Proposal(s)

1. ICFRE reserves the right to accept or reject any proposal, and to annul the tendering process / Public procurement process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for ICFRE action.

## Preparation & Submission of Proposal

### Proposal Preparation Costs

1. The bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/ discussions/ presentations, preparation of proposal, in providing any additional information required by ICFRE to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.
2. ICFRE in no case will be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

### Language

1. The Proposal should be filled by the Bidder in English language only. If any supporting documents submitted are in any language other than English, translation of the same in English language is to be duly attested by the Bidders. For purposes of interpretation of the Proposal, the English translation shall govern.

### Submission of Proposal

* 1. The completed proposal must be submitted mandatorily online at CPP portal: <https://eprocure.gov.in/eprocure/app> after going through the terms and conditions given thereof. The offers submitted by Fax/email/offline shall not be considered and no correspondence shall be entertained in this matter.
  2. The bid, consisting of the documents listed in the instructions, shall be signed by the Bidder or a person or persons duly authorized by the Vendor. All pages of the bid, except for appended printed literature, shall be initialled by a person or persons signing the bid
  3. **Cover 1. Technical Bid**
  4. **Qualifying Documents**

The qualifying documents should be uploaded in CPP portal: <https://eprocure.gov.in/eprocure/app> as indicated in **Annexure-8** “Pre-Qualification Criteria”. The authorized representative of Tenderer/Bidder has to sign the supporting documents on each page and the scanned copy of the documents in pdf format to be uploaded in CPP portal for qualifying in the bidding process.

**In absence of scanned and signed copy of required qualifying items as specified - the tender would be considered as invalid.**

* 1. **Technical Documents**

Technical documents should be uploaded in the CPP portal: <https://eprocure.gov.in/eprocure/app> as indicated in **Annexure-9** “Technical Evaluation Criteria”. The authorized representative of Tenderer/Bidder has to sign the document and the supporting documents on each page and the scanned copy of the documents in pdf format to be uploaded in CPP portal as part of their Technical Bid.

**In absence of scanned and signed copy of required technical bid items as specified - the tender would be considered as invalid.**

* 1. **Cover 2: Financial Bid**

1. The financial proposal must be submitted in the Schedule of financial bid in the form of BoQ.xls separate for each item - though the CPP portal: <https://eprocure.gov.in/eprocure/app>.
2. Prices shall be quoted in Indian INR. The taxes should be indicated separately in the bid and will be payable as per the Government Law. Any change in government taxation policy will be applicable.
3. TDS shall be made as per Income Tax Rules.

## Proposal Evaluation



### Opening of Technical Proposal

1. Bids submitted would be opened online from CPP Portal.

### Evaluation of the proposals

1. The responses to the RFP document would be evaluated following the procedure as below:
   1. **Pre-Qualification Evaluation:** ICFRE will first scrutinize the eligibility of the bidders as per “Pre-qualification Evaluation” mentioned in Annexure – 8, based on the documents submitted by the bidder. The offers of the bidders who will fulfil pre-qualification criteria will be taken up for further scrutiny i.e. the technical evaluation
   2. **Technical Evaluation:** A technical evaluation of the qualified bidders on the basis of the technical solution structure will be carried out prior to opening any financial proposal. The Indicative components of the Technical Evaluation are provided in Annexure – 9.
   3. **Financial Evaluation:** The bidder would submit the quote of bid as per the format given in the Annexure 6 of RFP. The evaluation committee will determine if the financial proposals are complete and without computational errors. Financial bid evaluation shall be done on the base price quoted by bidders exclusive of taxes.
   4. **Overall Evaluation:** The contract shall be awarded to the bidder with lowest commercial offer (L-1).

### Notification of Award

1. Prior to expiry of the period of the proposal validity, ICFRE will notify the successful bidder in writing that its proposal has been accepted.

### Signing of contract

1. At the same time as ICFRE notifies the successful bidder that its proposal has been accepted, ICFRE will enter in a Contract Agreement with successful bidder. Failure of the successful bidder to sign the contract proposed through the award letter, shall constitute sufficient grounds for the annulment of the award, in which event ICFRE may make the award to the next successful bidder or call for new proposals.

# Conditions of Contract

## General Conditions of the Contract

1. The Contract/ Project Period shall commence from the date of signing of agreement between ICFRE and Successful Bidder.
2. All IT and physical infrastructure required for supply and commissioning of the Server Farm as mentioned in the RFP shall be the property of ICFRE and will remain as ICFRE property upon completion/termination of the agreement.
3. The Bidder should be liable for all warranties, spares and supplies including snags, defects and any shortcomings in the IT/Non-IT components for the entire period of the contract and the Bidder shall be the single point of contact for ICFRE and ICFRE shall have nothing to do with the OEMs directly.
4. At all times, the Bidder shall act with appropriate propriety and discretion and in particular shall refrain from making any public statement concerning the Project or the Services without the prior approval of ICFRE and shall refrain from engaging in any political activity.
5. Except with the written consent of ICFRE, Bidder will not divulge to any person or use for own purposes any information relating to the services, the project or ICFRE including information in respect of payments.
6. The successful Bidder shall report immediately to ICFRE any accident or injury and any damage to the property of the client or to the property or person of any third parties occurring in or arising out of the performance of the services and any act, matter or thing which within their knowledge may have caused such accident or injury. They shall also report immediately to the client any circumstances or events which might reasonably be expected to hinder or prejudice the performance or the services, including circumstances and events relating to his transportation and accommodation.
7. All reports, design notes, drawings, specifications, plan and other documents and data compiled or made by the Bidder while performing the services shall be the property of ICFRE and upon completion/termination of the engagement shall be disposed of as ICFRE shall direct. The Bidder may retain copies of such documents.
8. Any modification of this Contract shall be in writing and signed by an authorized representative of each Party.
9. After the award of Contract, it is the responsibility of the Successful Bidder to recommend ICFRE the actual number of components and/or additional components that may be required in the Server Farm with proper justification/documents, as per the Bidder’s assessment at the time of implementation of the Server Farm.
10. At the time of actual implementation based on the requirements, the number of servers, network components and software may be increased / decreased after mutual agreement between ICFRE and the Bidder.
11. The Bidder shall comply with the laws in force in India in the course of performing this Contract.
12. This Contract shall be governed in accordance with the laws of India.
13. Income Tax Deductions at Source (TDS) will be deducted as per prevalent rules.
14. After the conclusion of the contract, the selected Bidder shall not, without the consent of ICFRE engage in subsequent work on or in connection with the project or arising out of the project provided, however, that such consent shall not be unreasonably withheld.
    1. No legal proceedings to enforce any claim and no suit arising out of this contract shall be instituted except in a court of competent jurisdiction over Dehradun, Uttarakhand.
    2. Commencement of Assignment shall be within 15 days from the date of acceptance of offer.
    3. The Deputy Director General (Admin.), ICFRE, Dehradun reserves the right without assigning any reasons thereof, to :
       1. Accept or reject whole or any part of an offer
       2. Reject any or all offers partly or wholly
       3. Cancel or withdraw the Tender notice
       4. Accept or reject any deviations from these conditions
15. The Server Farm developed may be subjected to Third Party Audit (TPA) for ISO 27001 certification for which the cost will be borne by ICFRE, however, any documentation required for this purpose, shall be in scope of bidder.
16. The Implementation of the Server Farm Components should be completed within stipulated period of 160 days from the date of signing the agreement as mentioned in section 3.4, Project Timelines, failing to which ICFRE may impose penalties on the Bidder.
17. Conditional bids are liable for rejection.
18. No interest will be paid by ICFRE on the EMD and Performance Bank Guarantee deposit.
19. ICFRE holds the right to accept or reject any or all bids, and to annul the Tender process and reject all bids at any time, without assigning any reason and without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder.
20. Notices –

For the purpose of all notices, the Bidder shall send or inform to ICFRE at:

Deputy Director General (Admin)

Indian Council of Forestry Research and Education,

P.O. New Forest, Dehradun - 248006.

All notices by ICFRE will be sent on the following address or on changed address if informed in writing by the Bidder to ICFRE.

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(To be filled in at the time of Contract signature)

## Governing Language

The Agreement shall be written in English language and such language versions of the Agreement shall govern its interpretation. All correspondence and other documents pertaining to the Contract that are exchanged by parties shall be written in English language only.

## Inspections and Tests

1. Before Installation and commissioning, ICFRE or its representative shall have the right to inspect and/or to test the goods to confirm their conformity to the Contract specifications at no extra cost to ICFRE.
2. If any inspected or tested goods fail to conform to the specifications, ICFRE may reject the goods and the Bidder shall either replace the rejected goods or make alterations necessary to meet specification requirements free of costs to ICFRE.

## Contract Amendments

No variation in or modification of the terms of the Contract shall be made except by written amendment signed by both the parties i.e. the Successful Bidder and ICFRE.

## Severance

In the event any provision of this Contract is held to be invalid or unenforceable under the applicable law, the remaining provisions of this Contract shall remain in full force and effect.

## Conflict of Interest

The Bidder shall disclose to ICFRE in writing, all actual and potential conflicts of interest that exist, arise or may arise in the course of performing the Services.

## Force Majeure

1. The performance of the obligations of either party under this Agreement is subject to Force Majeure.
2. If a Force Majeure situation arises, either party shall promptly notify to the other party in writing of such conditions and the cause thereof. Unless otherwise directed by ICFRE in writing, the vendor shall continue to perform its obligations under this agreement, as far as it is reasonably practical. Either party reserves the right to terminate this contract, without any additional liabilities to either party, if the Force Majeure period continues for more than 120 (One hundred and twenty) days.

## Penalty

Commencement of all activities for commissioning of Server Farm facilities and ongoing performance and service levels shall be as per timelines and parameters stipulated by ICFRE in this contract, failing which ICFRE may, at its discretion, impose penalties on the Bidder.

* 1. **Delay in Installation and Commissioning**

In case of delay in commissioning of the Server Farm facilities and installation of Server Farm hardware for the continuity by the Bidder beyond the stipulated period as detailed in Section 3.4 (Project Timelines), ICFRE shall impose a penalty on the Bidder @ 0.5% per week for first 2 weeks of delay and @1% per week for each subsequent week, subject to a maximum of 10%. Penalty will be computed on the CAPEX value.

* 1. **Operation and Maintenance**

In case of non-adherence to the SLAs as defined in **Annexure-10** – ‘Service Level Agreement’ of this RFP document, the penalties stipulated therein shall be imposed on the Bidder.

The total deduction under penalties for SLAs as mentioned in section 10.3 to 10.6of SLA should not exceed 20% of the Equal Quarterly Instalments (EQI) of the OPEX value otherwise no payments would be made for that quarter.

Three consecutive quarterly deductions under penalties for SLAs as mentioned in section 10.3 to 10.6of SLA of more than 20% of Equal Quarterly Instalments (EQI) of the OPEX value on account of any reasons will be deemed to be an event of default and shall make the contract liable for termination.

In the event of any of the above happening, it shall be governed by the terms & conditions defined in Section 2 – ‘Conditions of Contract’.

## Termination

ICFRE may, terminate this Contract in whole or in part by giving the Vendor prior and written notice indicating its intention to terminate the Contract under the following circumstances:

1. Where ICFRE is of the opinion that there has been such Event of Default on the part of the Vendor which would make it proper and necessary to terminate this Contract and may include failure on the part of the Vendor to respect any of its commitments with regard to any part of its obligations under its Bid, the Tender or under this Contract.
2. Where it comes to ICFRE’s attention that the Vendor is in a position of actual conflict of interest with the interests of ICFRE in relation to any of terms of the Vendor’s Bid, Tender or this Contract.
3. Where the Vendor’s ability to survive as an independent corporate entity is threatened or is lost owing to any reasons whatsoever, including the filing of any bankruptcy proceedings against the Vendor, any failure by the Vendor to pay any of its dues to its creditors, the institution of any winding up proceedings against the Vendor or the happening of any such events that are adverse to the commercial viability of the Vendor. In the event of the happening of any events of the above nature, ICFRE shall reserve the right to take any steps as are necessary, to ensure the effective transition of the project to a successor Vendor/service provider, and to ensure business continuity
4. Termination for Insolvency - ICFRE may at any time terminate the Contract by giving written notice to the Vendor, without compensation, if the Vendor becomes bankrupt or otherwise insolvent, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter ICFRE.
5. Termination for Convenience - ICFRE may, by prior written notice sent to the Vendor in advance, terminate the Contract, in whole or in part at any time for its convenience. The notice of termination shall specify that termination is for ICFRE convenience, the extent to which performance of work under the Contract is terminated, and the date upon which such termination becomes effective.
6. The Vendor may, subject to approval by ICFRE terminate this Contract before the expiry of the term by giving ICFRE a prior and written notice at least 12 months in advance indicating its intention to terminate the Contract.

## Consequences of Termination

1. In the event of termination of this Contract due to any cause whatsoever, [whether consequent to the stipulated Term of the Contract or otherwise] ICFRE shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the project which the Vendor shall be obliged to comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow and provide all such assistance to ICFRE and/or the successor Vendor/service provider, as may be required, to take over the obligations of the erstwhile Vendor in relation to the execution/continued execution of the scope of this Contract.
2. Where the termination of the Contract is prior to its stipulated term on account of a Default on the part of the Vendor or due to the fact that the survival of the Vendor as an independent corporate entity is threatened/has ceased, or for any other reason, whatsoever, ICFRE through unilateral redetermination of the consideration payable to the Vendor shall pay the Vendor for that part of the Services which have been authorized by ICFRE and satisfactorily performed by the Vendor up to the date of termination. Without prejudice any other rights, ICFRE may retain such amounts from the payment due and payable by ICFRE to the Vendor as may be required to offset any losses caused to ICFRE as a result of any act/omissions of the Vendor. In case of any loss or damage due to default on the part of the Vendor in performing any of its obligations with regard to executing the scope of work under this Contract, the Vendor shall compensate ICFRE for any such loss, damages or other costs, incurred by ICFRE capped to total contract value. Additionally, the sub Vendor / other members of its team shall perform all its obligations and responsibilities under this Contract in an identical manner as were being performed before the collapse of the Vendor as described above in order to execute an effective transition and to maintain business continuity. All third parties shall continue to perform all/any functions as stipulated by ICFRE and as may be proper and necessary to execute the scope of work under the Contract in terms of the Vendor’s Bid, the Tender and this Contract.
3. Nothing herein shall restrict the right of ICFRE to invoke the Performance Bank Guarantee, enforce the Deed of Indemnity and pursue such other rights and/or remedies that may be available to ICFRE under Indian law.
4. The termination hereof shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of this Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

## Liquidated Damages

1. Subject to clause for Force Majeure if the bidder fails to complete the Commissioning of Server Farm before the scheduled completion date or the extended date or if Vendor repudiates the Contract before completion of the Work, ICFRE at its discretion, may without prejudice to any other right or remedy available to ICFRE may recover a maximum of 10 percent of the project cost from the Vendor, as Liquidated Damages (LD).
2. In the case it leads to termination, ICFRE shall give 30 days’ notice to the Vendor of its intention to terminate the Contract and shall so terminate the Contract unless during the 30 days’ notice period, the Vendor initiates remedial action acceptable to ICFRE.
3. ICFRE may without prejudice to its right to affect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the Vendor in its hands (which includes ICFRE’s right to claim such amount against Vendor’s Performance Bank Guarantee) or which may become due to the Vendor. Any such recovery or liquidated damages shall not in any way believe the Vendor from any of its obligations to complete the Works or from any other obligations and liabilities under the Contract.

## Dispute Resolution

1. ICFRE and the Vendor shall make every effort to resolve amicably by direct informal negotiations, any disagreement or disputes, arising between them under or in connection with the Contract.
2. If, after Thirty (30) days from the commencement of such direct informal negotiations, ICFRE and the Vendor have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanism specified in Clauses 3 and 4 below.
3. Except where otherwise provided in the contract all questions and disputes whatsoever in any way arising out of or relating to the contract or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the Maintenance Contract or after the completion or abandonment thereof shall be referred to the sole arbitration of the person appointed by the Director General, Indian Council of Forestry Research & Education, (DG, ICFRE) Dehradun on his behalf at the time of dispute. There shall be no objection to any such appointment that the arbitrator so appointed is an employee of ICFRE, or government servant or that he/she had to deal with the matters to which the contract relates or that in the course of his/her duties as an employee of ICFRE, or government servant, he had expressed views on all or any of the matters in dispute of differences. The arbitrator to whom the matter is originally referred being transferred or vacating his/her office or being unable to act for any reason, shall be replaced by another person as decided by DG, ICFRE, to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his/her predecessor. It is also a term of this contract that no person other than a person appointed by the Director General, ICFRE should act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to arbitration at all in all cases where the amount of the claim in dispute is INR 50,000/- and above.
4. The Arbitration and Conciliation Act 1996, the rules there under and any statutory modification or re-enactments thereof, shall apply to the arbitration proceedings.
5. The venue of arbitration shall be Dehradun, Uttarakhand, India.
6. ICFRE may terminate this contract, by giving a written notice of termination of minimum 30 days, to the Vendor, if the Vendor fails to comply with any decision reached consequent upon arbitration proceedings pursuant to Clause 2.12 (Dispute Resolution).
7. Continuance of the Contract: Notwithstanding the fact that settlement of dispute(s) (if any) under arbitration may be pending, the parties hereto shall continue to be governed by and perform the work in accordance with the provisions under the Scope of Work to ensure continuity of operations.

## Arbitration

Except where otherwise provided in the contract all questions and disputes whatsoever in any way arising out of or relating to the contract or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the Maintenance Contract or after the completion or abandonment thereof shall be referred to the sole arbitration of the person appointed by the Director General, Indian Council of Forestry Research & Education, (DG, ICFRE) Dehradun on his behalf at the time of dispute. There shall be no objection to any such appointment that the arbitrator so appointed is an employee of ICFRE, or government servant or that he/she had to deal with the matters to which the contract relates or that in the course of his/her duties as an employee of ICFRE, or government servant, he had expressed views on all or any of the matters in dispute of differences. The arbitrator to whom the matter is originally referred being transferred or vacating his/her office or being unable to act for any reason, shall be replaced by another person as decided by DG, ICFRE, to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his/her predecessor. It is also a term of this contract that no person other than a person appointed by the Director General, ICFRE should act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to arbitration at all in all cases where the amount of the claim in dispute is INR 50,000/- and above.

Subject as aforesaid, the provisions of the Arbitration and Conciliation Act 1996 or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

Services under the contract shall, notwithstanding the existence of any such dispute, question or controversy, continue during arbitration proceedings and no payment, due or payable by ICFRE or the firm shall be withheld on account of such proceedings unless such payments are the direct subject of the arbitration. Reference to arbitration shall be a condition precedent to any other action at law.

## Payment schedule

The payment process followed will be milestone based as per the following schedule:

|  |  |  |
| --- | --- | --- |
| **S. No** | **Milestone** | **Payment** |
| 1 | Receipt of material as per Bill of Material | 40% of CAPEX |
| 2 | Installation and Successful Commissioning | 50% of CAPEX |
| 3 | Quarterly payments spread over a period of 5 years | 10% of CAPEX & 100% of OPEX |

A total amount comprising of 10% of the CAPEX value and 100% of the OPEX value will be paid in 20 Equal Quarterly Instalments (EQI) over a period of 5 years from the date of Installation and Commissioning of ICFRE Server Farm. This amount shall be paid on the basis of performance linked to SLAs as defined in this RFP. All payments to the selected Vendor shall be made upon submission of invoices along with relevant sign-off from ICFRE.

The following payment terms should be taken care of:

1. No claim on account of sales tax, service tax, VAT, work contract tax or any other taxes and duties presently in force for the services / material used for execution of the work awarded under the contract, will be entertained by ICFRE and all such taxes and duties shall be borne by the Vendor himself.
2. The ICFRE shall deduct such taxes, duties and any other statutory levies imposed by the Government on such charges as may arise from the implementation of the contract agreement.
3. The payment is subject to TDS as per Income Tax Rules / Laws.

# Schedule of Requirements

## Scope of Work

ICFRE intends to upgrade, operate and maintain the infrastructure of its Data Centre at Dehradun, Uttarakhand for the continuity of services provided to the ICFRE Head Quarter and its Institutes/Centres. ICFRE expects the Vendor to study the current architecture and redesign the deployment architecture for an optimally performing and cost effective solution.



### Supply, Installation, Commissioning, Operations& Maintenance of Data Centre Infrastructure along with Buyback of obsolete components

The Vendor is required to Supply, Install, Commission, Integrate, Upgrade and Buyback of specified obsolete components in Data Centre as per the specifications mentioned in thisRFP document. The Vendor shall ensure the seamless integration and interoperability with existing installed infrastructure and shall provide declaration on seamless integration as per Form 10 Annexure 5. The minimum specified scope of work to be undertaken by the Selected Vendor for continuity for DC is mentioned below:

1. Finalize the deployment architecture/layout with the ICFRE IT team
2. Procurement, Supply, Installation &Commissioning of all the components & sub components including all necessary hardware & software as per the proposed solution
3. Buyback of obsolete components
4. The Vendor has to ensure that the solution shall work as desired and the Vendor is also responsible to supply and install any other components that is inadvertently missed out but required for the overall solution to work, without adding any line item in the Bill of Material given in this RFP
5. The Vendor shall be responsible for ensuring implementation of the proposed solution with existing infrastructure and solutions present in the DC and optimal functioning of all the components post installation. This implementation shall comply with BoM for the DC components (that needs to be supplied under this RFP as per Annexure 3) and conform to the agreed deployment/implementation architecture.
6. The Vendor shall ensure that the solution permits the utilization of the existing security devices wherever rational such that entire functionality of these devices can be used to monitor security features and provide alerts, alarms, reports, proactive actions.
7. The Vendor has to ensure that all the existing DC components which shall be retained shall work with the newly supplied equipment (as per the BoM in this RFP) as they were working with the existing infrastructure. Detailed BoM is enclosed at Annexure “3” of this RFP
8. The Vendor must size and configure the Infrastructure being supplied in this bid accounting for future expansion and the solution shall be scalable. The specifications mentioned in the bid are mere indicative and minimal and Vendor has to ensure functional performance of the network components and as such Vendor is free to propose equipment with better and higher specifications
9. Comprehensive training during the implementation phase shall be the key to successful Operations and Maintenance; hence the Vendor is required to undertake robust training for at least 3 representatives from the ICFRE. The training documents, including Operating Manuals, Standard Operating Procedures (SOP) for the proposed solution shall be prepared and shared by the Vendor with ICFRE. The successful Bidder is free to propose the training plan
10. ICFRE, prior to the initiation of the O&M phase, shall undertake a detailed Final Acceptance Test (FAT) process, which will include:
    1. Component wise Acceptance
    2. Overall Solution Acceptance
    3. The deliverables for FAT would include, but not limit to, the following:
       1. FAT document (including a Plan, procedures, and report) acceptable to ICFRE
       2. Standard Operating Procedures (SOPs)
       3. Exit Management Plan
       4. SLA Measurement Methodology
       5. Training material for the operations & maintenance phase
11. FAT would be considered as completed when all the required services provided by Data Centre functions smoothly
12. Prior to deployment of the solution, the Vendor shall convey to ICFRE about all the requirements to be fulfilled for ensuring smooth operations. The requirements may include:
    1. Rack Space requirements in the available racks
    2. Power requirements
    3. Passive component requirements
    4. Planned downtime requirements, if any
    5. The Vendor shall ensure that the planned downtime is during non-peak hours and on Saturday/Sunday preferably, so that the downtime has minimum effect on the existing operations of DC
13. The Vendor shall ensure that the existing ICFRE DC policy documents are updated as per requirement of ISO27001. If any document is required for compliance purpose for ISO 27001, the Vendor will prepare the same
14. During the entire contract period, the Vendor shall comply with the SLAs provided in Annexure 10 of this RFP
15. All complaints shall be logged in the Help Desk and the data shall be used to comply with SLA compliance.The call and escalation that would be for the support period shall be properly recorded in the helpdesk system.
16. The Vendor shall ensure that the products (hardware/software etc.) quoted are not at the “End of Life/Sale for 1 year” as on Bid Submission date. If in case the support for the product quoted has been stopped/withdrawn till the time of delivery of equipment, the same will be changed with the same or higher product at no extra cost. However, OEM has to ensure product support for more than 7 years once product is declared end of life/sale. The support including spares, patches for the quoted products shall be available for the entire period of the Project without any additional cost to ICFRE. If at any point of time during the contract period, it is found that the product is out of support within the specified time, the Vendor is liable for upgradation/replacement of product.
17. Vendor will ensure that parallel run of existing Data Centre services shall continue till the time, existing services are migrated successfully on upgraded hardware

### Warrantee Support of Data Centre Infrastructure

As part of the warranty services,Vendor shall provide:

1. A Comprehensive Warranty for 3 years from the date of FAT and Maintenance Supportfrom OEM for rest of the contract period for all equipment(s)
2. During the contract period, Vendor shall replace or augment or procure higher‐level new equipment or additional licenses at no additional cost in case the procured hardware or software is not adequate to meet the service levels.
3. If during the contract period, any equipment has a hardware failure on four or more occasions in a period of less than three months, it shall be replaced by equivalent or higher‐level new equipment by the Vendor at no cost.
4. In case any hard disk drive of any server, SAN, or client machine is replaced during Warranty/ Maintenance Support, the unserviceable HDD will be property of ICFRE and will not be returned to Vendor.
5. Any component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent or higher configuration) within the time frame indicated in the Service Level Agreement (SLA).
6. Vendor shall develop and maintain an inventory database to include the registered hardware warranties.
7. Warranty should not become void, if ICFRE buys, any other supplemental hardware from a third party and installs it within these machines under intimation to the Vendor. However, the warranty will not apply to such supplemental hardware items installed. The Vendor shall be responsible for the O&M of the supplemental items for which an additional cost, mutually agreed, shall be paid to the Vendor per annum.

### Operations & Maintenance of Data Centre

As part of the Operations and Maintenance services, the Vendor shall provide support for the software, hardware, and other infrastructure, whether existing and/or provided as part of this RFP for a period of 5 years from FAT.

Non‐IT Infrastructure Management and Maintenance shall include equipment/components but not limited to DG Set, Electrical/Mechanical components, Servo Voltage Stabilizer, UPSs, Battery Banks, Electrical cables, Industrial Sockets, Fire and Safety system, Water Leakage Detection system, Building Management System (BMS), Surveillance systems (CCTV), Access Control, VESDA &Public Address System, Pest and Rodent Repellent system, Racks, Power Distribution Unit (PDUs), Precision Air Conditioners (PAC), Split & Duct ACs, False Ceiling and Data Centre Floor etc.

The detailed Operation & Maintenance Services to be carried out during the contract period are listed in Annexure –2.

## Manpower Requirement

The minimum requirement of manpower resources, their qualification and responsibility of each resource is given below. This is minimum indicative list of resources and based on actual requirements, the bidder may deploy any number of resources to meet the SLA. ICFRE shall not pay any cost for additional resources required to operate, maintain, monitor & manage the DC as per the SLA. In case support staff is not available or is on leave, the bidder is required to provide the alternative personnel with same or higher technical capabilities of the non‐available personnel.



### Resource Table (Indicative)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Position** | **No. of Resources** | **Deployment** | **Qualification & Experience** |
| 1 | ProjectManager | 1 | Offsite/ Onsite | (B.E./ B. Tech/ MCA) or equivalent with 10 years of relevant experience |
| 2 | Network / SystemAdministrator | 2 | FullTime onsite | (B.E./ B. Tech/ MCA) or equivalent with 5 years of relevant experience  Or Graduate with 7 years of relevant experience or  Polytechnic Diploma Holder with 8 years of relevant experience |
| 3 | Data Base Administrator | 1 | FullTime onsite | Same as above |
| 4 | Server Engineer / Technical Support | 4 | FullTime onsite | Same as above |
| 5 | Helpdesk Engineer / Executive | 1 | Full Time onsite | Graduate or equivalent with 3 years of relevant experience |

### Resource Responsibilities and Job Duties

1. **Project Manager**
   1. Overall in‐charge of Upgradation & O&M of the IT and Non-IT Infrastructure in DC
   2. Coordinating with third party agencies, bandwidth operators and software/equipment’s vendors
   3. Should be the single point contact (SPOC) for managerial responsibilities and direct interface with ICFRE
   4. Responsible for overall management of the Data Centre, user SLA commitments, performance, availability, response time, problem resolution.
2. **Network & System Admin**
   1. Responsible for network uptime, performance and other related services.
   2. Network monitoring and proactive network uptime maintenance.
   3. Network management (routing), Router Configuration and Troubleshooting, upgradation, Link Performance Management of Switch(s) at Data Centre on day to day basis.
   4. Support administration, Change Management, Liaison with Bandwidth Provider officials and external vendors, bandwidth and facility management
   5. Responsible for Firewall Management, Intrusion Management, Antivirus & Patch Management, Security Management.
   6. Responsible for Firewall Rules and Policies Management and Troubleshooting Implementing of NAT/PAT, SSH, signatures, etc.
   7. Plan & Implement comprehensive security policies and practices for entire infrastructure. Signatures updating, blocking of unwanted traffic, Antivirus updates, Patch updates, managing the network security on day to day basis.
   8. Monitoring any flooding, DoS, Intrusion attempt in real time during the office hours
3. **Database Admin**
   1. Responsible for database administration, should be responsible for database and application change management procedure.
   2. Responsible for management of database repository, creation, deletion, modification, backup and restore of databases and their tables.
   3. Backup of operating system, database and application as per stipulated policies at the DC.
   4. Ensuring prompt execution of on‐demand backups of volumes, files and database applications whenever required by User Departments or in case of upgrades and Configuration changes to the system.
   5. Real‐time monitoring, log maintenance and reporting of backup status on a regular basis. Prompt problem resolution in case of failures in the backup processes.
   6. Media management including, but not limited to, tagging, cross referencing, storing, logging, testing.
4. **Server Engineer / Technical Support**
   1. Managing server infrastructure services for System maintenance, storage, backup etc.
   2. Responsible for system configuration, scalability, performance, load balancing, OS administration / management, troubleshooting & Debugging and monitoring of servers
   3. Internet Management, E‐Mail management, Service Management, End point solutions management, Systems Management, Proxy, content filtering and Internet access management for users, managing Messaging servers
   4. Monitoring application components, including Application servers, Web Servers, on an ongoing basis to ensure smooth functioning of the applications.
5. **Helpdesk Engineer / Executive**
   1. Logging of support calls, escalation of calls, recording of configuration items and service calls monitor and control the Service levels and underlying service quality
   2. Creating MIS reports for management purpose
   3. Managing and Supporting the Helpdesk System (tool) for day-to‐day operations.
   4. Required to do recommended modifications, additions, deletions in tool. Managing and operating Helpdesk tool issues as a Tool Specialist.

Note: It is clarified that the responsibilities and numbers mentioned against the position type are only indicative, it is the responsibility of bidder to provide requisite resources of right competency and experience to completely discharge functional requirements of Operations & management, Error reporting, SLA compliance, support (installation of applications, software, networking devices, OS, Storage, Backup) and the cost of such manpower should be part of the bid being quoted by the bidder.

The manpower deployed by the bidder for carrying out and providing services should be on the bidders’ payroll/contract. The complete set of manpower resources proposed by the Bidder shall be on‐site manpower only and strictly dedicated for this contract. Noncompliance of such deployment would result into imposition of penalty / termination of the contract as per the terms and conditions of RFP.

The manpower deployed by the bidder shall report to the respective nodal officers nominated by ICFRE.

The Bidder has to provide supporting IT and Communication Infrastructure to such manpower, during entire contract period without any extra cost to the ICFRE. Workspace shall be made available to the bidder by the department. Bidder has to ensure that the Support personnel deputed during all stages of the project shall carry an Identity Card duly authenticated by ICFRE

## Role & Responsibilities

### Role & Responsibilities of ICFRE

1. To nominate single point of contact (Project Manager) who would be in charge of overall assignment andwould interact on day to day basis with the counterpart and provide technicalinputs.
2. To ensure accountability/ ownership/adherence by the stakeholders.
3. To provide joint ownership between the authorized officer and Vendor.
4. To develop risk mitigation strategies and responsibility matrix at the level ofservices
5. To provide escalation framework for issues related to implementation,commissioning and operations of Server Farm
6. To constitute processes for ensuring timely sign – offs.
7. Approval for update of Backup, Security policy, business continuity plan and otherpolicy documents prepared by Vendor
8. To provide raw power
9. Monitoring of implementation and SLA with the Vendor
10. SLA Agreement between ICFRE and Vendor
11. Final Acceptance Testing

### Role & Responsibilities of Vendor

1. To procure and install required infrastructure components for ICFRE Server Farm and provide related documentation
2. To provide full documentation of the design, installation and implementation of the IT/Non-IT components and their user manuals
3. To ensure successful integration with the existing system
4. To make reports at specified periodic intervals on progress of the project
5. To provide escalation framework for issues related to implementation, operations and maintenance of Server Farm
6. To assist ICFRE in carrying out Final Acceptance Testing
7. Operations and Maintenance of the ICFRE Server farm infrastructure as perSLAs
8. To take periodical backups as per backup policy defined
9. Vendor shall be responsible for timely servicing of DG set and bear all expenses including cost of consumables, spares, servicing during the entire duration of the contract and the same shall be reimbursable
10. To ensure availability of power, cooling and other facilities as per SLA
11. 24x7 monitoring of the IT infrastructure Server Management - Periodic system upgrades/ updates, Vulnerability Assessment etc.
12. Full proof security – locked server cabinets and access control to all areas
13. Security Management – Firewall Monitoring, analyse logs and updateconfigurations
14. Administration and management of Storage and backup Infrastructure
15. Provide Mail and messaging services
16. 24x7 availability of help desk
17. To track software usage throughout the Server farm setup so as to effectivelymanage the risk of unauthorized usage or under licensing of software installedat the server farm
18. Any other as mentioned in this RFP document.

## Project Timelines

The overall implementation for continuity of DC is envisaged to be completed in 160 Days. The entire implementation would consist of Procurement, Supply, Installation, Commissioning and Testing to meet the requirements of ICFRE. Implementation is expected to be completed within 160 days from the date of signing of agreement with the Vendor. This would be followed by Operations & Maintenance (O&M) support services for a period of 5 years from the date of completion of FAT.

### Project Deliverables Schedule

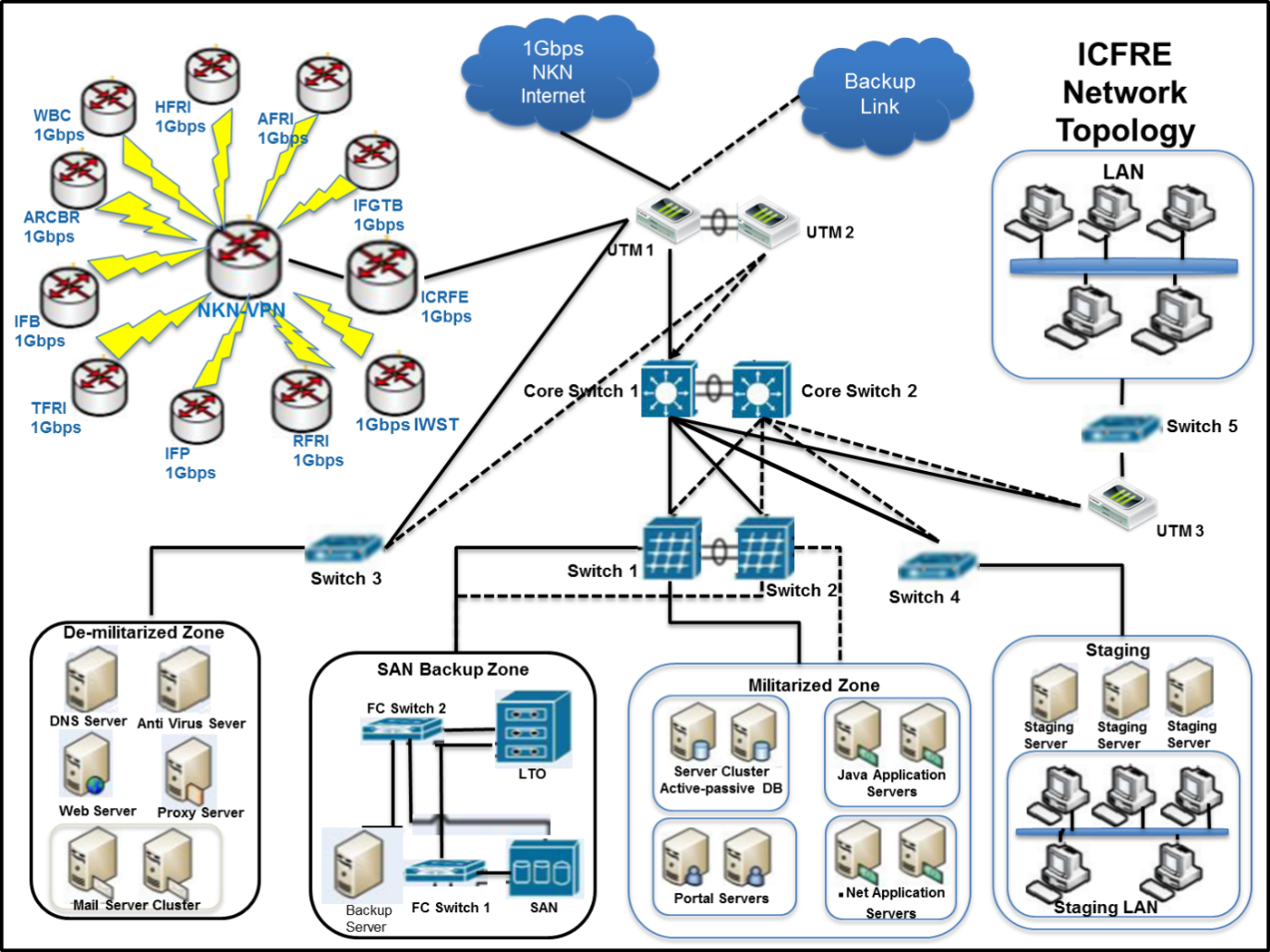
The Vendor must submit a detailed schedule for the below mentioned milestones and deliverables (but not limited to) that would be delivered during course of the project plan. The table gives a set of high-level activities. The Vendor should use this list only as guidelines in terms of expected deliverables. The Vendor is required to furnish detailed information regarding each deliverables of every step of activities proposed during and after the implementation of the project.

**Project Start Date = ST**

| **Sr. No.** | **Activities** | **Timeline** |
| --- | --- | --- |
| **1** | Signing of Contract with Bidder (Vendor) | Start Date (ST) |
| **2** | Delivery of Hardware/Software | ST + 90Days |
| **3** | Installation, Commissioning & Configuration | ST + 120Days |
| **4** | FAT (Final Acceptance Testing) | ST + 150 Days |
| **5** | Training | ST + 160 Days |
| **6** | Operation & Maintenance Phase | 5 years after successful FAT |

# Specifications & allied Technical Details

## Proposed Data Centre Architecture



## Scalability

The Vendor shall plan and provide for horizontal scalability in such a manner that a new server can be added (or removed) dynamically, as and when required in future, without disturbing the normal functioning of the system. The vertical scalability in servers in terms of additional processors and RAM will have to be provisioned for handling future growth in transactions.

## Availability

The Vendor needs to indicate the critical components in the system and indicate the plans for failover mechanisms. The components shall be in redundant mode (N+1) configuration. The Vendor shall ensure that no single point of failure (SPOF) exists and enough redundancy is built in to the DC.

## OEM Support

The bidder shall ensure that OEM support is available on all calendar days for all time.

## Interoperability

The entire system/subsystem should be interoperable, in order to support information flow and integration. Operating systems and storage technologies from several suppliers must interact well with each other.

## Security

The system must provide an end-to-end security blanket to protect the applications, services, data and the infrastructure from malicious attacks or theft from external (through internet) hackers Using UTM, Firewalls and Intrusion detection systems such attacks and theft should be controlled and well supported (and implemented) with the security policy. The security implementation shall cover all three layers namely physical, network and transport layer.

## Server Security

1. Vulnerability Assessment of the Server shall be carried out
2. Servers shall be hardened regularly
3. Additional Layer of Security shall be provided to applications by deploying these behind the Firewall

## Virtualization

The Vendor must propose virtualization techniques for deployment of the server for optimum use of resources and design the solution appropriately keeping in view the performance requirements.

1. The virtualization software should be supplied along with management software that should support creation, deletion and movement of VM’s across different servers
2. The Vendor is expected to propose the deployment architecture that is best suited for the optimized use of the current and future infrastructure leading to significant reduction in energy consumption and operational cost.

## Bill of Material

The Bill of Material (BoM) along with technical specifications of the Data Centre are placed at **Annexure 3**

## Technical Specifications of Data Centre Infrastructure

The technical specifications of the Data Centre infrastructure are placed at **Annexure 4**

# Price Schedule

The bidders are expected to respond to the RFP using the forms given in this section and all documents supporting Financial Bid Evaluation.

These forms are for reference purpose only. Bidders have to submit the financial bid separately as per the Bill of Quantity (BOQ) uploaded on the tender portal. In case, bidders submit the financials along with technical bid in hard/soft copy, their bids shall be summarily rejected.

Financial Bid shall comprise of following forms in Annexure 6:

Form 1: IT Infrastructure Cost

Form 2: Non-IT Infrastructure Cost

Form 3: Operations & Maintenance Cost

Form 4: Buyback of Hardware

The total financial evaluation calculation will be as follows:

**Total Cost** = (Cost of Items in Form 1) **+** (Cost of Items in Form 2) **+**(Cost of Items in Form 3) **–** (Cost of Items in Form 4)

# Contract Forms

Bidders are requested to quote the technical proposal as per the Forms provided in Annexure: 5. The forms are

Form 1: Technical Bid Letter

Form 2: Particulars of the Bidders

Form 3: Technical Solution

Form 4: Proposed Work Plan

Form 5: Proposed Manpower

Form 6: Detailed CV of Proposed Manpower

Form 7: Project Citation Format

Form 8: Compliance Sheet

Form 9: Manufacturers Authorization Form

Form 10: Declaration on Seamless Integration

# Other Standard Forms

In this section bidders are requested to comply with the other Forms as defined below.

Annexure 2: Operation & Maintenance Services

Annexure 7: Format for Performance Bank Guarantee

Annexure 10: Service Level Agreement

# Annexure – 1: Existing Infrastructure

## Data Centre Details

|  |  |
| --- | --- |
| **S. No** | **Descriptions** |
| 1 | Data Centre Room – Server Farm Area 450 Sq. Ft |
| 2 | Data Centre Room – Storage Area Network (SAN), Racks, Tape Library, Servers, Data Communication area, Internet Security Area / De- militarized Zone (DMZ) /Militarized Zone, FTP, Proxy, Web, DNS, Antivirus, Application, DHCP Email, Database Servers, EMS Monitoring, Antispam, SVN server, Staging Area: Database Administrators, System Administrators and Network Security Administration, Application Server Administrators Room & Network Operations, BMS |
| 3 | Air Crush Lobby, BMS Control Panel |
| 4 | Power Room: UPS, Cooling System & Power Backup Equipment Area – 350 Sq. Ft |
| 5 | Hardware – Database Servers, Application Servers, Web Servers, Firewall, Routers and Switches, IDS/IPS, VA Scanner, SAN, SAN Switch, Anti-virus, Email, Antispam etc. |

## Current Deployment Architecture

****

## IT Infrastructure

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **Equipment Details** | **Make / Model** | **Qty.** |
| 1 | Blade Server Type 1 | HP BL460c G1 Dvlss CTO | 16 |
| 2 | Rack Server Type 2 | HP RX6600 | 2 |
| 3 | Rack Server Type 3 | HP ProLiant DL180 G5 | 9 |
| 4 | Rack Server Type 4 | HP ProLiant DL380 G5 Storage Server | 1 |
| 5 | Tower - Server Type 5 | HP ProLiant ML110 G5 e Server | 12 |
| 6 | Storage Tape Library | HP Storage Works EML 103e Library | 1 |
| 7 | SAN Storage | HP Storage Works EVA4400 SAN | 1 |
| 8 | KVM Display | Austin Hughes Cyber View RKP115e | 5 |
| 9 | IP KVM SWITCH | Auto View 3100 | 1 |
| 10 | KVM Switch | Accent Switch View 1000 8 Port | 1 |
| 11 | Power Switch | DB Power INSTA Switch 3000 | 2 |
| 12 | Server Chassis | HP BLS c7000 | 1 |
| 13 | Server Rack | Cyber Rack 42 U | 6 |
| 14 | Desktop Computer | HP Compaq dx2480 Business PC | 10 |
| 15 | Routers (MPLS VPN) | Cisco 2811 series | 1 |
| 16 | Routers (Internet Router), 2 Nos. | Cisco 1841 Series | 2 |
| 17 | Network Switches (Core Switch) | Cisco WS-C3560-24TS | 2 |
| 18 | Network Switches (Distribution Switch) | Cisco WS-C2960G-24TC-L | 5 |
| 19 | Firewall | Cisco 5550 Adaptive Security Appliance | 4 |
| 20 | Antispam Appliance | IBM Proventia Network Mail Security System MS3004 | 1 |
| 21 | Intrusion detection and prevention System | IBM Proventia Network Intrusion Prevention System (IPS) GX5008 | 3 |
| 22 | Vulnerability Scanner | IBM Proventia Network Enterprise Scanner 750 | 1 |
| 23 | Fibre port Switch (SAN Switch) | BROCADE 5000 | 2 |

## Non-IT Infrastructure

| **#** | **Equipment Details** | **Make and configuration** | **Qty.** |
| --- | --- | --- | --- |
| 1 | Precision AC | PCX-352 DTR | 2 |
| 2 | UPS System | Eaton POWERWARE 9390 Power rating: 80KVA | 2 |
| 3 | UPS system | Eaton E Series DX;  Power rating: 20KVA | 2 |
| 4 | DG set | Jakson Diesel Generator Set 160 KVA Model: C 160 D5 P | 1 |
| 5 | Fire Alarm System | Make Honeywell Model: NFS-320/E/C with one panel | 1 |
| 6 | Fire suppression systems | Item: FM-200; Model: Eureka Forbes | 2 |
| 7 | Rodents Controller | Make Master/ VHFO- LP 20 | 1 |
| 8 | Water Leakage System | Water Leakage Detector Make Honeywell | 1 |
| 9 | Smoke detector system | VESDA Laser FOCUS VLF-250 | 1 |
| 10 | DVR and CCTV | Make: G4S | 1 |
| 11 | DVR and CCTV | Make: Samsung; Model: SRD-440 | 1 |
| 12 | Access control System | Make Syris; Model: SY210NT4 SSN–V3 | 1 |
| 13 | PA system: Area Cover Data centre, Staging room and NOC room | Amplifier make: Plena | 1 |
| 14 | BMS | Building Management System Monitoring Software: Goldman Sachs | 1 |
| 15 | Duct AC | Blue star 5.0 Tonn | 2 |
| 16 | Split AC | Blue star, TR-HWE241YB 2.0 Tonn | 6 |
| 17 | Split AC | Tata-Voltas2 45 DY 2.0 Tonn | 1 |
| 18 | Servo Voltage Stabilizer | 3 Phase-250 KVA | 1 |

## Software License

| **#** | **Item** | **Number of Users** | **Remarks** |
| --- | --- | --- | --- |
| 1 | Oracle database Enterprise Edition 10 G | Name User Plus Perpetual, 25 Nos | Support renewal not done since 25th Aug 2014 |
| 2 | MS-Windows Server 2008 Ent. Edition | Effective 03 Licenses |  |
| 3 | MS-Windows Server 2008 Standard. Edition | Effective 22 Licenses |  |
| 4 | Windows Storage Server 2003 | Effective 01 License |  |
| 5 | MS SQL Server 2005 Standard 1 processor | Effective 02 Licenses |  |
| 6 | Red Hat Enterprise Linux Advanced Platform, Standard (unlimited sockets) | Effective 04 Licenses | Support renewal not done since 14th April 2016 |
| 7 | Red Hat Enterprise Linux, Standard (up to 2 sockets) | Effective 10 Licenses | Support renewal not done since 14th April 2016 |
| 8 | JBoss Enterprise Application Platform, Standard (for up to 4 CPUs) | Effective 02 Licenses | Support renewal not done since 14th April 2016 |
| 9 | CA Spectrum Network Fault Manager Foundation Suite | 1 | Support renewal not done since 31st Jan 2016 |
| 10 | CA Spectrum Network Fault Manager Report Manager | 1 |
| 11 | CA Spectrum Network Fault Manager Service Manager | 1 |
| 12 | CA eHealth Network Performance Manager Starter Suite | 1 |
| 13 | CA Service Desk Manager Full License | 10 |
| 14 | CA Wily Introscope | 24 |
| 15 | CA Access Control Premium Edition | 18 |
| 16 | CA Insight for Distributed Databases with eHealth Entitlements (1-2 Processors) | 2 |
| 17 | CA Database Command Center 1 Unicenter Network and Systems Management v11.1 | 1 |
| 18 | Unicenter Network and Systems Management v11.1 | 1 |
| 19 | Unicenter Network and Systems Management Managed Resource v11.1 | 1 |
| 20 | Symantec End Point Protection 12.0 | Effective 1500 Licenses | Support renewal not done since 28th July 2016 |
| 21 | Messaging and Email Software including necessary licenses | Effective 01 Licenses | Support renewal not done since 31st Aug 2014 and currently 1450 Mail boxes are in use out of 1500 |
| 22 | Lotus Domino Enterprise Server Ver.9.0 Processor Value Unit (PVU) License | Effective 400 Licenses |
| 23 | Lotus Domino Web Access Messaging Authorised User License | Effective 1000 Licenses |
| 24 | Lotus Notes with Messaging Authorised User License | Effective 500 Licenses |
| 25 | HP Data Prot Windows/Netware/Linux LTU | Effective 07 Licenses | Support renewal not done since 31st July 2016 |
| 26 | HP Service Guard | Effective 01 Licenses | Support renewal not done since 31st July 2016 |

## Mapping of Data Centre Infrastructure

| **S.No.** | **Type of Server / Component** | **Qty.** | **Configured for** | **Software Installed** | **Application** |
| --- | --- | --- | --- | --- | --- |
| 1 | HP BL460c G1 Blade Server | 02 | Mail services | IBM Lotus Domino | IBM Lotus Domino |
| 2 | HP BL460c G1 Blade Server | 01 | Web Server | Redhat Linux | Apache, Mysql |
| 3 | HP BL460c G1 Blade Server | 01 | DHCP Service | Redhat Linux | DHCP |
| 4 | HP BL460c G1 Blade Server | 01 | Proxy Service | Redhat Linux | Squid |
| 5 | HP BL460c G1 Blade Server | 01 | Antivirus | Symantec Antivirus | Symantec Antivirus |
| 6 | HP BL460c G1 Blade Server | 02 | Application | Jboss | IFRIS Enterprise |
| 7 | HP BL460c G1 Blade Server | 02 | Application | DotNet, Apache | IFRIS PIMS and EDMS |
| 8 | HP BL460c G1 Blade Server | 01 | DNS | Redhat Linux | BIND |
| 9 | HP BL460c G1 Blade Server | 03 | Testing | Redhat, Windows Server 2003 | DotNet, Apche, Jboss, Oracle Database |
| 10 | HP BL460c G1 Blade Server | 02 | Testing | Redhat Linux | IBM Proventia, Squid, Oracle, Bind |
| 11 | HP ProLiant DL180 G5 | 09 | Enterprise monitoring | Windows Server | CA spectrum, E-health, Unicenter, Willy, service desk, one click, IBM Site protector |
| 12 | HP ProLiant DL380 G5 Storage Serve | 01 | Backup Services | Windows Server | HP data protector, Command View Tape Library, Command View EVA |
| 13 | HP ProLiant ML110 G5 e Server | 01 | Application Patch Management | Centos Linux | SVN |
| 14 | HP RX6600 Server | 02 | Database Server | Redhat Linux | Oracle 10 G |
| 15 | HP ProLiant ML110 G5 e Server | 11 | Antivirus Client Server | Windows server and Symantec Antivirus | Symantec Antivirus client |
| 16 | HP Storage Works EML 103e Library | 01 | Backup | Backup Library managed by Backup server. | HP Command view Tape Library |
| 17 | HP Storage Works EVA4400 SAN | 01 | SAN |  | HP Command view EVA |
| 18 | Cyber Rack 42 U | 06 | Server Rack |  | Racks for storing Various Servers, and Network Components |
| 19 | Cisco 5550 Adaptive security appliance | 04 | Firewall | Cisco IOS Ver.09 | CAMPUS, VPN and ISP Network |
| 20 | WS-C3650-24TS | 02 | Core Switched | Cisco IOS Ver.12 | Both the switches are Core switches and function on High availability mode active- active |
| 21 | WS-C2960G-24TC-L | 05 | Access Switch | Cisco IOS Ver.12 | Various VLAN’s configured in all switches. |
| 22 | IBM [Proventia Network Mail Security System MS3004](http://www.google.co.in/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0CBwQFjAA&url=http%3A%2F%2Fwww.ibm.com%2Fsoftware%2Fsupport%2Flifecycleapp%2FPLCDetail.wss%3Fsynkey%3DA747244Z26704Q43-Z505166P71306H26-B955075Z05711V68&ei=XxwhVJLYDtjluQSKm4GIAw&usg=AFQjCNGJkVKTIOMQfNPvwkbQHQX0PfSaaQ&bvm=bv.75775273,d.c2E) | 01 | Antispam |  | Linux smtp 3.0.82-0.7-pae |
| 23 | IBM Proventia System (IPS) GX5008 | 03 | IDS/IPS |  | stops Internet, Campus network and VPN threats and protect datacenter infrastructure |
| 24 | IBM Proventia Network Enterprise Scanner 750 | 01 | Network Vulnerability Scanner |  |  |
| 25 | BROCADE 5000 | 02 | SAN Switch |  | Switch connected with SAN, tape library drives, robotics, Database servers, Mail server and web server |
| 26 | Austin Hughes CyberView RKP115e | 03 | KVM Display |  | Connected with: Blade Servers, Backup Server, database Server, CA servers, and Antispam Appliance |
| 27 | AutoView 3100 | 01 | IP KVM SWITCH |  | Access CA server rack total 09 Nodes connected |
| 28 | Accent Switch View 1000 8 Port | 01 | KVM Switch |  |  |
| 29 | DB Power INSTA Switch 3000 | 02 | Power Switch |  | For Network Rack No. 1 and network rack No. 2 |
| 30 | HP Compaq dx2480 Business PC | 10 | Staging Desktop PC’s |  |  |
| 31 | PCX-352 DTR | 02 | Precision AC |  | Data centre area cooling |
| 32 | Eaton POWERWARE 9390 80 KVA | 02 | Online UPS System |  | UPS output for: Server racks and Network racks. inside data centre. |
| 33 | Eaton E Series DX 20 KVA | 02 | Online UPS System |  | UPS output for Staging and NoC room. |
| 34 | Jakson Diesel Generator Set 160 KVA  Model: C 160 D5 P | 01 | Diesels DG set |  | Power backup for entire data centre area |
| 35 | Honeywell  NFS-320/E/C | 01 | Fire Alarm System |  | Data centre area, Above fall sealing, Floor, Lobby, Staging room |
| 36 | Eureka Forbes FM200 | 01 | Fire suppression systems |  |  |
| 37 | Master/ VHFO- LP 20 | 01 | Rodents Controller |  | Data centre area, above fall sealing, Floor, Lobby, Staging room |
| 38 | Honey Well Water Leakage Detector | 01 | Water Leakage Detector |  |  |
| 39 | VESDA Laser FOCUS VLF-250 | 01 | Smoke detector system |  | Data centre area, above fall sealing, Floor, Lobby, Staging room |
| 40 | DVR System | 02 | Surveillance system |  | Connecting 8 Camera |
| 41 | Syris Access and Biometric system | 01 | Access control System |  |  |
| 42 | Amplifier make: Plena with MIC | 01 | PA system |  |  |
| 43 | BMS | 01 | Building Management System |  | Monitoring Software: Goldman Sachs  Temperature Monitoring  UPS system Monitoring  Fire alarm System monitoring  DG Set Monitoring  PAC1 and PAC2 monitoring  Syris Access control application installed to manage physical access in data centre area and for issuing and cancellation of Access card |
| 44 | HP Blade System C7000 Enclosures | 16 bays |  |  | Housing for existing blade servers |

## Application Details

### Details of IFRIS Application/Modules

|  |
| --- |
| **Module/Application** |
| Indian Forestry Research Information System (IFRIS) having following modules  1. Research Information Management System  2. Online Publication Information System  3. Forestry Extension Management System  4. Forestry Education and Grant Management System  5. Biodiversity and Climate Change  6. Scientific services management system  7. Personal Information Management System  8. Payroll Management System  9. Financial Accounting System  10. Electronic Document Management System  11. Audit Management System  12. Vigilance Management System  Functionalities of the modules of Indian Forestry Research Information System (IFRIS) used by ICFRE and its institutes are as below:   * Research Information Management System: Module is used for to process the project. It contains the details of projects. * Forestry Extension Management System: Module is being used to upload and process the documents like MoM, reports etc. * Online Publication Information System: Module is being used to show/publish the documents for the user uploaded through Forestry Extension Management System * Forestry Education and Grant Management System: It is having process of grant given to the forestry universities by ICFRE. * Personal Information Management System: Module is used to keep the personal/official detail of an employee. Used for complete online of leave process. ACR, Pay Slips, GPF statements and other reports related to leaves are being taken out by employee through this module. * Payroll Management System: Module is used for processing the salary of employees and to take different reports. * Financial Accounting System: Module is being used for the entry of budget, vouchers and taking out various report related to finance. * Electronic Document Management System: Module is being used for storing the Documents like service book, files etc. in electronic form.   No of users: around 2000  No of server: 6  No of terminal: Users’ desktop (Appx.1500) |

### Design Overview

IFRIS technical architecture is designed using component based distributed n-tier architecture. In an n-tiered application, presentation, business, and data components are separated into distinct layers Presentation layer components manage user interaction and make requests for business services by calling middle-tiered components. Business components perform business logic and make request to database and other resources. By partitioning applications cleanly into presentation, business, and data layers, the result is enhanced scalability, reusability, security, and manageability.

IFRISapplication architecture is based on approach of classic Model View Controller (MVC) design pattern. The Application organizes the interactive application into three separate layers : one for the application model with its data representation and business logic (Model/Data Layer) , the second for views that provide data presentation and user input(View/Presentation Layer), and the third for a controller to dispatch requests and control flow (Controller / Business Layer).



### Layer Implementation Strategy

|  |
| --- |
| **UI Layer** (JSF, Aj4jsf, CSS, Java Script and Actions as Backing Beans, Myfaces, Tomahawk, Richfaces, HTML, Ajax, JSP ) |
| **Application Layer** (Application Services, Workflow Engine-jbpm, Asp.net, Servlet) |
| **Domain Layer** ( Entity, Value Objects, Domain Srevices, Factory and Repository) |
| **Infrastructure Layer** ( Persistence- Hibernate, JDBC, EHchahe Transaction and Concurrency Management, Security) |

### Presentation Layer

For most business applications, a form metaphor is used to structure the presentation layer. The application consists of a series of forms (pages) with which the user interacts. Each form contains a number of fields that display output from lower layers and collect user input.

Since the application architecture is loosely coupled, the application can render into any end client. This client can be a window form or a web browser.

### Web browser Components

The Java Server Pages (JSP) technology in PIMS is being used for the View Layer, which provides a simplified, fast way to create dynamic web content and enables rapid development of web-based applications that are server and platform independent. JSF and Java scripts has been used extensively in presentation layer of Enterprise.Dot Net has been used in Presentation Layer of EDMS modules

### Application Layer

Large enterprise applications are often structured around the concepts of business processes and business components. These concepts are addressed through a number of components, entities, agents, and interfaces in the business layer.

The business tier is implemented in reusable components. These business components are deployed in the high performance application serversThese components implement the business logic, providing views and transformations of the application state. The business logic is made available to various subscribing clients via various industry standard protocols. Application server will expose the business services to the clients.

For Operational Modules the business layer components including the broker component are be implemented J2EE Enterprise Java Beans.

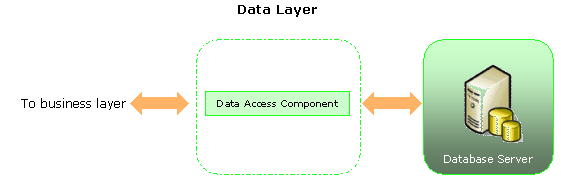
The interactions between the presentation layer and business layer is implemented using spring features

The business layer implements the business functionality of the application. The business layer will be composed of many components implemented using J2EE. The technology being used is Struts Framework for PIMS. Java Bean Helper classes to hold intermediate state across client request (Struts framework)

### Data Layer

The Database tier is a set of abstract components and Relational Database Management System (RDBMS) that provides for efficient storage and retrieval of data, objects, and relational models across the data, logical and business functionality that is tied strongly to the underlying data.

The database layer of the architecture is implemented using a high end networked RDBMS, ORACLE.



### Module Wise Architecture Diagram

1. **Enterprise Modules**



1. **PIMS Modules**



1. **EDMS Modules**



### Development Environment

1. Enterprise Modules
   1. Core Java, JSF, Spring, Hibernate, JMS, Java Script, BIRT
   2. Oracle Database
2. PIMS Modules
   1. Core Java, JSP, Servlet, Struts, java Script
   2. Oracle Database
3. EDMS Modules
   1. Dot net 3.5 (C#), BIRT, Java Script,
   2. Oracle Database

### Development Tools

1. Enterprise Modules
   1. Eclipse 3.2.1
   2. Eclipse with BIRT Plug-in.
   3. Maven 2.0.7
2. PIMS Modules
   1. Eclipse 3.2.1
3. EDMS Modules
   1. Visual Studio 2008
   2. Eclipse with BIRT Plug-in.
   3. Log4net
   4. Dotnet framework 3.5

## Database

Oracle Enterprise Edition

## Version Controls

SVN Client

## Deployment Tools

1. Enterprise Modules
   1. jboss-4.2.1.GA
   2. apache-activemq-5.1.0 for Linux
2. PIMS Modules
   1. Tomcat 5.5
3. EDMS Modules
   1. IIS
4. Database
   1. Oracle Enterprise Edition
5. Version Control
   1. CentOS 5.3
   2. SVN
6. ICFRE database has been configured as an active/passive cluster mode, means that always one database node will be available to the users. Totally two nodes are assigned for this configuration. All the data of the oracle production database will be stored under the HP-Storage EVA 4400 SAN devices.
7. Current Version - Oracle Database 10g Enterprise Edition Release 10.2.0.4.0 - 64bit
8. Currently, ICFRE application using 3 schemas for application data. Those schemas are ENTERPRISE (payroll finance account system (1.77 GB)), EDMS(project details (20GB)) and PIMS (personal information (86.45MB)
9. Approx. Concurrent Users per day is 120
10. Current Size of Database is 38.38 GB

## Details of website Hosted

| **S.No.** | **Website Name** | **Web Server Details** |
| --- | --- | --- |
| 1 | www.icfre.gov.in | Hardware :-   1. HP Blade Server BL 460c 2. RAM 8GB 3. Processor : Quad Core 2.5GHz 4. Hard disk 146GBx2 Raid 1 5. 400 GB partition mounted from SAN   Software:-   1. Operating System : RHEL 5.3 ES, 64 bits 2. Web Server : Apache Web Server 3. Database : MySql |
| 2 | fri.icfre.gov.in |
| 3 | tfri.icfre.gov.in |
| 4 | rfri.icfre.gov.in |
| 5 | iwst.icfre.gov.in |
| 6 | ifgtb.icfre.gov.in |
| 7 | hfri.icfre.gov.in |
| 8 | friu.icfre.gov.in |
| 9 | afri.icfre.gov.in |
| 10 | cfrhrd.icfre.org |
| 11 | ifc2011.icfre.gov.in |
| 12 | hindi.icfre.gov.in |
| 13 | arproject.icfre.gov.in |
| 14 | fracommittee.icfre.org |
| 15 | ify-india.icfre.gov.in |
| 16 | slem-cpp.icfre.gov.in |
| 17 | ntfpmarketwatch.icfre.gov.in |
| 18 | ifb.icfre.gov.in |
| 19 | forum.icfre.org |
| 20 | apw2013.icfre.org |
| 21 | igbaas-ifgtb.icfre.gov.in |
| 22 | shas2014.icfre.org |
| 23 | sandalwood2014.iwst.icfre.gov.in |
| 24 | mct.fri.icfre.org |
| 25 | woodisgood2014.iwst.icfre.gov.in |
| 26 | pensioneINRicfre.org |
| 27 | dfe.icfre.org |
| 28 | bookingsystem.icfre.org |
| 29 | icfre.org:8080/woodsci |

# Annexure – 2: Operations &Maintenance Services

Operation and Maintenance of the DC shall include functions/services as described in the following subsections. These functions/services should be performed by the operations and maintenance team and one person in the team can perform one or more functions at any point in time except the Project Manager. The scope of work for the Operations Phase is categorized below.



### Project Management

Project Management is one the important activities for the management of a Server Farm. The Project Manager is responsible throughout the project for communication, planning, coordination and problem resolution. Project Management shall consist of following activities:

1. Coordination with all the project stakeholders (ICFRE, Hardware/SoftwareVendors, OEMs etc.) to ensure that all Server Farm activities are carried out in a timely manner.
2. Coordination with Vendors and OEMs to ensure that time and equipment dependencies are optimally managed
3. Initiation of corrective action against any identified delays, shortages, ambiguities, or other problems.
4. Single point of contact for the user departments that host services at the Server Farm.
5. Preparation of plans and schedules, tracking project progress and timelines.
6. Risk Management and escalation to higher levels for mitigation.
7. Regular Status reporting
8. Participation in committee(s) meetings and dispute / issue resolution process.

### Facility Management and Administration

The Facility Management operations shall include the following tasks:

1. Configuration of server parameters, operating systems administration and tuning.
2. Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of upgrades including migration to higher versions and patches to ensure that the system is properly updated.
3. Re-installation in the event of system crash/failures
4. Maintenance of a log of the performance monitoring of servers including but not limited to monitoring CPU, disk space, memory utilization, I/O utilization, etc.
5. Event log analysis generated in all the sub systems including but not limited to servers, operating systems, databases, applications, security devices, messaging, etc.
6. Ensuring that the logs are backed up and truncated at regular intervals.
7. Periodic health check of the systems, troubleshooting problems, analysing and implementing rectification measures
8. Ensuring the upkeep of existing systems that would be reused and also incorporate necessary changes for new services if any during the tenure of the contract
9. Troubleshooting issues in the infrastructure, network and application to determine the areas where fixes are required and ensuring resolution of the same.
10. Identification, diagnosis and resolution of problem areas pertaining to the Server farm infrastructure and services and maintenance of assured SLA levels.
11. Implementation and maintenance of standard operating procedures for maintenance of the infrastructure.
12. Management of the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, applications, devices, etc.
13. System administration activities shall include the following tasks but not limited to the following:
    1. Configuring and apportioning storage space
    2. Setting up of working e-mail accounts and mailing lists
    3. Management and integration of databases
    4. Implementing security on the Internet / Intranet
    5. Setting up of firewalls and authorization systems
    6. Performing periodic backup of data and automating reporting tasks
    7. Executing hardware and software updates when necessary.
14. The Facility management activities shall also include the following configuration management processes to track IT assets:
    1. Providing Information on the IT infrastructure
    2. Enabling control of the infrastructure by monitoring and maintaining information on
       1. All the resources that need to deliver services
       2. Status and history of Configuration Items (CI) or IT Assets and their relationship with other IT Assets

### Storage and Database Administration

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

Storage and Database administration activities shall include the following:

1. Management of storage environment to maintain performance at desired optimum levels.
2. Development of storage management policy - if required by ICFRE, configuration and management of disk array, SAN fabric / switches, tape library, etc.
3. Configuration of SAN, but not limited to, whenever a new service is hosted at the server farm or in case of storage augmentation. This shall include activities such as management of storage space, volume, RAID configuration, zone, security, performance, etc.
4. End-to-end management of database on continuous basis to ensure smooth functioning of the same.
5. Management of any changes to database schema, disk space, storage, user roles.
6. Performance monitoring of Databases on a regular basis including, preventive maintenance of the database as required.
7. Applying patches of database upgrades as and when required with minimal downtime.
8. Regular backups for all databases in accordance with the backup and archive policies and conduct recovery whenever required with appropriate permissions.
9. Use of DBA tools related to performing database creation, maintenance, and database monitoring tasks.

### Network Monitoring and Administration

Network Monitoring and administration activities shall include the following:

1. Monitoring and administering the LAN up to the integration points with WAN.
2. Creation and modification of LANs (within server farm), assignment of ports to appropriate services and segmentation of traffic.
3. Coordination with vendor for break-fix maintenance of the LAN cabling (within server farm).

### Email/Messaging Administration

Messaging administration activities shall include end-to-end management of messaging systems, including, but not limited to the following:

1. Administration of mail servers
2. Troubleshoot and rectify all email-related problems reported.
3. Monitoring performance and management of user account, mail boxes, post office and address book.
4. Backup and archival management.
5. Transaction log management.
6. Implementation of mail policies as defined by ICFRE, including, but not limited to, user security, access control, encryption, mail box sizes, mail sizes, spam, content filtering, etc.
7. Management and monitoring mail queues, mail routing of incoming and outgoing Internet mail.

### Security Administration

IT Security is very crucial since IT has become a key tool for the business. The overall security has to be achieved based on the IT Security policies of the organization. The Vendor shall ensure that the policy guidelines are followed in the daily activities.Security administration activities shall include the following:

1. Monitoring of various devices / tools such as UTM covering firewall, intrusion detection, content filtering and blocking, virus protection, VPN and vulnerability protection through implementation of proper patches and rules.
2. Root domain administration by creating the root and sub-domains and setting the root level security policies such as authentication mechanisms (single/multi factor), password policies such as password length, password complexity, password expiry, account lockout policy, certificate policies, IP Security policies etc.
3. Periodic reviews of domain level rights and privileges.
4. Maintenance of an updated knowledge base of all the published security vulnerabilities and virus threats for related software, including, but not limited to, operating systems, application servers, web servers, databases, security solutions, messaging solutions, etc.
5. Ensuring that patches / workarounds for identified vulnerabilities are patched / blocked immediately.
6. Responding to security breaches or other security incidents and coordinate with respective OEMs in case of a new threat is observed to ensure that workaround / patch is made available for the same.
7. Undertake maintenance and management of security devices, including, but not limited to maintaining UTM services to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, UTMs, servers, desktops from viruses.
8. Implementation and periodic updating of the security policy.
9. Operating system hardening through appropriate configuration and patch updates.
10. The Vendor shall also provide the following anti-virus administration services:
    1. Monitor the Anti-Virus tool installed and ensure that the latest patches are updated in all the systems.
    2. Monitor the security console and clean the virus from the systems, which are affected and if necessary, isolate those systems to avoid further spreading of viruses.
    3. Alert users on new virus breakouts based on the info received from the ICFRE IT team.
    4. Install, configure and test latest security patches.
    5. Troubleshoot and rectify all virus related problems reported and also escalate if not rectified by the AV tool.
    6. Monitor the client security tools and adhere to the security policies of ICFRE.
    7. Monitoring the efficiency and effectiveness of the Anti-Virus tool.
    8. Registering and updating the Anti-Virus tool on the server and the clients periodically
    9. Providing feedback on any new viruses detected and alarm the protection systems

### Backup and Restore

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

1. Backup of operating system, database and application as per stipulated policies at the Server Farm.
2. Monitoring and enhancement of the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies.
3. Ensuring prompt execution of on-demand backups of volumes, files and database applications whenever required by User Departments or in case of upgrades and configuration changes to the system.
4. Real-time monitoring, log maintenance and reporting of backup status on a regular basis. Prompt problem resolution in case of failures in the backup processes.
5. Media management including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fire proof cabinets.
6. Physical security of the media stored in cabinets.
7. Ongoing support for file and volume restoration requests at the Server Farm.

### Server Administration & Management

The Vendor shall perform all system administration tasks like server management and operating system administration, user management, device management etc. The vendor shall ensure high availability of System resources to the users and to maximize the uptime of the system by diagnosing, detecting and rectifying the faults in time. The activities shall include, but not limited to the following:

1. Installation and Configuration of server, Hardware & OS parameters, operating systems administration and tuning.
2. Installation/Re‐installation of the Operating System for newly procured hardware/software licenses or in the event of system crash/failures.
3. Maintenance of a log of the performance monitoring of servers including but not limited to monitoring CPU, disk space, memory utilization, I/O utilization, etc.
4. Ensuring the upkeep of existing systems that would be reused and also incorporate necessary changes for new services if any during the tenure of the contract.
5. Troubleshooting issues in the infrastructure, network and applications to determine the areas where fixes are required and ensuring resolution of the same.
6. Implementation and maintenance of standard operating procedures for maintenance of the IT infrastructure based on the policies.
7. Management of the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, applications, devices, etc.
8. Monitoring performance of server resources (CPU Usage, Memory, disks)
9. Monitoring access logs and application logs
10. Taking data backup and restoration
11. Applying service packs, fixes, updates and security patches.
12. Providing helpdesk related administrative support

### Help Desk Services

The help desk service will serve as a single point of contact for all incidents and service requests at the DC. The service will provide a Single Point of Contact (SPOC) and also escalation / closure of incidents for the user departments whose infrastructure is hosted at the data centre. The related activities shall include the following:

1. Solution should comprise of a completely automated system of raising issues on a portal through web / intranet, call logging, ticket generation, sending alerts on email and SMS to users’ registered mobile number, and escalation to the administrators if required.
2. Provide Help Desk facility during agreed service period window for reporting user entity (ICFRE and its sister institutions/centres) incidents / issues / problems with the IT infrastructure.
3. Provide necessary channels for reporting issues to the help desk.
4. The Help desk shall log user calls related to DC Solution and assign an incident/ call ID number. Severity shall be assigned to each call as per the SLAs.
5. Creation of knowledge base on frequently asked questions to assist user entities in resolving basic issues themselves
6. Track each incident / call to resolution
7. Provide feedback to callers
8. Analyse the call statistics.
9. Continuous monitoring of the physical as well as the IT infrastructure at the DC to ensure availability as per agreed SLAs.
10. Escalate the calls, to the appropriate levels, if necessary as per the escalation matrix agreed between the Vendor and ICFRE. The escalation matrix shall be developed by the Vendor in discussion with the ICFRE.
11. Coordinate with respective vendors/OEMs for closure of calls.
12. Analyse the incidents / call statistics and provide monthly reports including but not limited to:
    1. Type of incidents / calls logged
    2. Incidents / calls resolved
    3. Incidents / calls open

### MIS Reports

Vendor shall submit the reports on a regular basis in a mutually decided format. The Vendor shall workout the formats for the MIS reports and get these approved by ICFRE within a month of being awarded the contract. The following is only an indicative list of MIS reports that may be submitted to ICFRE:

1. Daily reports
2. Summary of issues / complaints logged at the Help Desk
3. Summary of resolved, unresolved and escalated issues / complaints
4. Summary of resolved, unresolved and escalated issues / complaints to vendors
5. Weekly Reports
6. Summary of systems rebooted.
7. Summary of issues / complaints logged with the OEMs.
8. Summary of changes undertaken in the Data Centre including major changes like configuration changes, patch upgrades, etc. and minor changes like log truncation, volume expansion, user creation, user password reset, etc.
9. Patch update status of all servers including any virtual machines running on it
10. Monthly reports
11. Component wise server as well as virtual machines (if any) availability and resource utilization
12. Consolidated SLA / (non)- conformance report.
13. Summary of component wise uptime.
14. Log of preventive / scheduled maintenance undertaken
15. Log of break-fix maintenance undertaken
16. All relevant reports required for calculation of SLAs
17. Quarterly Reports
18. Consolidated component-wise availability and resource utilization.
19. All relevant reports required for calculation of SLAs
20. Incident Reporting
21. Detection of security vulnerability with the available solutions / workarounds for fixing.
22. DoS attacks, Hacker attacks, Virus attacks, unauthorized access, security threats, etc. and plan to fix the problems.
23. Software license violations.
24. MIS for Reporting Attendance
25. Vendor has to report attendance on monthly basis.

**Note**: The Selected bidder will also provide any other report requested by ICFRE during the contract tenure.

### License Management

The activities shall include, but not limited to the following:

1. All the software licenses should be in the name of ICFRE.
2. Vendor shall keep the record of all the software licenses and track software usage throughout the IT setup so as to effectively manage the risk of effective usage of software installed at the DC.
3. The Vendor shall submit the renewal certificate of renewed Licenses to ICFRE
4. The Vendor shall avoid the unauthorized usage of Licensed Software. In the event of any claim asserted by Third Party of Infringement of Copyright, Patent or Trademark arising from the use of IT components or software, the Vendor shall be entirely responsible to extinguish such a claim. If the Vendor fails to comply and ICFRE is required to pay the compensation to the Third Party resulting from such infringement, the Vendor shall be responsible for the compensation including all expenses, court costs and lawyer fees.

### Installation/ Configuration/ Migration of Application Infra

Vendor shall provide installation and configuration support for the application infrastructure to be hosted by ICFRE. The activities shall include, but not limited to the following:

1. Vendor shall undertake pre‐installation planning at the Data Centre.
2. Vendor shall carry out the planning and layout design for the placement of equipment in the DC in consultation with ICFRE. The plan and layout design should be developed in a manner so as to optimally and efficiently use the resources and facilities being provisioned at DC.
3. The plan and design documents for the departmental application servers, thus developed shall be submitted for approval and the acceptance would be obtained prior to commencement of installation.
4. The Vendor shall carry out Server, OS, Application, and Database & Services Hardening as per ICFRE Guidelines. The Vendor shall also check & verify that the Application Infrastructure (both Hardware and Software) is compliant with ICFRE’s policy, process & procedures/Guidelines.

### Application Related Services

The Information in this clause shall govern the methodology by which Application Related Services shall be provided to the Data Centre.

Application related services shall complete the entire spectrum of services to be provided by the Vendor. As a part of these services, Vendor shall provide support for bug fixes, enhancements, operational support, and assistance to the User Department.

These services have been classified under the following categories depending upon the extent of application support that may be required by the User Departments:

* Application Monitoring
* Website and Application hosting and management
* Application Migration

Coordinate with the application team to manage patch upgrade as and when required with minimal downtime. Ensure configuration management and backups of patch to rollback in case of problems.

### Configuration/Reconfiguration Management Services

1. The Vendor shall maintain complete configuration including reconfiguration (in hard & soft form in safe environment) for all equipment and handover the same to ICFRE at the time of completion of project or as and when asked by ICFRE.
2. The Vendor shall define and adhere to the change management procedures and also ensure that no unauthorized changes are carried out. Any changes shall be incorporated with prior approval of ICFRE.
3. The Vendor shall do proper version management of these configurations as they may change from time to time.
4. These configurations shall not be accessible in general and must be kept confidential.

### Asset Management Services

1. The Vendor shall be required to create database of all the equipment(s)/ software procured/ Installed under this Project. The details of all assets like hardware, software, peripherals, manuals, media,other related peripherals etc. shall be maintained by recording information like make, model, configuration details, serial numbers, licensing agreements, warranty etc.
2. Perform software license management, notify ICFRE on licensing contract renewal and engage in timely renewal of the licenses.
3. Record installation and removal of any equipment under the project and inform ICFRE even if it is temporary.
4. Create Software details with information such as Licenses, Version Numbers and Registration Details.

### O&M of Non-IT (Physical) Infrastructure

All the devices installed as part of the physical infrastructure should be remotely monitored and managed on a 24x7x365 basis. The physical infrastructure management and maintenance services shall include, but not limited to the following:

1. Operation and management of Building Management System. Proactive monitoring of the entire Physical infrastructure installed at DC through Building Management Software.
2. The Vendor shall also maintain records of all maintenance of the system and shall maintain a logbook on‐site that may be inspected by ICFRE or authorized authority.
3. CCTV footage is to be kept to meet legal, regulatory, ISO Policies compliance requirements. The record retention period shall be as per policies of ICFRE.
4. Management of Physical Access to the premises as per the policies set by ICFRE
5. Ensure availability of the physical Infrastructure including Power, Cooling, CCTV, Access Control, and other components included as part of physical Infrastructure related services.
6. Vendor shall maintain documentation for installation, testing, commissioning of any system/sub‐systems that is installed or upgraded.
7. The Vendor should ensure high availability for power backup on 24x7x365 basis and should maintain all the systems/subsystems for power availability.

### DG Set Maintenance & Management

1. Vendor shall be responsible for Operations, Management and Comprehensive Annual Maintenance of Diesel Set for the entire contract period. The Vendor shall ensure that diesel shall be there in the DG sets at its full capacity in case of power failure.
2. Vendor shall be responsible for timely servicing of DG set and bear all expenses including cost of consumables, spares, servicing during the entire duration of the contract and the same shall be reimbursable on the basis of the actual bills submitted and OEM Service Reports.
3. Vendor will maintain register for monitoring and reimbursing the diesel consumption for the DG set.
4. Procedure for monitoring and reimbursing the Diesel consumption for the DG set:
   1. There will be a register maintained and kept with Vendor
   2. Reimbursement of diesel cost will be done on Quarterly basis along with Quarterly Payment.
   3. ICFRE shall verify the diesel consumption from the log book maintained and MIS generated.
   4. The Vendor will submit the bill (original bills of petrol/diesel pump) for every purchase along with their invoice for reimbursement.
   5. Payment will be processed by ICFRE based upon verification of bill with the register entry on quarterly basis.

### Preventive Maintenance Services

1. Check, Repair/Replace any loose contacts in the cables/connectors & connections on a regular basis.
2. Conduct preventive maintenance every three months or as directed by the ICFRE (including inspection, testing, satisfactory execution of diagnostics and necessary repairing of the equipment).
3. The Vendor will keep a schedule of preventive maintenance services and shall provide reports to the ICFRE as and when asked.
4. The Preventive Maintenance shall be carried out in Non‐Prime Hours only under prior intimation and approval from ICFRE

### Corrective Maintenance Services

1. Warranty and maintenance/troubleshooting of hardware problem of all supplied& existing IT Infrastructure including network (active/passive) equipment, Security, etc. and support infrastructure equipment such as UPS, AC, DG Set etc. and rectification of the same.
2. Troubleshooting of problems arising in the network and resolving the same.
3. Documentation of problems, isolation, cause and rectification procedures for building knowledge base for the known problems.
4. Perform Root Cause Analysis of the problems

### Servicing and Maintenance

1. The vendor should provide onsite repair or replacement of the IT/Non-IT components in the Server Farm as per SLA and coordinate to provide replacement of defective parts of equipment during Contract Period. The vendor shall ensure proper maintenance of equipment as per recommendation of OEM.

# Annexure – 3: Bill of Material



## Bill of Material – IT Infrastructure

| **Sr. No.** | **Item** | **Quantity** | **Unit** |
| --- | --- | --- | --- |
| 1 | Tower Server | 9 | Nos. |
| 2 | Blade Server | 5 | Nos. |
| 3 | Blade Chassis | 1 | Nos. |
| 4 | SAN Storage | 1 | Nos. |
| 5 | Tape Library | 1 | Nos. |
| 6 | Distribution Switches | 5 | Nos. |
| 7 | Unified Threat Management (UTM) | 3 | Nos. |
| 8 | SAN Switch | 2 | Nos. |
| 9 | Desktop Computers | 10 | Nos. |
| 10 | MS Windows Server 2016 for 16 core per server | 10 | Nos. |
| 11 | Red Hat Enterprise Linux for Virtual Data Centre Premium Subscription (2 Socket, unlimited virtual) | 7 | Nos. |
| 12 | MySQL Standard Edition | 2 | Nos. |
| 13 | Audio-Video Capture Card with Web Streaming Capability | 9 | Nos. |
| 14 | Enterprise Management System | 1 | Set |
| 15 | Backup Software with relevant OS | 1 | Nos. |
| 16 | Enterprise Virtualization Software Processor Based | 10 | Nos. |
| 17 | VPN Licenses for UTM | 100 | Nos. |
| 18 | SQL Server Standard Edition 2 processor license | 2 | Nos. |
| 19 | Microsoft Windows server update service | 1 | Nos. |
| 20 | Symantec End Point Protection Server License with latest version or any other equivalent windows based antivirus solution | 1 | Nos. |
| 21 | Symantec End Point Protection Client License with latest version or any other equivalent windows based antivirus solution | 1500 | Nos. |
| 22 | Lotus Domino Web Access Messaging Authorised User License with latest version or any other equivalent email solution | 2000 | Nos. |
| 23 | Lotus Domino Enterprise Server Processor Value Unit (PVU) License with latest version or any other equivalent email solution | 50 | Nos. |
| 24 | Lotus Notes with Messaging Authorised User Licensewith latest version or any other equivalent email solution | 50 | Nos. |

**Note:**

**In case of change of existing solution such as antivirus, email solution etc., the vendor shall be responsible for smooth transition from existing to new system.**

## Bill of Material – Non-IT Infrastructure

| **Sr. No.** | **Item** | **Quantity** | **Remarks** |
| --- | --- | --- | --- |
| 1 | Access Control System | 1 | As per Specification mentioned in Annexure 4 |
| 2 | Building Management System | 1 | As per Specification mentioned in Annexure 4 |
| 3 | DVR & CCTV | 1 | As per Specification mentioned in Annexure 4 |

## Bill of Material – Buyback Infrastructure

| **#** | **Equipment Details** | **Make / Model** | **Qty.** |
| --- | --- | --- | --- |
| 1 | Blade Server Type 1 | HP BL460c G1 Dvlss CTO | 14 |
| 2 | Rack Server Type 3 | HP ProLiant DL180 G5 | 9 |
| 3 | Rack Server Type 4 | HP ProLiant DL380 G5 Storage Server | 1 |
| 4 | Tower - Server Type 5 | HP ProLiant ML110 G5 e Server | 12 |
| 5 | Storage Tape Library | HP Storage Works EML 103e Library | 1 |
| 6 | SAN Storage | HP Storage Works EVA4400 SAN | 1 |
| 7 | IP KVM SWITCH | Auto View 3100 | 1 |
| 8 | KVM Switch | Accent Switch View 1000 8 Port | 1 |
| 9 | Desktop Computer | HP Compaq dx2480 Business PC | 10 |
| 10 | Routers (MPLS VPN) | Cisco 2811 series | 1 |
| 11 | Routers (Internet Router), 2 Nos. | Cisco 1841 Series | 2 |
| 12 | Network Switches (Distribution Switch) | Cisco WS-C2960G-24TC-L | 5 |
| 13 | Firewall | Cisco 5550 Adaptive Security Appliance | 4 |
| 14 | Antispam Appliance | IBM Proventia Network Mail Security System MS3004 | 1 |
| 15 | Intrusion detection and prevention System | IBM Proventia Network Intrusion Prevention System (IPS) GX5008 | 3 |
| 16 | Vulnerability Scanner | IBM Proventia Network Enterprise Scanner 750 | 1 |
| 17 | Fibre port Switch (SAN Switch) | BROCADE 5000 | 2 |
| 18 | DVR and CCTV | Make: G4S | 1 |
| 19 | DVR and CCTV | Make: Samsung; Model: SRD-440 | 1 |
| 20 | Access control System | Make Syris; Model: SY210NT4 SSN–V3 | 1 |
| 21 | BMS | Building Management System Monitoring Software: Goldman Sachs | 1 |

# Annexure – 4: Technical Specifications of various IT/Non-IT Components



## Tower Server

|  |  |  |
| --- | --- | --- |
| **Sr.**  **No.** | **Specifications** | **Desired Specification** |
|
| 1 | **MakeOffered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | **Model Offered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Certification(s) Required | OEM - ISO 9001 Manufacturer |
| Certified on proposed RHEL, SUSE Linux ,Windows and VMware |
| 4 | Std. Compliance(s) Req. | UL, FCC & RoHS |
| 5 | CPU: Latest generation 8CoreIntel Xeon E5-26xx v4 or higher Processor.ProcessorspeedshouldbeofMin2.1GHz and 20MB cache, single socket | |
| 6 | HDD: 2X600 GB SAS Hard drive (10 K or higher RPM) | |
| 7 | Memory:64GBMemory scalableupto256GB | |
| 8 | Remote Administration: Should have dedicated network management port for remote administration | |
| 9 | Integrated Graphics Controller | |
| 10 | Dual 1 Gbps Network port | |
| 11 | DVD ROM drive | |
| 12 | 18.5” TCO 05 certified TFT Monitor; OEM Keyboard and OEM Mouse; | |
| 13 | Server Chassis having Redundant Hot Swappable Power Supply with 8 Hot Swap drive bays; | |
| 14 | All required device drivers for System Configuration and Server Management. | |
| 15 | HardDiskController:SASbasedsupportingRAID0,1 | |
| 16 | Management:OSindependenthardwarehealthstatus. Out of band management port shall be available | |
| 17 | Shallsupport64-bit proposed Red Hat Linux/ SUSE Linux /WindowsOperatingSystemplatform and proposed Virtualization Software. | |

## Blade Server

|  |  |  |
| --- | --- | --- |
| **Sr.**  **No.** | **Specifications** | **Desired Specification** |
|
| 1 | **MakeOffered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | **Model Offered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Certification(s) Required | OEM - ISO 9001 Manufacturer |
| Certified on proposed RHEL, SUSE Linux ,Windows and VMware |
| 4 | Std. Compliance(s) Req. | UL, FCC & RoHS |
| 5 | Server Form Factor | Blade to be inserted into blade enclosure |
| 6 | CPU: Dual CPU Latest generation 16CoreIntel Xeon E5-26xx v4 or higher Processor.ProcessorspeedshouldbeofMin2.1GHz and 40 MB cache | |
| 7 | HDD: 2X600 GB SAS Hard drive (10 K or higher RPM) | |
| 8 | Memory:256GBMemory scalableupto1 TB | |
| 9 | The available bandwidth on the blade server shall be 2x 10G (minimum) for Ethernet ports and 2x8 Gbps (minimum) for FC ports to achieve redundancy. Dedicated ports for Ethernet and FC shall be available. | |
| 10 | Remote Administration: Should havenetworkmanagementportforremoteadministration | |
| 11 | Keyboard: VirtualKVMbasedremotecontrol | |
| 12 | HardDiskController:SASbasedsupportingRAID0and1 | |
| 13 | Management:OSindependenthardwarehealthstatus | |
| 14 | Shallsupport64-bit proposed Red Hat Linux/ SUSE Linux /WindowsOperatingSystemplatform and proposed Virtualization Software. | |

## Blade Chassis

| **Sr.**  **No.** | **Specifications** | **Desired Specification** |
| --- | --- | --- |
|
| 1 | **MakeOffered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | **Model Offered** | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Certification(s) Required | OEM - ISO 9001 Manufacturer |
| 4 | Std. Compliance(s) Req. | UL, FCC & RoHS |
| 6 | Blade Chassis/Enclosure shall have a provision to accommodate minimum 16 nos. of 2P Blade Server modules (all the blade slots should be ready for new blade to be inserted) | |
| 7 | BladeChassisshall have passive back plane. It should accommodatehotswappablePowersupplies,Fans, Modulesetc. Redundant Management should be provided for the chassis. Redundant Interconnect modules should be provided | |
| 8 | Itshallincludeallaccessoriessothatitcan bemounted onan IndustryStandardRack | |
| 9 | Allbladesin thechassismusthavethecapabilities ofutilizingtheprovidedoptical/DVDdrive&USBportsaspart ofthesolution whetherremotely or with directaccessibility | |
| 10 | It shall have all required 100% redundant:   * Power Supplies, * Network interface, * Fiber Channel interface, * Management module (automatic failover) etc. | |
| 11 | It shall be supplied with the PDUs to connect Power Cables to the Chassis power input terminals. | |
| 12 | The Blade chassis shall be fully populated with fans for cooling with 100% redundancy built in for the entire enclosure & its components. | |
| 13 | Vendor should also provide sufficient no. of converged redundant modules for LAN and SAN connectivity to provide 4 Gbps of SAN and 5 Gbps of LAN uplink per server (if in case one module fails) with all connectors, plugins (if any) to provide proper connectivity.  Or  The blade chassis should have minimum of 8X 10 G Network ports, 8 X 1 G network Ports and 8X8G HBA ports | |
| 14 | The power subsystem should have N + N power redundancy for a free slots in the chassis with highest CPU speed, maximum memory and IO configuration possible | |
| 15 | The blade chassis should have 30% free space available for future Server insertion. | |
| 16 | The blade chassis should provide integrated management system to manage and monitor Blade management, Configuration and alerting for all the components in the chassis. Should be capable of delivering BIOS/Firmware updates through the console. Real time monitoring of Power usage and Heating   * Should have a failover module populated. Secure web (SSL) and command-line (Telnet/SSH) interfaces. The system can be integrated with active directory for multilevel user authentication and authorization (optional). Should provide capabilities of remote deployment of Operating systems | |
| 17 | It should support remote KVM capability from an external keyboard, video monitor and mouse to all blades installed in the chassis through the management controllers. | |
| 18 | Simultaneous KVM access to a single blade KVM by multiple users but the admin user can take Read Write ownership while the other user is in Read Only mode | |
| 19 | Should be able to support the feature of virtual DVD to individual servers from remote systems | |

## SAN Storage

| **Sr. No.** | **Specifications** |
| --- | --- |
| 1 | Make offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | Model offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Certification Required: OEM - ISO 9001 Manufacturer |
| 4 | Standard Compliance Required: UL, FCC & RoHS |
| 5 | Storage Space: The storage should be configured with 15 TB usable capacity using SSD10K 1.2TB or higher capacity SSDdrives with Raid-6 (8+2 or smaller sized Raid groups). The storage should support RAID 1/10, 5, and 6. One hot spare disk for every 30 data disk shall be provided for all drive types. |
| 6 | Drive Support: SAS/FC, SATA, SSD |
| 7 | Storage should have 64Gbps front end Bandwidth using 8/16Gbps FC Ports scalable to 128Gbps FC & 40Gbps (4x10Gbps) Bandwidth for iSCSI host connectivity and 192 Gbps SAS backend throughput |
| 8 | Minimum 2 controller Storage with automated I/O path failover |
| 9 | Scale: up to 4 Times the proposed capacity without affecting performance |
| 10 | Should be a unified box supporting FCP, iSCSI protocols from day one, required hardware and software shall be proposed. |
| 11 | The storage should be configured with Automated Tiering across SSD, SAS and NL-SAS tiers, Replication and Snapshot licenses. Asynchronous Replication between DC and DR need to be configured, required FC-IP hardware if needed shall be quoted in redundant configuration. |
| 12 | Snapshot license should support 255 copies for a given volume or file. |
| 13 | The storage should be configured with minimum 48GB controller cache and the same should be 100% scalable With/Without any controller change. Storage should support flash cache of up-to minimum 500GB. Flash cache shall be able to cache both Read and Write operations. |
| 14 | The storage should be configured with automatic thin provisioning and automatic thin reclaim software licenses for the storage. |
| 16 | The storage should be able to perform both synchronous and asynchronous replication. |
| 17 | Storage should support Windows, Linux, VMware, etc. The storage should preferably integrate with Virtualization solution for better management. |
| 18 | Proposed Storage shall have no single point of failure and shall support online code upgrades. |
| 19 | A centralized extensive monitoring, configuration and management of storage components and its connectivity components like hosts, SAN switches, Host Bus Adapter via a single console |
| 20 | The Storage Array shall be supported in a virtualized environment with support for APIs for major Virtualization providers |
| 21 | The Storage Management Software shall be a secure web based GUI based and shall be able to discover and monitor storage systems. It shall provide pro-active intelligence by monitoring performance. |
| 22 | Storage management software shall be configured with feature license to move sub-LUN data seamlessly across different Storage tiers like SSD, SAS and NL-SAS without stopping the host applications. |
| 23 | The storage management software shall support open standards based management like CIM, SNMP, etc. |
| 24 | The system shall be configured to make and maintain time copies of the useable storage space under Raid 1+0 and/or raid 5/6/DP |
| 25 | The SAN Storage shall provide HBA Load Balancing and Multi-pathing. The Software required for this should be supplied for adequate no of enterprise class Linux and Virtualization |
| 26 | Bidder should include all the licenses required to meet above stated objectives. |
| 27 | The offered storage should provide online expansion of LUN |
| 28 | The offered solution should have Hot plug feature enabled disk. |

## Tape Library

| **S. No.** | **Detailed Specifications** | |
| --- | --- | --- |
| 1 | Make Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | Model Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Certification(s) Required | OEM - ISO 9001 Manufacturer |
| 4 | Minimum 4, latest generation (lto-6 or above) LTO drives and min of 24 slots. The proposed tape library should be scalable to 48 slots. | |
| 5 | Fiber Channel Interfaces for connection to Storage via SAN switch | |
| 6 | Should have sufficient speed backup to Tape Library in High Availability for backing up data from the SAN without any user intervention | |
| 7 | At least 40 latest generations (LTO-6 or above) drive Media Cartridges with 2 Cleaning Cartridges | |
| 8 | Offered tape Library shall be Modular design to allow configuration, add capacity and increase performance. | |
| 9 | The robotics should have the state of the art technology for accurate identification of bar-coded cartridges which is important for unattended and automated backup application | |
| 10 | The library shall be able to do continuous automatic calibration and therefore shall not require downtime for periodic alignment | |
| 11. | The Tape library should be able to compress data on write | |
| 12. | The tape library should be integrated with standard monitoring solutions | |
| 13. | Detailed Form factor to be specified in the response | |
| 14. | Offered LTO drive shall have native speed of 160 MB/sec and data capacity of 2.5 TB (uncompressed). | |

## Network Switch (Distribution Switch)

| **Sr. No.** | **Technical Specifications** |
| --- | --- |
| 1 | Make Offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 2 | Model Offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 3 | Minimum 24 ports of 10/100/1000 base-T and 2 additional SFP uplink ports populated with SX modules |
| 4 | 1 U Rack mountable and should support stacking |
| 5 | 52 Gbps or higher Backplane capacity and minimum 38 Mpps of forwarding rate |
| 6 | Should support Non-blocking and distributed forwarding hardware architecture |
| 7 | All interfaces should provide wire speed forwarding for both Fiber and copper modules |
| 8 | Support for at least 1000 VLANs & 12k MAC address |
| 9 | It should have static IP routing and RIP from day 1 |
| 10 | Should be upgradable to OSPF and PIM in future |
| 11 | Switch should support 8 hardware queues per port |
| 12 | Dynamic Host Configuration Protocol (DHCP) snooping |
| 13 | Switch should support LLDP and LLDP-MED capabilities |
| 14 | Should support IP source guard &DAI |
| 15 | Should support Secure Shell (SSH) Protocol and Simple Network Management Protocol Version 3 (SNMPv3) |
| 16 | Switch needs to have console port for administration & management |
| 17 | Management using CLI, GUI using Web interface should be supported |
| 18 | FTP/TFTP for upgrading the operating System |
| 19 | IEEE 802.1x support |
| 20 | IEEE 802.1D Spanning-Tree Protocol |
| IEEE 802.1p class-of-service (CoS) prioritization |
| IEEE 802.1Q VLAN |
| IEEE 802.3 10BASE-T specification |
| IEEE 802.3u 100BASE-TX specification |
| 21 | Switch should able to support management via CLI, Web interface |
| SNMP v1,v2,v3 |
| Switch should be manageable through both IPv4 & IPv6. |
| Switch should be UL-UL60950-1, EN 55022 Class A, CE |
| Should have modular OS and should support configuration roll back to recover mis-configured switch to last known good configuration |

## Fibre Port Switch (SAN Switch)

| **Sr. No.** | **Technical Specifications** | |
| --- | --- | --- |
|  | Make Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Model Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Certification(s) Required | OEM - ISO 9001 Manufacturer |
|  | 24 Port 16Gbps SAN switch scalable to 48 Port. The SAN switch should be configured with required number of LC/LC Cables and all 24 ports should be populated with 16Gbps SFP ports | |
|  | SAN Switch should be configured with redundant Hot Swappable power supply module. | |
|  | SAN switch should support trunking license and should support firmware upgrade/updates. | |
|  | Should have GUI based management software for administration and configuration | |
|  | The Switches should be capable of zoning **and zoning license is required from day 1(one)** | |
|  | The switches should support sending SNMP alerts to leading EMS solutions. | |

## Unified Threat Management (UTM)

| **Sr. No.** | **Features** | **Technical Specifications** |
| --- | --- | --- |
|  | Make Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Model Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| 1 | Appliance Throughput | Must be based on Multicore Parallel Processing Architecture |
| Firewall Throughput minimum 8 Gbps |
| Minimum 1 Gbps of Antivirus Throughput |
| Minimum 5.5 Million Concurrent sessions |
| Minimum 2 Gbps of IPS throughput |
| Minimum 1 Gbps UTM throughput |
| Minimum 1,50,000 New Sessions/second |
| Minimum 6 Gbps of IPSec VPN throughput and 300 Mbps of SSL VPN throughput |
| 6 nos. of 10/100/1000 Gigabit Ethernet ports & 4xGE SFP Supporting 2 Segment Hardware bypass |
| 2 | General Features | Should be appliance based and rack mountable |
| Identity based Firewall |
| Intrusion Prevention System |
| Gateway Anti-virus |
| Inbound Gateway Anti-spam |
| Web Content & Application Filtering |
| Bandwidth Management |
| Inbuilt-on Appliance Reporting |
| Network:  OSPF, Round Robin load balance, RIPv2, BGP, equal & unequal cost load balance, High Availability, QoS, etc. Round Robin Balance, Server Load Balancing. |
| Support for user authentication over SMS. |
| Country Based Blocking, FQDN support and should support MIX mode deployment |
| 3 | Gateway Antivirus, Anti-Spyware and Anti-Spam | Virus, Worm, Trojan Detection and Removal, Automatic Virus signature database update, Real-Time blacklist, MIME header check, and Redirect spam mails to dedicated email address, image-spam filter, Spam Notification, Zero hour Virus outbreak protection. Recurrent pattern Detection Technology for AS. Self Service Quarantine area. |
| 4 | Web and Application Filtering: | URL, Keyword, File type block, Block Java applets, cookies, ActiveX, Block malware, phishing, pharming URL, block P2P application, anonymous proxies, Customized block on group basis. Minimum of 75 categories with more than 42 million URLS supported. 2000+ application support categorized into Characteristics, Technology, Category and Risk Level. |
| 5 | Security Features | Intrusion Prevention System (IPS): For different attacks like Mail Attack, FTP Attack, HTTP Attack, DNS Attack, ICPM Attack, TCP/IP Attack, DOS and DDOS Attack, TelNet Attack. Signatures: Default (3000+), Custom , IPS Policies: Multiple, Custom, User-based policy creation, Automatic real-time updates from CR Protect networks,  Protocol Anomaly Detection |
| VPN: IPsec, L2TP, PPTP and SSL as a part of Basic Appliance, VPN redundancy, Hub and Spoke support, 3DES, DES, AES, MD5,SHA1 Hash algorithms, IPsec NAT Transversal, should be VPNC Certified.**VPNC certificate is optional** |
| Load Balance: For Automated Failover/Failback, Multi-WAN failover, WRR based Load Balancing. High availability: Active-Active. QoS, OSPF, RIPv2, BGP, Policy routing based on Application and User support Round Robin Load Balancing. |
| Bandwidth Management: Application and user identity based bandwidth management, Multi WAN bandwidth reporting, Guaranteed and Burstable bandwidth policy. Bandwidth for User, Group, Firewall Rule, URL and Applications. |
| 6 | Monitoring and Reporting System: | Should provide more than 1200 drilled down reports, Compliance Reports - HIPPA, SOX, FISMA, GLBA, PCI, User and Group based Reports - Web, Email, IM, FTP, Application, Internet Usage Reports - Data Transfer, Surfing Time, Security Reports - Firewall, Attacks, Spam, Virus, Blocked Attempts, Remote Access Reports - VPN, SSL VPN, Search Engine Reports - Google, Yahoo, Bing, Wikipedia, Rediff, eBay, Trend & Search Reports, Multi-format reports - tabular, graphical, Exportable formats - PDF, Excel, Email Alerts/automated Report Scheduling |
| 7 | License for UTM (Unified Threat Management) | License period will be counted after activation. |

## Desktop (All in One)

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Technical Specifications** | |
|  | Make Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Model Offered | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Processor: 5th Generation Intel Core i5 or above. | |
|  | Operating System: Windows 8 or above (64 bit). | |
|  | Display: 23 inch or above HD | |
|  | Port: HDMI, USB | |
|  | Memory (in GB): 8 | |
|  | Hard Drive: 1 TB 5400 rpm | |
|  | Graphics Card: 2 GB Graphics Card make NVIDIA GeForce, ATI Radeon or equivalent | |
|  | DVD- R/W | |
|  | MS Office Standard License | |

## Enterprise Management System (EMS)

|  |  |
| --- | --- |
| **Sr. No.** | **Functional Specifications** |
|  | Make Offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | Model Offered: To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
|  | The proposed EMS should manage service availability by identifying critical services, the infrastructure they depend on and the relevant applications. The proposed solution should provide comprehensive and end-to-end management of all the components for each service including Health monitoring of Systems & Network infrastructure. The EMS system should include logging services for all the servers and also store for a minimum period of 1 year, the logs of all the services |
|  | Bidder has to propose Licenses for Data Centre EMS solution preferably from Open Source domain with necessary hardware & software components that are scalable enough to manage the ICFRE’s DC components  In addition to above, bidder may quote for the renewal of existing EMS system |

## Building Management System (BMS)

| **Items** | **Requirements** |
| --- | --- |
| Make Offered: | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| Model Offered: | To be clearly mentioned. All the relevant product brochures and manuals must be submitted |
| Scope & Specifications | The existing Data Centre consist of four zones namely:   1. Server Room 2. Staging Room 3. NOC Room 4. UPS Room   The Vendor should install the required BMS solution in all the zones of the existing Data Centre.  The scope of work shall consist of supply, install, testing and commissioning of the industry standard, proven quality of integrated Building Management System (BMS) on the basis of truly distributed intelligence for a centralized overview, control and protect the Data Center area. This solution provides one central point through which various alerts and realtime monitoring can be done by the graphical user interface of the entire system and should able to generate reports. Dynamic colour graphics facility should be provided for monitoring and operation of the system without specialist computer skills. The systems should consist of “Command and Control” server and other allied accessories to integrate a wide range of critical infrastructure systems to protect from fire, unauthorized entry and surveillance in all areas.  The BMS system should be supplied and installed with complete Sensors I/O modules, Direct Digital Controllers, Communication Controllers and Supervisory Software for interfacing with various safety and security systems for the Data Center as per this tender. This shall include laying of cabling in duct, conduits and power supply etc., necessary for installation of the system with supply of appropriate This shall include laying of cabling in duct, conduits and power supply etc., necessary for installation of the system with supply of appropriate type products as indicated in the specification and scope of work. The necessary terminal blocks that are required for connection of field equipment cables to DDC cables are also in the scope of the vendor. The Building Manager deals with a single viewing window which is a screen of PC monitor, known as operator workstation through which the health, status and data of various services are available continuously in the form of ‘Live graphic’. Automatic reporting take place through an online printer in various forms like Alarm summery, history trend or in any other form of reporting decided by the user.  The BMS shall perform the following general functions.   * Building Management & Control * Serve as operator Man – Machine interface * Data Collection &Historisation * Alarm Event & Management * Trending, Reports & MIS Generation * Maintenance & Complaint Management * Network Integration * BMS system to have facility to send SMS & Email alert system for critical equipment’s events * like failures in UPS Power, Cooling, Fire emergency, etc. * BMS system to ensure that the power & cooling units are switched off when the fire breaks off & open the Access doors with siren & alert mechanism as mentioned above.   BMS system to integrate UPS System, PAC Systems, PA System, Fire detection system, Fire suppression Gas release panel, VESDA, Access control system, CCTV surveillance system, DG Set and Water Leakage Detector system as specified in this tender. Also should have facility to add additional temperature monitoring devices and options to integrate other devices like additional DG, etc. |
| Other Specifications | All the above listed Systems communicate with the Integrated Building Management System on MODBUS RTU Protocol or by other protocol provided by each of the system or by hard wired points to establish the communication for the desired functions of BMS. The Integrated Building Management System should be based on advanced state of art of technology wherein the various sub-systems are seamlessly integrated on a single platform and the IBMS software remains the headend for all the proposed safety and security system. The integration enables viewing of all the above systems through icons on the Building Automation System Software. Upon selection of each icon, the screen for the respective system appears on the Building Automation System Workstation. Seamless integration specifies that all these sub-systems of BMS has the same head-end and runs on the same application software from the same platform. This ensures that integration between the various subsystems are independent cables and hardwire connections between the various sub-systems. The seamless integration ensures software signals performing the integration functions between various sub-systems.  The Screen would incorporate real time values of critical information that may be released by the respective systems. All critical alarms that may be available on the respective system shall pop-up on the Building Automation System Software Screen as and when they appear. The user can acknowledge the alarms and the information is stored in the Audit trail file of the Building Automation System. |
| Control Station Hardware | The Control functions for each of the above systems depends on the information / data released by the respective system provider for the necessary controls from the Building Automation System. It is assumed that each of the Systems mentioned above, has their own Software & Hardware to communicate with the Building Automation System through suitable protocol.  The Control stations shall comprise of Personal computers (PC) providing high-level operator interface with the system. The terminals shall be capable of providing the operator with the facility for remote system interrogation, control, and retrieval / storage of logged data, annunciation of alarms and reports, analysis of recorded data and the formatting of management reports.   1. The control station shall consist of the following hardware with all of them suitable for the power supply voltage of 230 V AC ± 10%, 50 HZ + 3%. 2. PC with Core I7 Processor/8 GB RAM/1TB Hard Disk 3. 32” LED Display, with Wireless Keyboard & Mouse. 4. Suitable MFD laser printer for printing of Reports etc.   Windows 10 Professional operating system and other required software shall be included. |
| EMS monitoring | EMS shall monitor the LAN network of ICFRE. The following components of LAN are to be monitored:  No of 48 port switches = 35  No of 24 port switches = 69  No of 16 port switch=1  No of 12 port switch=2  Access Point = 20 |
| Accessibility | View access dashboard of EMS shall be provided for 10 no. of users |

## Access Control System

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| --- | --- |
| **Biometric Finger Scan Reader Features** | **Minimum Required Parameters** |
| Transmission Frequency | 13.56 MHz |
| Technology | iClass |
| Security | 64 bit authentication keys. The data flow between card & Reader should be encrypted |
| Graphical Display | LCD display |
| Function | Should be configured as a Reader – Enroller, Enroller Only & Reader Only (All three are mandatory) |
| Enrollment of fingerprint templates iClass Smart Cards | Yes |
| Read Range | Minimum 3.5” |
| Operating Voltage | 10 – 12V DC |
| Operation | Indoor use |
| Housing | Polycarbonate |
| Fingerprint Sensor | Optical |
| Sensor Resolution | 500 dpi |
| Timing | Fingerprint Capture: Less than 2 Sec |
| Verification of captured finger: Less than 1 Sec | |
| False Acceptance Rate | Less than 0.01% |
| False Rejection Rate | Less than 0.01% |
| Fingerprint Enrollment Software | Yes |
| Technology Compliance | iClass 15693 & 14443B |
| Certifications | UL |
| Operating Temperature | 0° to 50°C or 32° to 122°F |
| Operating Humidity | 10% to 90% relative humidity (Non-Condensing) |
| **Controller Features** | **Minimum Required Parameters** |
| Reader Inputs | Two |
| Universal Inputs | Two |
| Tamper Input | One |
| Digital Lock Inputs | Two |
| Processor | 50 MHz with 128 MB RAM and 32 MB Flash |
| Processor For Reader Inputs | Yes (Dedicated Processor for each Reader) |
| Communication | 10/100 Ethernet Port |
| Memory | Minimum 1000 personnel Records |
| Area Lockdown Support | Yes |
| Real Time Clock | Yes |
| Encryption | 64 bit |
| Visual Indicator | Yes |
| Mounting | Wall / Ceiling Mount |
| Battery Backup | 5 hours |
| Technology Compatibility | Wiegand |
| Card Reader Power | 5V DC & 12V DC (Jumper Selectable) |
| Wiring Distance | 150 meters (Wiegand) |
| Indicator LED | Yes |
| Push Button Switches | Yes (For clearing the memory & Resetting the IP Address) |
| Enclosure | Yes |
| Certifications | CE Approved or UL listed |
| Operating Temperature | 0° to 45°C |
| Operating Humidity | 10% to 80% relative humidity (Non-Condensing) |

| **Sr. No.** | **Access Control Software Specifications** |
| --- | --- |
| 1 | Compatibility with any Windows Operating System |
| 2 | Compatibility with MYSQL / SQL / ORACLE |
| 3 | Support for TCP/IP Communication |
| 4 | Provision for Alarm Monitoring for Battery, Mains Supply, Door Opened too Long, Door Forced Opened, Unauthorized Swipe & Controller Tampering |
| 5 | Support for unlimited number of Card Database & Transactions |
| 6 | Specify Card Activation & Expiry Date |
| 7 | Support for Biometric, Pin & Smart Card Applications |
| 8 | Management of Dual Access Levels to a single Card |
| 9 | Remote Locking & Unlocking of Doors |
| 10 | Remote management of Controllers |
| 11 | Customization of Door User time for every card holder |
| 12 | One Client License |
| 13 | Two Stages of Alarm Management (Acknowledgement on Receipt & Closure on Investigation) |
| 14 | Management of Minimum 100 Readers |
| 15 | Access Privileges on the basis of Time & Date |
| 16 | Creation of holiday schedules to cover maintenance & Vacations / Holidays |
| 17 | Setting of Time / Date from Client workstation |
| 18 | Permission to activate any control output for a specific event such as alarm |
| 19 | Programmable Shunt time to control the door opening time |
| 20 | Area Control by using Hard Anti Pass back, Soft Anti Pass back, Timed Anti Pass back, Occupancy Limit, Multi man principle, Area Lock down, Threat level conditioning. |
| 21 | Alarm Management |
| 22 | Automatic User Log off |
| 23 | Cardholder Management & Enrollment |
| 24 | Creation & Maintenance of User Database |
| 25 | Assignment of Access Privileges |
| 26 | Basic Time & attendance Feature such as Login report, Monthly Attendance etc. |

## IP based CCTV Surveillance System

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| **#** | **General Specifications** |
| 1 | The IP based Closed Camera surveillance system shall use state of the art technology and shall comply with the UL standards |
| 2 | The IP based systems shall either use integrated or encoders for their camera systems and shall be from the same manufacturer as that of the IP Digital Video management system provider |
| 3 | All the cameras proposed shall be power over Ethernet with option for 24 Vac input |
| 4 | The system shall support open architecture and shall not have any proprietary equipment’s to ensure future compatibility with third party systems |

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| **#** | **Indoor High Definition Colour Camera Specifications** |
| 1 | The camera should have 1/3” CMOS Imaging Device |
| 2 | The camera shall be a minimum high-resolution 0.5 Megapixel Resolution (800 x 600) |
| 3 | The camera should support 30 Images per Second (ips) at All Resolutions |
| 4 | The camera shall have a minimum focal length of 3 ~ 8 mm Lens |
| 5 | The camera should support Rugged, Indoor, Vandal-Resistant |
| 6 | The camera should support video encoding on H.264/MJPEG dual streaming |
| 7 | The camera should have electronic Day & night operation |
| 8 | The camera should have minimum illumination of 0.5 lux |
| 9 | The camera should have Power over Ethernet (PoE), IEEE 802.3af feature. |
| 10 | The camera shall provide support of dual streaming |

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| **#** | **Standards** |
| 1 | The camera should have Wide Dynamic Range & White Balance Range. |
| 2 | Should support Protocols: : HTTP, TCP/IP, FTP, TELNET, RARP, PPP, PAP, CHAP, DHCP, SMTP Client, NTP, RTP, RTSP |
| 3 | The camera should have Interface of Ethernet (RJ-45, 10/100 Base-TX) |
| 4 | The camera should be accessed through Web-browser in Microsoft IE 6.0 or above Multiple-users should be able to have access to the camera |
| 5 | Operating temperature range should be 0° to 50°C or 32° to 122°F |
| 6 | Operating humidity range should be 20% to 80%, noncondensing |
| 7 | Power consumption should be not more than 3.5W. |
| 8 | The camera should have UL Listed or CE Certified. |

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| **#** | **Network Video Recorder / Server supporting 64 video streams Specifications** |
| 1 | The Network video recorder / sever shall support a minimum of 16 cameras and shall be possible to expand upto 64 video inputs per network video recorder / server. |
| 2 | The total NVR shall have an internal hard disc capacity of upto 30 days of video storage (whichever is maximum) at 4CIF resolution, 25 frames per second for the installed cameras with provision for 25% additional cameras in RAID configuration. When the number of cameras increases further, the storage should be upgradeable in modular fashion. |
| 3 | The NVR shall support central archive storage of a SAN or NAS storage solution in case of extended storage. Offered software shall provide automatic scheduled backup facility so as selected cameras, selected time video shall be backed up on central storage at specified time. |
| 4 | The NVR / server shall be able to record individual camera with selectable frame rate |
| 5 | The NVR / server shall support remote administration, monitoring and management of video, audio and data. |
| 6 | The NVR shall support health and event monitoring of the system. |
| 7 | The NVR shall support logical camera grouping. |
| 8 | The NVR / Server shall have the bare minimum specs as mentioned below – vendors to select the server as per their system requirement but shall have these bare minimum specs standard. |
| 9 | The NVR / server should at least support H.264, MPEG 4 & MJPEG formats |
| 10 | The network video recorder shall be able to record videos in CIF( 352 x 288) ,VGA (640 x 480 ) 4CIF/D1 CIF resolutions ( 720 x 576 ), HD 720 (1280 X 720) & HD 1080 (1920 X 1080). |
| 11 | Necessary operating system and the system software licenses required shall be included. |

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| **#** | **Digital Video Management System (DVMS) software features** |
| 1 | The software shall manage and support video from IP cameras and encoders through the Ethernet. |
| 2 | Remote administration, monitoring and management of video and audio, the software shall be in a position. |
| 3 | The DVMS software shall be able to display a minimum of 16 videos on the screen. It shall be possible to get the following information.   * Host name & IP address * Serial number * Software version * Trap destination * Model number * System name * Number of hard drives on system * Hard drive serial numbers * Hard drive temperatures * Misc. hard drive status' * Number of system cameras * Camera names * Camera input numbers * Camera status (recording, no signal, scene loss) * Number of days of video storage on disk * Licensed product name * Product ID * Camera list change * Service changes * System restart * Hard drive event * System shutdown * Alarm events * Video deleted sooner than expected * Windows events |
| 4 | The DVMS software shall allow users to monitor and manage any IP devices through a single digital video surveillance application. |
| 5 | The DMS shall support open architecture platform expands the capabilities of legacy devices and maximizes investments in current and future security technology. |
| 6 | The DVMS shall support third-party applications, video analytics and data transaction information. |
| 7 | The cameras shall be provided for all the entry doors, corridors & server rooms. The UPS, panel, electrical & DG room will also be monitored. |

## Audio Video Capture Card

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| --- | --- |
| **#** | **General Specifications** |
| 1 | Captures full-frame video at 30 frames per second providing full HD resolution. |
| 2 | Enables multiple cards to stream multiple video sources on a single workstation. |
| 3 | Should support drivers for Microsoft Windows XP, Server 2003, Server 2008, Vista, Windows 7, Windows 8, Windows 10 |
| 4 | Single channel with 4 switchable inputs: 3 composite (RCA), 1 S-Video (mini-DIN). Multiple card support - Deploy two or more cards in a single PC chassis for maximum versatility |

## Lotus Dominos Mail Solution Additional Feature

|  |  |
| --- | --- |
| **#** | **General Specifications** |
| 1 | Shall support End to End Mail Encryption |
| 2 | Shall support Push Mail Integration |
| 3 | Shall support SMS Gateway Integration |

# Annexure – 5: Format for Response to Technical Bid

## Form 1: Technical Bid Letter

Covering Letter

Date: [*Insert Date of Bid*]

To

The Asstt. Director General (Administration)

Directorate of Administration

Indian Council of Forestry Research & Education

P.O. New Forest, Dehradun - 248 006

Fax :0135-2750297

Dear Sir,

[Sub: Bid for Continuity of the Server Farm]

Having examined the Bid documents, the receipt of which is hereby acknowledged, we, the undersigned, offer to Procure, Configure and Maintain IT & Non-IT Infrastructure for continuity of the Server Farm with Business Continuity Plan (BCP) for the implementation of the proposed IFRIS solution in full conformity with the said Bid documents.

We declare that we have studied the Bid documents and are making this bid with a stipulation that you shall award us contracts to Procure, Configure and Maintain IT& Non-IT Infrastructure for continuity of Server Farm with Business Continuity Plan (BCP) including all maintenance/ improvement/ customization services and other services specified in the Bid documents.

We have read the provisions mentioned in the Bid documents and confirm that these are acceptable to us.

We undertake, if our bid is accepted, to commence the work on the project immediately upon your Notification of Award to us, and to achieve Completion within the time stated in the Bid documents.

If our bid is accepted, we undertake to provide a Performance Guarantee in the form and amounts, and within the times specified in the Bid documents.

We agree to abide by this bid, consisting of this letter, the technical specifications, the Price Schedules, the duly notarized written power of attorney and Attachments [specify the number of attachments] to this Bid, for a period of bid validity from the date fixed for submission of bids as stipulated in the Bid documents, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

Until the formal final Contract is prepared and executed between us, this bid, together with your written acceptance of the bid and your notification of award, shall constitute a binding contract between us.

Dated this [insert number] day of [insert month], [insert year]

Signed:

In the capacity of [insert Title of Position]

Duly authorized to sign this bid and on behalf of [insert Name of Bidder]

Attachments:

1.

2.

3.

4.

5.

## Form 2: Particulars of the Vendor

1. Name of the consultant: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1. . | Head / Regd. Office Address | | : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | a) | Postal | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | b) | Fax. No. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Telephone No.s (s) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d) E-mail Address : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Website Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Former name of consultant (if any): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Dehradun Office Address, if any: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| a) | Postal | : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| b) | Fax. No. | : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

1. Telephone No.s (s) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. E-mail Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Type of Organization : Individual / Partnership / Incorporated

1. Year of establishment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Amount of EMD deposited
3. Draft / Bank Guarantee No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
|  | b) | Bank Detail | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | c) | Amount | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 8. | Name and address of the authorized | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  | signatory / contact | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

person for this Quotation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Whether letter of Authority for: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

attending bid opening enclosed with Quotation?

1. Whether PAN certificate attached? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Sales Tax / VAT Regd. No. : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Signature of Bidder**

**Date:** **Name**

**Place:** **Office Seal**

## Form 3: Technical Solution

**Format for Technical Solution**

1. **The response to the technical solution should capture the following in the explanation** –
2. Clear articulation and description of the design and technical solution and various components including make of equipment or sizing of infrastructure (including diagrams and calculations wherever applicable)
3. Extent of compliance to technical requirements specified in the RFP
4. Technical Design and clear articulation of benefits to ICFRE of various components of solution vis-a vis other options available
5. Strength of the bidder to provide services including examples or case-studies of similar solutions deployed in other Data Centres.

**2.The bidder shall provide detailed design and sizing calculation for the following listing all the assumptions that have been considered** –

1. IT Components Design

* Approach and Methodology for Installation and Configuration of –
  + Computing infrastructure (Servers, OS, Databases etc)
  + Network infrastructure
  + Security infrastructure
  + Applications
  + Storage infrastructure
  + Help Desk

1. Operations & maintenance

* Help Desk Services
  + Escalation Plan
* System Maintenance & Management
* System/Storage/Database/Network/Security Administration
* Backup and Restoration
* Approach and Methodology for installation of the IT infrastructure

1. **Bidder shall provide detailed project plan with timelines, resource allocation, milestones etc. for supply, installation and commissioning of the physical and IT components for the ICFRE Server Farm**

## Form 4: Proposed Work Plan

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No** | **Activity** | **Calendar Months** | | | | | | | | | | | | |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **n** |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| N |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

1. Indicate all main activities of the assignment, including delivery of reports, and other benchmarks such as Purchaser approvals.
2. Duration of activities shall be indicated in the form of a bar chart.

## Form 5: Proposed Manpower

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of Staff with qualification and experience** | **Area of Expertise** | **Position Assigned** | **Task Assigned** | **Time committed for the engagement** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Form 6: Detailed CV of proposed Manpower

|  |  |
| --- | --- |
| **General Information** | |
| Name of the person |  |
| Current Designation / Job Title |  |
| Current job responsibilities |  |
| Proposed Role in the Project |  |
| Proposed Responsibilities in the Project |  |
| Academic Qualifications:   * Degree * Academic institution graduated from * Year of graduation * Specialization (if any) * Key achievements and other relevant information (if any) |  |
| Professional Certifications (if any) |  |
| Total number of years of experience |  |
| Number of years with the current company |  |
| Summary of the Professional / Domain Experience |  |
| Number of complete life cycle implementations carried out |  |
| The names of customers (Please provide the relevant names) |  |
| Past assignment details (For each assignment provide details regarding name of organizations worked for, designation, responsibilities, tenure)  Prior Professional Experience covering:   * Organizations worked for in the past   + Organization name   + Duration and dates of entry and exit   + Designation & Location(s)   + Key responsibilities * Prior project experience   + Project name   + Client   + Key project features in brief   + Location of the project   + Designation   + Role   + Responsibilities and activities   + Duration of the project   Please provide only relevant projects. |  |
| Proficient in languages (Against each language listed indicate if speak/read/write) |  |

## Form 7: Project Citation Format

|  |  |
| --- | --- |
| **Relevant IT project experience** | |
| **General Information** | |
| Name of the project |  |
| Client for which the project was executed |  |
| Name and contact details with phone no. of the client |  |
| **Project Details** | |
| Description of the project |  |
| Scope of services |  |
| **Other Details** | |
| Total cost of the project |  |
| Duration of the project (no. of months, start date, completion date, current status) |  |
| **Other Relevant Information** | |
| Letter from the client to indicate the successful completion of the projects |  |
| Copy of Work Order |  |

## Form 8: Compliance Sheet

**Compliance to Technical Specifications**

Bidders have to mandatorily comply the technical specification of the items as provided in Annexure 4.

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Technical Specification/ Requirement | Compliance (Yes/No) | Reference (Section & Page No. of Technical Proposal) |
| 1 |  |  |  |
| 2 |  |  |  |

**Compliance to Pre-Qualification Parameters**

Bidders have to comply the pre-qualification parameters as provided in Annexure 8.

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Pre-Qualification Parameters | Compliance (Yes/No) | Reference (Section & Page No. of Technical Proposal) |
| 1 |  |  |  |
| 2 |  |  |  |

**Compliance to Technical Evaluation Parameters**

Bidders have to comply the technical evaluation parameters as provided in Annexure 9.

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. No. | Technical Evaluation Parameters | Compliance (Yes/No) | Reference (Section & Page No. of Technical Proposal) |
| 1 |  |  |  |
| 2 |  |  |  |

## Form 9: Manufacturers Authorization Form

Ref. No. **\_\_\_\_\_\_\_\_\_\_** Date:

To,

The Deputy Director General (Admin)

Directorate of Administration,

Indian Council of Forestry Research & Education (ICFRE)

P.O. New Forest, Dehradun – 248006

Sub: RFP ref no:

Dear Sir,

Please refer to your Notice Inviting Tenders for Appointment of an Agency for "Supply, Installation, Upgradation, Commissioning and Maintenance of Data Centre in ICFRE Dehradun”

.

M/S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Bidder), who is our reliable distributor for the last \_\_\_\_\_\_\_\_\_\_\_\_years, is hereby authorized to quote on our behalf for this prestigious tender.

We undertake the following regarding the supply of all the equipment and related software as described in this tender

1. It will be ensured that in the event of being awarded the contract the machines will be delivered by M/s\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Bidder) & maintained by M/S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ properly as per the conditions of the contract. For this purpose, we shall provide M/S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Bidder) necessary technical support including technical updates, software version updates (such as Firmware, Operating System) and upgrades, required patches, replacements & spares to the Bidder as per the RFP conditions. A signed copy of the original equipment warranty agreement (support, repair, replacement) shall be submitted to the client / purchaser at the time of installation.
2. If M/s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ fails to maintain the hardware/ software and ICFRE is compelled to appoint an operator due to non-maintenance of the equipment supplied by us or for any other reason whatsoever, we will provide necessary support to the new operator as appointed by the ICFRE for the remaining period of the project as per the RFP and SLA signed.
3. The equipment supplied will not be under end of life/ end of sale within the duration as mentioned in this document. Also the supplied equipment in this project shall not be declared end of support within five years of its installation (i.e. from the day of Final Acceptance Test approval by the ICFRE). In case it happens M/s\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ will have to replace that equipment with equivalent new equipment.
4. If due to any reason whatsoever, the tie up between our Company & M/S \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(Bidder) breaks down subsequently or supply/ installation does not take place for a reason not attributable to ICFRE, alternative arrangements as prescribed in earlier points will apply.

.

Yours faithfully,

(NAME) (Name of manufacturers)

Note: This letter of authority shall be on the letterhead of the manufacturer and shall be signed by a person competent and having the power of attorney to bind the manufacturer. It shall be included by the Bidder in Pre-Qualification Criteria.

## Form 10: Declaration of Seamless Integration

Covering Letter

Date: [*Insert Date of Bid*]

To

The Deputy. Director General (Administration)

Directorate of Administration

Indian Council of Forestry Research & Education

P.O. New Forest, Dehradun - 248 006

Fax :0135-2750297

Dear Sir,

[Sub: Bid for Continuity of the Server Farm]

We…………………………….hereby confirm that we will be taking responsibility for seamless integration of existing & proposed IT/Non-IT Components of Data Centre of ICFRE.

Thanking you,

Yours faithfully

(Signature of the Authorized signatory of the Bidding Organisation)

Name :

Designation :

Date :

Time :

Seal :

Business Address:

# Annexure – 6: Format for Response to Commercial Bid

## Form 1: IT Infrastructure Cost

| **Sr. No.** | **Item** | **Quantity** | **Unit** | **Unit Rate** | **Total Rate Exclusive of Taxes** | **Tax (applicable)** | **Total including taxes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Tower Server | 9 | Nos. |  |  |  |  |
| 2 | Blade Server | 5 | Nos. |  |  |  |  |
| 3 | Blade Chassis | 1 | Nos. |  |  |  |  |
| 4 | SAN Storage | 1 | Nos. |  |  |  |  |
| 5 | Tape Library | 1 | Nos. |  |  |  |  |
| 6 | Distribution Switches | 5 | Nos. |  |  |  |  |
| 7 | Unified Threat Management (UTM) | 3 | Nos. |  |  |  |  |
| 8 | SAN Switch | 2 | Nos. |  |  |  |  |
| 9 | Desktop Computers | 10 | Nos. |  |  |  |  |
| 10 | MS Windows Server 2016 for 16 core per server | 10 | Nos. |  |  |  |  |
| 11 | Red Hat Enterprise Linux for Virtual Data Centre Premium Subscription (2 Socket, unlimited virtual) | 7 | Nos. |  |  |  |  |
| 12 | MySQL Standard Edition | 2 | Nos. |  |  |  |  |
| 13 | Audio-Video Capture Card with Web Streaming Capability | 9 | Nos. |  |  |  |  |
| 14 | Enterprise Management System | 1 | Set |  |  |  |  |
| 15 | Backup Software with relevant OS | 1 | Nos. |  |  |  |  |
| 16 | Enterprise Virtualization Software Processor Based | 10 | Nos. |  |  |  |  |
| 17 | VPN Licenses for UTM | 100 | Nos. |  |  |  |  |
| 18 | SQL Server Standard Edition 2 processor license | 2 | Nos. |  |  |  |  |
| 19 | Microsoft Windows server update service | 1 | Nos. |  |  |  |  |
| 20 | Symantec End Point Protection Server License with latest version or any other equivalent windows based antivirus solution | 1 | Nos. |  |  |  |  |
| 21 | Symantec End Point Protection Client License with latest version or any other equivalent windows based antivirus solution | 1500 | Nos. |  |  |  |  |
| 22 | Lotus Domino Web Access Messaging Authorised User License with latest version or any other equivalent email solution | 2000 | Nos. |  |  |  |  |
| 23 | Lotus Domino Enterprise Server Processor Value Unit (PVU) License with latest version or any other equivalent email solution | 50 | Nos. |  |  |  |  |
| 24 | Lotus Notes with Messaging Authorised User Licensewith latest version or any other equivalent email solution | 50 | Nos. |  |  |  |  |
| 25 | Any other Miscellaneous item required for smooth running of data centre | 1 | LS |  |  |  |  |

## Form 2: Non-IT (Physical) Infrastructure Cost

| **Sr. No.** | **Item** | **Quantity** | **Unit** | **Unit Rate** | **Total Rate Exclusive of Taxes** | **Tax (applicable)** | **Total including taxes** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | Access Control System | 1 | LS |  |  |  |  |
| 2 | Building Management System | 1 | LS |  |  |  |  |
| 3 | DVR & CCTV | 1 | LS |  |  |  |  |
| 4 | Any other Miscellaneous item required for smooth running of data centre | 1 | LS |  |  |  |  |

## Form 3: Operation & Maintenance Cost (including AMC)

| **Sr. No.** | **Item** | **Unit Rate** | **Total Rate Exclusive of Taxes** | **Tax (applicable)** | **Total including taxes** |
| --- | --- | --- | --- | --- | --- |
| 1 | Operation & Maintenance Cost for Year 1 |  |  |  |  |
| 2 | Operation & Maintenance Cost for Year 2 |  |  |  |  |
| 3 | Operation & Maintenance Cost for Year 3 |  |  |  |  |
| 4 | Operation & Maintenance Cost for Year 4 |  |  |  |  |
| 5 | Operation & Maintenance Cost for Year 5 |  |  |  |  |

Note:

The AMC for new items after warrantee period is over, shall be included in O&M cost year on year.

The AMC for existing items as shown in below table shall also be included in O&M cost year on year

| **#** | **Equipment Details** | **Make and configuration** | **Qty.** |
| --- | --- | --- | --- |
| 1 | Precision AC | PCX-352 DTR | 2 |
| 2 | UPS System | Eaton POWERWARE 9390 Power rating: 80KVA | 2 |
| 3 | UPS system | Eaton E Series DX;  Power rating: 20KVA | 2 |
| 4 | DG set | Jakson Diesel Generator Set 160 KVA Model: C 160 D5 P | 1 |
| 5 | Fire Alarm System | Make Honeywell Model: NFS-320/E/C with one panel | 1 |
| 6 | Fire suppression systems | Item: FM-200; Model: Eureka Forbes | 2 |
| 7 | Rodents Controller | Make Master/ VHFO- LP 20 | 1 |
| 8 | Water Leakage System | Water Leakage Detector Make Honeywell | 1 |
| 9 | Smoke detector system | VESDA Laser FOCUS VLF-250 | 1 |
| 10 | PA system: Area Cover Data centre, Staging room and NOC room | Amplifier make: Plena | 1 |
| 11 | Duct AC | Blue star 5.0 Tonn | 2 |
| 12 | Split AC | Blue star, TR-HWE241YB 2.0 Tonn | 6 |
| 13 | Split AC | Tata-Voltas2 45 DY 2.0 Tonn | 1 |
| 14 | Servo Voltage Stabilizer | 3 Phase-250 KVA | 1 |
| 15 | Network Switches (CoreSwitch) | Cisco WS-C3560-24TS | 2 |

## Form 4: Buyback Infrastructure

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Equipment Details** | **Make / Model** | **Qty.** | **Cost** |
| 1 | Blade Server Type 1 | HP BL460c G1 Dvlss CTO | 14 |  |
| 2 | Rack Server Type 3 | HP ProLiant DL180 G5 | 9 |  |
| 3 | Rack Server Type 4 | HP ProLiant DL380 G5 Storage Server | 1 |  |
| 4 | Tower - Server Type 5 | HP ProLiant ML110 G5 e Server | 12 |  |
| 5 | Storage Tape Library | HP Storage Works EML 103e Library | 1 |  |
| 6 | SAN Storage | HP Storage Works EVA4400 SAN | 1 |  |
| 7 | IP KVM SWITCH | Auto View 3100 | 1 |  |
| 8 | KVM Switch | Accent Switch View 1000 8 Port | 1 |  |
| 8 | Desktop Computer | HP Compaq dx2480 Business PC | 10 |  |
| 10 | Routers (MPLS VPN) | Cisco 2811 series | 1 |  |
| 11 | Routers (Internet Router), 2 Nos. | Cisco 1841 Series | 2 |  |
| 12 | Network Switches (Distribution Switch) | Cisco WS-C2960G-24TC-L | 5 |  |
| 13 | Firewall | Cisco 5550 Adaptive Security Appliance | 4 |  |
| 14 | Antispam Appliance | IBM Proventia Network Mail Security System MS3004 | 1 |  |
| 15 | Intrusion detection and prevention System | IBM Proventia Network Intrusion Prevention System (IPS) GX5008 | 3 |  |
| 16 | Vulnerability Scanner | IBM Proventia Network Enterprise Scanner 750 | 1 |  |
| 17 | DVR and CCTV | Make: G4S | 1 |  |
| 18 | DVR and CCTV | Make: Samsung; Model: SRD-440 | 1 |  |
| 19 | Access control System | Make Syris; Model: SY210NT4 SSN–V3 | 1 |  |
| 20 | BMS | Building Management System Monitoring Software: Goldman Sachs | 1 |  |

# Annexure – 7:Format for Performance Bank Guarantee

(To be stamped in accordance with Stamp Act if any, of the country for issuing bank)

Ref : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bank Guarantee : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Dear Sir,

In consideration of **Indian Council of Forestry Research and Education,Dehradun**(Hereinafter referred as the ‘ICFRE’, which expression shall, unlessrepugnant to the context of meaning thereof include its successors, administrators and assigns) having awarded to M/s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (hereinafter referred to as the ‘Vendor’, which expression shall, unless repugnant to the context of meaning thereof include its successors, administrators and assigns) resulting in a Contract Valued for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hereinafter called the ‘Contract’ and after the receipt of the Letter of Intent (LoI) dated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with the Vendor and ICFRE having agreed the Vendor shall furnish to ICFRE a performance bank guarantee for INR \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in words and figures) towards faithful performance of the entire Contract.

We \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Name of Bank) having its Head Office at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (hereinafter referred to as the Bank), which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators executors and assigns) do hereby guarantee and undertake to pay the ICFRE immediately on demand an or, all amount payable by the Vendor to the extent of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as aforesaid at any time upto \_\_\_\_\_\_\_\_\_\_\_\_\_ any demur, reservation, contest, resource or protest and / or without any reference to the Vendor. Any such demand made by the ICFRE on the Bank shall be conclusive and binding notwithstanding any difference between the ICFRE and Vendor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable till the ICFRE discharges this guarantee.

The ICFRE shall have the fullest liberty without affecting in any way the liability of the Bank under the Guarantee, from time to time to extend the time of performance of the Contract by the Vendor. The ICFRE shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise or any powers vested in it of any right which it might have against the Vendor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the ICFRE and vendor any other course or remedy or security available to the ICFRE. The bank shall not be relieve of its obligations under these presents by any exercise by the ICFRE of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the ICFRE or any other indulgence shown by the ICFRE or by any other matter or thing whatsoever which under lay would but for this provision have the effect of relieving the Bank.

The Bank also agrees that ICFRE at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the vendor and notwithstanding any security or other guarantee that the ICFRE may have in relation to the Vendor’s liabilities.

The Bank further agrees that the Guarantee herein contained shall remain in full force during the period that is taken for the performance of the Contract and all dues of ICFRE under or by virtue of this Contract have been fully paid and its claim satisfied or discharged or till ICFRE discharges this guarantee in writing, whichever is earlier. This Guarantee shall not be discharged by any change in our constitution, in the constitution of ICFRE or that of the Vendor.

The Bank confirms that this guarantee has been issued with observance of appropriate laws of the country of issue. The Bank also agrees that this guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Courts of Dehradun.

Notwithstanding anything contained herein above, our liability under this Guarantee is limited to INR\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in words and figures) and our guarantee shall remain in force until \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (indicate the date of expiry of bank guarantee).

Dated this day of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 200\_\_ at \_\_\_\_\_\_\_\_\_\_\_\_

Signature & Seal of Authorized Signatory of Bank

# Annexure – 8: Pre-Qualification Criteria

| **Sr.** | **Qualification Criteria** | **Documents/Information to be Provided in the submitted Proposal** |
| --- | --- | --- |
|  | The responding firm / agency   1. Should have made a payment of INR5,000/- (INRFive Thousand only) for the RFP document 2. Should have submitted a EMD of INR5,00,000/- (INRFive Lakhs only) | 1. Demand Draft/Banker’s Cheque for INR5,000/- (In Favour of DDO, ICFRE, Dehradun) 2. FDR/BG for INR5,00,000/- (In Favour of DDO, ICFRE, Dehradun) |
|  | (a) The Bidder shall be an established Information Technology company registered under the Companies Act 1956 / 2013 and in operation for at least 5 years as on 31.03.2016 and shall have their registered offices in India.  (b) The company must be registered with appropriate authorities for all applicable statutory duties/taxes. | 1. Valid documentary proof of:  * Certificate of incorporation * Certificate consequent to change of name, if applicable  1. Valid documentary proof of:  * Central Sales Tax/VAT number * Service Tax registration number * Income Tax registration/PAN number |
|  | The responding firm should be ISO 9001:2008 certified | Copy of certification which is valid on  date of submission |
|  | Average Annual Sales Turnover of Vendor during the last three (3) financial years (FY 13-14, FY 14-15, FY 15-16) as per the last published balance sheets shall be of INR 35Crores or more  **Note:** The turnover refers to the Bidder’s firm and not the composite turnover of its subsidiaries/sister concerns etc. | Extracts from the audited Balance sheet and Profit & Loss;  AND  Certificate from the statutory auditor on letterhead mentioning registration no. of auditor. |
|  | The Bidder must have implemented/ commissioned at least “One” Data Centre implementation / upgradation project in India worth INR 2.0 Crorefor Govt./ Central Govt./ PSU/Private Sector in last 5 years  **Note:** (Implementations for providing IT services in their own company’s Data Centre **shall not** be considered). | Completion Certificate from client. Along with Form 7, Annexure 5 |
|  | The responding firm must have a minimum 50 number of IT Staff of technically qualified personnel in the domain of Data Centre/ IT Infrastructure on its role as on bid submission date | Certificate from HR Department for number of technically qualified professionals employed by the company |
|  | Consortium | Consortium may be formed but all the pre-qualification criteria to be met by lead bidder and total responsibility lies with lead bidder.  Also, scope of work among lead bidder and consortium partner shall be mentioned clearly |

# Annexure – 9: Technical Evaluation Criteria

| **S. No.** | **Criteria / Sub Criteria** | **Description** | **Point System** | **Max Criteria / Sub Criteria Points** | **Form to be used** |
| --- | --- | --- | --- | --- | --- |
| **1** | **Past Experience of the Bidder** | | | **80** |  |
| **a.** | **Data Centre Establishment & Upgradation Projects** | At least Two (2) Projects for Data Centre Implementation/ Upgradation involving  Supply,Installation, Configuration, Maintenance and Operations of the ICT Infrastructure like Networking Equipment’s,Security, Storage and Backup Equipment’s, Servers for the Data Centre | Average Project Value to be used for these2 Projects. The marks would be based on the following:   1. >=INR 4 Cr. = 30 points; 2. Less than INR 4 Cr. = 25 points; | **30** | Annexure 5, Form 7, supported by documentary evidence |
| **b.** | **Data Centre Projects for Govt./PSU** | No. of projects done for Govt./PSU clients | Marks would be awarded based as below :-   1. More than 1 project = 20 points; 2. 1 Project = 15 points; | **20** | Annexure 5, Form 7, supported by documentary evidence |
| **c.** | **Manpower Requirement (Project Manager)** | Project Managerwith more than 10 years of experience in IT domain, minimum 5 years of experience in data center having post graduate in IT/Computer Science/ Computer Application | Marks would be awarded based on Data Centre Experience:-   1. More than 8year = 15 points; 2. 5 to 8 years = 12 points; | **15** | Detailed CV |
| **d.** | **ISO 27001 Certification** | Bidder must have ISO 27001 valid certificate at the time of bid | Marks would be awarded based on below:-   1. ISO 27001 Certificate= 10 points; 2. ISO 27001 certified lead auditor on its roll = 5 points; | **15** | Valid copy of Certification |
| **2** | **Technical Presentation** | | | **20** |  |
| **a.** | Data Centre Project | Technical Presentation | Evaluation Committee will evaluate whether all the points/ requirements mentioned in the RFP are addressed well and award points accordingly. The proposal shall cover   * Clarity in understanding of requirements * Adherence to Leading practices while designing the solution * Operation and Maintenance Methodology * Project Plan for procurement, installation and commissioning of the solution | **20** | Presentation |
|  | **Total Points** | | | **100** |  |

The purpose of presentations would be to allow the bidders to present their proposed solutions to the ICFRE evaluation committee and the key points in their proposals.

The bidders who score seventy percent or more in the Technical Evaluation will only be considered for the Financial Evaluation.

# Annexure – 10: Service Level Agreement

The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the Vendor to ICFRE for the duration of this contract. The services provided by the Vendor and the effectiveness of the SLAs would be regularly monitored.



## Definitions

For purpose of this SLA, the definitions and terms as specified in the contract along with the following terms shall have the meanings set forth below:

1. **“Downtime”** means the time period for which the specified services / components with specified technical and service standards are not available to the state and user departments and excludes the scheduled outages planned in advance for the Server Farm and the link failures that are MPLS-VPN vendor responsibility.
2. “**Incident**” refers to any event / abnormalities in the functioning of the components in Data Centre / specified services that may lead to disruption in normal operations of the services
3. **“Helpdesk Support"** It shall mean the 9x6 helpdesk Centre which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.
4. “**Resolution Time**” It shall mean the time taken (after the incident has been reported at the helpdesk), in resolving (diagnosing, troubleshooting and fixing) or escalating (to the second level or to respective Vendors, getting the confirmatory details about the same from the Vendor and conveying the same to the end user), the services related troubles during the first level escalation. The resolution time shall vary based on the severity of the incident reported at the help desk. The severity would be as follows:
5. **Critical:** Incidents whose resolution shall require additional investment in components or time or shall involve coordination with OEMs. These incidents shall impact the overall functioning of the Server Farm.
6. **Medium**: Incidents whose resolution shall require replacement of hardware or software parts, requiring significant interruption in working of that individual component, for example, installation of operating system, replacement of switch etc.
7. **Low**: Incidents whose resolution shall require changes in configuration of hardware or software, which will not significantly interrupt working of that component. For example, installation of printer on a client, replacement of LAN chord etc.

## Types of SLAs

The SLA document provides for minimum level of services required as per contractual obligations based on performance indicators and measurements thereof. The Vendor shall ensure provisioning of all required services as detailed in the sections 7.3 to section 7.6 while monitoring the performance of the same to effectively comply with the performance levels. The services provided by the Vendor shall be reviewed by ICFRE that shall:

1. Regularly check performance of the Vendor against this SLA.
2. Discuss escalated problems, new issues and matters still outstanding for resolution.
3. Review of statistics related to rectification of outstanding faults and agreed changes.
4. Obtain suggestions for changes to improve the service levels.

The SLAs have been logically segregated in the following categories:

1. Implementation Service Related Levels
2. IT Infrastructure Related Service Levels
3. Physical Infrastructure Related Service Levels
4. Helpdesk Service Related Levels
5. Security and Incident Management Related Service Levels

The following measurements and targets shall be used to track and report performance on a regular basis. The targets shown in the following table are applicable for the duration of the contract. Please note that the bidder should provide comprehensive, end-to-end service to maintain the Server Farm Infrastructure, including replacement of the equipment in case of physical damage.

## IT Infrastructure Related Service Levels

Indicative parameters for the SLA

| **S. No.** | **Measurement** | **Target** | **Severity** | **Penalty** |
| --- | --- | --- | --- | --- |
| 1. | Server Availability during peak hours from 9 AM to 6 PM (including the Operating system and database) 7 days a week | >99% | Critical | 1% of the quarterly payments under OPEX value for every 2 hours of downtime at a stretch or in parts up to total downtime of 10 hours 2% of the quarterly payments under OPEX value for every subsequent hour of downtime beyond 10 hours of downtime at a stretch or in parts. |
| 2. | Server Availability during non-peak hours from 6 PM to 9 AM (including the Operating system and the database) 7 days a week | > 90% | Medium | 1% of the quarterly payments under OPEX value for every 2 hours of downtime at a stretch or in parts up to total downtime of 10 hours 2% of the quarterly payments under OPEX value for every subsequent hour of downtime beyond 10 hours of downtime at a stretch or in parts. |
| 3. | SAN Availability  (including and database) | >99% | Critical | 2% of the quarterly payments under OPEX value for every 2 hours of downtime at a stretch or in parts up to total downtime of 10 hours 3% of the quarterly payments under OPEX value for every subsequent hour of downtime beyond 10 hours of downtime at a stretch or in parts. |
| 4. | Network Availability (Active and passive components) in the DC | >99% | Critical | 1% of the quarterly payments under OPEX value for every 2 hours of downtime at a stretch or in parts up to total downtime of 5 hours 2% of the quarterly payments under OPEX value for every subsequent hour of downtime beyond 5 hours of downtime at a stretch or in parts. |
| 5 | Renewal of Software Licenses and hardware along with ATS  Note: Vendor shall intimate ICFRE in advance, prior to 30 days from Renewal Date. |  | Critical | A penalty of INR 1.0 Lac per week for first & second week of delay, INR 2.0 Lac per week from 3rd week till 4th week of delay. Penalty is computed on the final value of contract between ICFRE and Vendor. (Delay Beyond 4 weeks ICFRE may terminate the contract and Forfeit the PBG). |

Note: Equipment Availability Related penalties shall be governed by the following conditions:

1. The Penalty shall be calculated on a quarterly basis.
2. If the SLAs drop below the lower limited specified for each component in the table above, it will be governed by the event of default clause as specified under Section 5 - General Terms and Conditions.
3. This delay shall be calculated over and above the total hours of downtime permissible as per Tier I industry standards classified by The Uptime Institute i.e. Annual IT downtime of 28.8 hrs

## Physical Infrastructure related service levels

| **S. No.** | **ServiceMetricParameters** | **Performance**  **Metric** | **Severity** | **Penalty** |
| --- | --- | --- | --- | --- |
| 1 | Power Availability  Availability of Power will be measured up to the socket level in the equipment room that will be providing power to the Racks. | >=99.5% |  | No penalty |
| <99.5% to  >=99.0% | Medium | 2% of the quarterly payments |
| <99.0% to  >=98.0% | Medium | 3% of the quarterly payments |
| <=98.0% | critical | 5% of quarterly payments |
| 2 | Cooling & Environment  Temperature at perforated raised floor – 19° C to 21° C  Relative Humidity: 35% - 60% | >=99.5% |  | No penalty |
| <99.5% to  >=99.0% | Medium | 2% of the quarterly payments |
| <99.0% to  >=98.0% | Critical | 3% of the quarterly payments |
| <=98.0% | Critical | 5% of quarterly payments |
| 3 | Civil Work  Civil Work and minor repairs including the False Flooring, False Ceiling, Doors & Locking, Partitioning, Fire Proofing of all surfaces, Furniture & Fixtures and Painting to be replaced within 2 days of reporting the problem. Other works including Cement concrete, masonry, glazing, scaffolding works etc. to be carried within 4 days of reporting the problem | T |  | No Penalty |
| T1 = T+2/4  Days | Medium | 0.05% of the quarterly payments for every unresolved call |
| T2 = T1+2 | Medium | 1% of the quarterly payments for every unresolved call |
| >T2 | Critical | 2% of the quarterly payments for every unresolved call |

1. For critical severity, the resolution time shall be mutually agreed by ICFRE and the vendor at the time of award of contract.
2. T in days shall be the mutually agreed resolution time between ICFRE and vendor representative at the site.
3. The Vendor should maintain sufficient inventory to carry out civil and electrical repairs without any disruption to operations.
4. A Power Failure is a loss of electrical power or a voltage fluctuation, exceeding the limits above, in any part of the delivery system (utility company supply, on-site generation, UPS, circuit, or power strip) which causes Customer hardware to shut down. The period of power-related failure is measured from the time of registering of complaint to the complete restoration time of electrical supply, and also includes the time required to remedy any issues resulting to electrical failure.

## Help Desk Services

Here the SLA pertains to the time in which a complaint/query is resolved after it has been responded by the service management.

|  |  |  |
| --- | --- | --- |
| **TypeofIncident** | **ResolutionTime** | **Penalty** |
| Critical | T | NoPenalty |
| T1=T+2hours | 0.05%ofthe quarterlypayments foreveryunresolved call |
| T2=T1+2hours | 1%ofthequarterlypaymentsfor everyunresolvedcall |
| >T2 | 2%ofthequarterlypayments for everyunresolvedcall |
| 1 Day form the time of incident logged at the help desk | No Penalty |
| > 1 day and <= 2 days | 0.05% of the quarterly payments for every unresolved call |
| > 2 days | 1% of the quarterly payments for every unresolved call |
| <= 2 hours from the time of response logged | No Penalty |
| > 2 hours and <= 4 hours | 0.01% of the quarterly payments for every unresolved call |
| > 4 hours | 0.05% of the quarterly payments for every unresolved call |

**Note:**

1. For critical severity the resolution time shall be mutually agreed by ICFRE and the vendor at the time of award of contract.
2. T shall be the agreed resolution time in days.

## Security and Incident management

These SLAs would be calculated for each of the following types of incidences -

1. **Virus Attack** - Any virus infection and passing of malicious code shall be monitored at the gateway level or user complains of virus infection shall be logged at the help desk system and collated every quarter.
2. **Intrusion -** Compromise of any kind of data hosted by Server Farm
3. **SPAM -** Statistics on monthly basis shall be monitored through reports generated by Anti-SPAM software.

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **IncidentPerMonth** | | **Penalty** |
| 1 | ForeveryVirus / ThreatAttack at server level | | INR10,000 |
| 2 | ForeveryincidenceofDataTheft | | 2%ofQuarterlyPayment |
| 3 | ForeveryincidenceofIntrusion | | 1%ofQuarterlyPayment |
| 4 | Percentage of SPAM filtered | >=95% | Nil |
| >= 90% and  <95% | 0.5% of Quarterly Payment |
| >= 80% and  <90% | 1% of Quarterly Payment |
| >= 70% and  <80% | 2% of Quarterly Payment |
| <70% | 5% of Quarterly Payment |

## SLA Review Process

Either ICFRE or Vendor may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.

A meeting or conference call will be conducted to resolve the issue in a timely manner. ICFRE and the Vendor shall develop an interim solution, if required and subsequently the permanent solution for the problem at hand. The Vendor will then communicate the resolution to all interested parties.

In case the issue is still unresolved, the arbitration procedures described in the Terms & Conditions section will be applicable.