Request for Proposal (RFP) For

**Selection of System Integrator for
Implementation of Human Resource Management System**

In

State of Punjab, India

Reference number: PUNJAB/HRMS/2014/01

Finance Department,
Government of Punjab,
Room No. 10, 7th Floor,
Civil Secretariat, Chandigarh- 160001

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1.0   List of Abbreviation

Abbreviation	Description
RFP	Request for Proposal
SLA	Service Level Agreement
EMD	Earnest Money Deposit
DeitY	Department of Electronics and Information Technology
IFMS	Integrated Financial Management System
IWDMS	Integrated Work Flow Management System
PGPMS	Punjab Government Personal Management System
HRMS	Human Resource Management System
PBG	Performance Bank Guarantee

2.0   Document Control Sheet

Sr. No	Particular	Details
1.	RFP Document Reference Number	HRMS/PSeGS/2014/01
2.	Start date of sale of RFP document (Only available in downloadable form at website mentioned)	*01/12/2014 to 29/12/2014 up to 5:00 P.M*
3.	Last date & Time of sale of RFP document	*30/12/2014 up to 2:00 P.M.*
4.	Last Date for submission of written Queries for clarifications	*20/12/2014 before 5:00 P.M* Email: *pbhrms@punjab.gov.in*
5.	Date & Time of Pre-Bid Meeting	*15/12/2014 at 3:00 P.M*
6.	Last date and time for receipt of bids	*30/12/2014 up to 2:00 P.M*
7.	Date and time of opening of Pre-Qualification Bids	30/12/2014 at 3:00 P.M
8.	Date and time of opening of Technical Bids	"To be intimated later"
9.	Date of Presentation and Opening of Commercial bids	"To be intimated later"
10.	Address for pre bid meeting & Opening of Bids	Punjab State e-Governance Society, O/o Department of Governance Reforms, SCO 193-195 Sector 34 A, Chandigarh.
11.	Cost of RFP	Rs. 10,000/- (Rs. Ten Thousand Only) in the form Demand Draft (DD) in favour of **Punjab State e-Governance Society payable at Chandigarh**
12.	Earnest Money Deposit (EMD)	Rs. 10,00,000/- (Rs. Ten Lacs Only) in the form of Demand Draft
13.	PBG/EMD payable at Chandigarh in favour of	Deputy Director-Pensions Data Base cell , Mohali

14.	Office Address (For RFP issuance, bid submission and other relevant purposes)	Punjab State e-Governance Society, O/o Department of Governance Reforms, SCO 193-195 Sector 34 A, Chandigarh.
15.	Single Point of contact regarding RFP	Mr. Gagandeep Ph- +919872590425 Mr. Anshul Mishra Ph- +919888098919 Email: pbhrms@punjab.gov.in
16.	Website	http://dgrpunjab.gov.in http://punjabgovt.gov.in

*This document is not transferable

3.0   Invitation for Bid (IFP)

3.1.   Background

Finance Department, Government of Punjab desires to have a Human Resources Management System (HRMS) to support the Human Resource processes for all the employees of the Punjab State. The HRMS is a system used to acquire, store, manipulate, analyze, retrieve, and distribute information regarding an organization's human resources.   It also replicates personal information held across the department as required. The HRMS is an easy to use, easy to learn and flexible system.

In a growing number of organizations; human resources are now viewed as a source of competitive advantage. There is greater recognition that distinctive competencies are obtained through highly developed employee skills, distinctive organizational cultures, management processes, systems and this is in contrast to the traditional emphasis on transferable resources such as equipment. Increasingly, it is being recognized that competitive advantage can be obtained with a high quality work force that enables organizations to compete on the basis of market responsiveness, product and service quality, differentiated products, and technological innovation.

3.2.   Invitation for Proposal

3.2.1.   Finance Department through this RFP document invites all the qualified bidders to submit their technical and financial offers for Procurement and Deployment of the Hardware and the Design, Development, Software, Testing, Implementation, Training and Handholding of software for the various departments in the State of Punjab comprising of around 3.22 lacs employees and around 3 lacs pensioners in accordance with the conditions and manner prescribed in this Request for Proposal (RFP) document.

3.2.2.   The purpose of this Request for Proposal (RFP) is to seek the services of a reputed IT firm that would procure and deploy hardware and to design, develop, software testing, implement and provide sufficient training in "Human Resource Management System (HRMS)" to the employees for the usage of the software and maintain the software for a period of 5 years from the date of "GO LIVE". This document provides information to enable the bidders to understand the broad requirements to submit their "Bids". The bidder is also expected to maintain the hardware supplied for the period of 5 years from the date of Go-Live including the warranty period along with RDBMS and other third party software.

3.2.3. Bidder agencies are advised to study this RFP document carefully before submitting their proposals in response to the RFP notice. Submission of a proposal in response to this notice shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions and implications.

3.2.4. This RFP may be downloaded from the Website as mentioned in the document control sheet, and the bidder is advised to pay the RFP cost and the processing fee in the form of Demand Draft at the time of submission of the tender as the case may be.

3.2.5. This RFP document is not transferable.

3.2.6. Bidder may attend a pre-bid conference as per schedule mentioned in the document control sheet.

4.0 Instructions to Bidders (ITB)

4.1. Definitions

Unless the context otherwise requires, the following terms whenever used in this RFP and Contract have the following meanings:

4.1.1. "AMC" means Annual Maintenance Contract

4.1.2. "Bidder" means firm/ company/ business entity who submits bid in response to this RFP document.

4.1.3. "Bid" means bid submitted by bidders in response to the RFP issued by the Finance Department for selection of System Integrator.

4.1.4. "Committee" means committee constituted for evaluation of Bids

4.1.5. "Contract" means the written agreement entered between the successful bidder and Department of Finance.

4.1.6. "Department" means Finance Department, Government of Punjab.

4.1.7. "DGR" or "DoGR" means Department of Governance Reforms, Government of Punjab.

4.1.8. "Days" means calendar days until and unless specially specified.

4.1.9. "GCC" mean General Contract Conditions.

4.1.10. "HRMS" means Human Resource Management System to be implemented under the scope of this RFP.

4.1.11. "IFB" means Invitation for Bids.

4.1.12. "ITB" means Instructions to Bidders.

4.1.13. "Item" means the Items, hardware, software and other services and equipment's to be provided by the system integrator as per this RFP

4.1.14. "INR" means currency in Indian Rupees

4.1.15. "O&M" means Operations & Maintenance

4.1.16. "Project Review Committee" means committee constituted for Review of Project progress.

4.1.17. "Personnel" or "Manpower" means professional and support staff provided by the System Integrator to perform services to execute an assignment and any part thereof.

4.1.18. "System Integrator" or "SI" means the firm/ company/ business entity, selected through competitive tendering in pursuance of this RFP, for providing the services as per scope of RFP and Contract Agreement.

4.1.19. "State" means state of Punjab

4.1.20. "Services" means the work to be performed by the System Integrator pursuant to this RFP and to the contract to be signed by the parties in pursuance of any specific assignment awarded by the Finance Department.

4.1.21. "SOW" means Scope of Work for the System Integrator.

4.1.22. "Working Days" means Working days as per Punjab Government Gazette.

4.1.23. "MAF' means Manufacturer Authorization Form.

4.2. General

4.2.1. While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the services required. Bidders and recipients of this RFP may consult their own legal advisers in relation to this RFP.

4.2.2. All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the Finance Department on the basis of this RFP

4.2.3. No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the Finance Department. Any notification of preferred bidder status by the Finance Department shall not give rise to any enforceable rights by the Bidder. The Finance Department may cancel this RFP at any time prior to a formal written contract being executed by or on behalf of the Finance Department.

4.2.4. This RFP supersedes and replaces any previous public documentation & communications regarding the same scope of work as mentioned in this RFP, and Bidders should place no reliance on such communications.

4.2.5. This RFP does not constitute an offer by Finance Department. The bidder's participation in this process may result in Finance Department selecting the bidder to engage towards execution of the contract.

4.3. Validity of Bids

4.3.1. Bids shall remain valid for a period of 180 (one hundred and eighty) days from the last date of submission of Bid. The Finance Department reserves right to reject a bid valid for a shorter period as non-responsive.

4.3.2. Prior to the expiration of the validity period, Finance Department will notify the successful bidder in writing or by fax or email, that its bid has been accepted. In case the tendering process is not completed within the stipulated period, Finance Department may like to request the bidders to extend the validity period of the bid. The request and the response thereto shall be made in writing. Extension of validity period by the bidder shall be unconditional. A bidder granting the request will not be permitted to modify its Bid.

4.4. Right to terminate the Process

The Finance Department reserves the right to annul the RFP process, or to accept or reject any or all the Bid in whole or part at any time without

assigning any reasons and without incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

4.5. RFP Fees

The bidder can download the RFP from the website as mentioned in document control sheet. The demand draft of RFP fees as per Document Control sheet should be submitted along with Bid. Bids received without or with inadequate RFP fees shall be rejected.

4.6. Pre Bid Meeting & Clarifications

4.6.1. Finance Department shall convene a pre-bid meeting as prescribed in document control sheet to address any RFP related queries.

4.6.2. The prospective bidder or its official representative/s (maximum 2) is/are invited to attend the pre-bid meeting.

4.6.3. The queries shall be accepted only in the following format:

Sr. No.	RFP Reference (Section & Page Number)	Content of RFP requiring clarification	Points of Clarification
1			
2			

4.6.4. Any requests for clarifications post the indicated date and time shall not be entertained by the Finance Department.

4.7. Responses to Pre-Bid queries and issuance of corrigendum

4.7.1. Amendments necessitated as a result of the pre-bid meeting or otherwise, shall be made available on website as provided in the document control sheet. It shall be the responsibility of the bidders to amend their bids incorporating the amendments so communicated through the website. Finance Department shall not be responsible for any oversight or negligence on part of the bidders on the amendments to the terms and conditions of the RFP and notified through the website.

4.7.2. Finance Department will endeavour to provide timely response to all queries. However, pre-bid queries, common in nature shall be addressed with a single response instead of individual responses to every bidder for same query.

4.7.3. At any time prior to the last date for receipt of bids, Finance Department may, for any reason, whether at its own initiative or in response to a

clarification requested by a prospective Bidder, modify the RFP by a corrigendum.

4.7.4. The Corrigendum (if any) & clarifications to the queries from all bidders will be posted on the website and no separate communication either in writing or through email will be made with any Bidder.

4.7.5. Any such corrigendum shall be deemed to be incorporated into this RFP.

4.7.6. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, Finance Department may, at its discretion, extend the last date for the receipt of Bids.

4.8.   Clarifications and amendments of RFP

4.8.1. During process of evaluation of the Bids, Finance Department may, at its discretion, ask Bidders for clarifications on their bid. The Bidders are required to respond within the prescribed time frame for any such clarification.

4.8.2. Finance Department may for any reason, modify the RFP from time to time. The amendment(s) to the RFP would be clearly spelt out posted on the website as provided in the document control sheet and the bidders may be asked to amend their bid due to such amendments.

4.9.   Earnest Money Deposit (EMD)

The bidder shall furnish, as part of the Pre-qualification Bid, an Earnest Money Deposit (EMD) as mentioned in document control sheet.

4.9.1. The EMD shall be in Indian Rupees and shall be in the form of Demand Draft and shall be valid from six (6) months from the last date of submission of Bid.

4.9.2. EMD of all unsuccessful bidders would be refunded by Finance Department within three (3) months of the bidder being notified as being unsuccessful. EMD of the successful bidder will be released after the submission of Performance Bank Guarantee (PBG) & signing of Contract.

4.9.3. The EMD amount is interest free and will be refundable to the unsuccessful bidders without any accrued interest on it.

4.9.4. The EMD lying with the Finance Department in respect of other tender/ RFP/ RFP/ Expression of Interest etc. awaiting approval or rejected or on account of contracts being completed, will not be adjusted towards EMD for this RFP. The EMD may however, be taken into consideration in case RFP are re-invited.

4.9.5. The Earnest Money will be forfeited on account of one or more of the following reasons:-
   I. Bidder withdraws its Bid during the validity period specified in RFP.
  II. Bidder does not respond to requests for clarification of its bid.

III. Bidder fails to provide required information during the evaluation process or is found to be non-responsive.

IV. In case of a successful bidder, the said bidder fails to sign the Agreement in time; or furnish Performance Bank Guarantee.

4.10. Preparation of Bid

The Bidder must comply with the following instructions during preparation of Bids:-

4.10.1. The Bidder is expected & deemed to have carefully examined all the instructions, guidelines, forms, requirements, appendices and other information along with all terms and condition and other formats of the RFP. Failure to furnish all the necessary information as required by the RFP or submission of a bid not substantially responsive to all the requirements of the RFP shall be at Bidder's own risk and may be liable for rejection.

4.10.2. The Bid and all associated correspondences shall be written in English and shall conform to prescribed formats. 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. Any interlineations, erasures or over writings shall be valid only if they are authenticated by the authorized person signing the Bid.

4.10.3. The Bid shall be typed or written in indelible ink and shall be signed by the Bidder or duly authorized person(s) to bind the Bidder to the contract. The authorization shall be indicated by written Power of Attorney/Board Resolution and shall accompany the Bid.

4.10.4. In addition to the identification, the envelopes containing the Bids shall mention the name and address of the Bidder to enable the bid to be returned in the case it is declared late pursuant, and for matching purposes.

4.10.5. No bidder shall be allowed to modify, substitute, or withdraw the Bid after its submission.

4.10.6. 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 bid in providing any additional information required by Finance Department to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process. Finance Department will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

4.10.7. Every page of the documents submitted by the bidder in relation to this RFP should be duly *stamped &signed* by the authorized signatory of the bidder.

4.10.8. Bid document should contain an Index Page and each page of the bid document should be serially numbered and in accordance with the index page.

4.10.9. Failure to comply with the below requirements shall lead to the Bid rejection:-

   i. Comply with all requirements as set out within this RFP.
   ii. Submit the forms and other particulars as specified in this RFP and respond to each element in the order as set out in this RFP.
   iii. Include all supporting documentations specified in this RFP, Corrigendum or any addendum issued.

4.11. Submission of Bid

Bidders shall submit their Bids in original at the office address on or before the last date and time for receipt of bids as mentioned in document control sheet.

Bids shall be submitted in one envelope as per below details:-

Sealed Envelope No. 1 : Pre-qualification Bid	The envelope containing pre-qualification bid shall be sealed and superscripted *"<Name of Bidder>-Pre-qualification Bid – RFP For Implementation of Human Resource Management System For State of Punjab, India"* along with RFP reference number.
	
	 Apart from a hardcopy of Pre-qualification bid, bidder would also submit a softcopy of all documents on one non-rewritable CD.
	
	 This envelope should not contain any technical or financial bid (in full or part), in either explicit or implicit form, in which case the bid will be rejected.
	
	 Following list of documents shall be submitted as part of Pre-qualification Bid :
	   i. RFP fees & EMD
	   ii. Form-1A: Covering Letter on bidder's letterhead
	   iii. Form-1B: Pre-Qualification Eligibility Information along with supporting proofs, information and documents as specified in form

Sealed Envelope No. 2 :	The envelope containing technical bid shall be sealed and superscripted *"<Name of Bidder>-Technical bid RFP For*

Technical Bid	*Implementation of Human Resource Management System For State of Punjab, India"* along with RFP reference number.
	Apart from a hardcopy of all Technical Bid, bidder would also submit a softcopy of Technical Bid on one non-rewritable CD.
	This envelope should not contain any financial bid (in full or part), in either explicit or implicit form, in which case the bid will be rejected.
	Following list of documents shall be submitted as part of Technical Bid :

	i. Form-2: Compliance Sheet for Technical - Qualification Bid
	   ii. Form-2A: Bidder Profile
	   iii. Form-2B: Relevant Past Experience
	   iv. Form-2C: Adequacy and Quality of Resources proposed for Deployment
	   v. Form-2D: Approach & Methodology
	   vi. Form-2E: Technical Specifications Compliance Sheet
	   vii. Form-2F: Manufacturer/Producers Authorisation Form

Sealed Envelope No. 3: Commercial Bid	The envelope containing commercial bid shall be sealed and superscripted *"<Name of Bidder> - Commercial Bid – RFP For Implementation of Human Resource Management System For State of Punjab, India"* along with RFP reference number.
	Apart from a hardcopy of all documents, bidder would also submit a softcopy of all documents & worksheets of commercial bid on a one non-rewritable CD.
	The Commercial bid shall be prepared in accordance with the requirements specified in this RFP.
	Following prerequisites shall be ensured as part of Commercial bid
	i. Form-3 – Commercial Bid Format-Summary of Costs Bid
Sealed Envelope No. 4	All the above 3 envelopes should be put in envelope no. 4 which shall be properly sealed and superscripted *"<Name of Bidder> RFP For Implementation of Human Resource Management System For State of Punjab, India"* along with RFP reference number.
Sealed Envelope No. 5	Bidder has to submit the duplicate copies of all the bids along with CDs in separate envelope

Note:	i.	The documents in the CD shall be in password protected PDFs and the password shall be communicated in a sealed envelope along with the respective Proposals.
	ii.	Each page of the bid shall be signed and stamped by the authorized signatory of the Bidder
	iii.	In case any discrepancies exist between the information provided in the hard copy and soft copy of the bid, the information provided in the hard copy will prevail.
	iv.	The outer envelope thus prepared should also indicate clearly the name, address, telephone number, E-mail ID and fax number of the bidder to enable the Bid to be returned unopened in case it is declared "Late" or for any other reason.
	v.	Any cost/prices should not be indicated in the Pre-Qualification Bid or Technical Bid but should only be indicated in the Commercial Bid.
	vi.	Finance Department will not accept delivery of bid by fax or by e-mail.
	vii.	All envelopes should be packed and sealed with utmost care so that no documents inside the envelope should get damaged or torn while opening the envelopes.

4.11.1. Bids received after the due date and the specified time (including the extended period, if any) for any reason whatsoever, shall not be entertained and shall be returned unopened.

4.11.2. Finance Department shall not be responsible for any postal delay or non-receipt/ non-delivery of the documents. No further correspondence on the subject will be entertained.

4.12. Disqualifications

Finance Department may at its sole discretion and at any time during the evaluation of Bid, disqualify any Bidder, if the Bidder has:

4.12.1. Made misleading or false representations in the forms, statements and attachments submitted in proof of the eligibility requirements;

4.12.2. Exhibited a record of poor performance such as abandoning works, not properly completing the contractual obligations, inordinately delaying completion or financial failures, etc. in any project in the preceding three years;

4.12.3. Submitted a bid that is not accompanied by required documentation or is non-responsive;

4.12.4. Failed to provide clarifications related thereto, when sought;

4.12.5. Submitted more than one Bid (directly/in-directly);

4.12.6. Declared ineligible by the Government of India, any State/UT Government for corrupt and fraudulent practices or blacklisted

4.12.7. Submitted a bid with price adjustment/variation provision.

4.12.8. Not submitted in the format as specified in the RFP.

4.12.9. Not submitted the Letter of Authorization (Power of Attorney/Board Resolution)

4.12.10. Suppressed any details related to bid

4.12.11. Submitted incomplete information, subjective, conditional offers and partial offers submitted

4.12.12. Submitted bid with lesser validity period

4.12.13. Any non-adherence/non-compliance to applicable RFP content

4.13. Deviations

4.13.1. No deviations shall be accepted. Any clarifications should be cleared at the time of Pre-Bid meeting.

4.13.2. In this regard the corrigendum and/or Response to queries shall be binding on the bidders.

4.14. Bid Opening

4.14.1. The Bids submitted will be opened at time & date as specified in the document control sheet by Committee or any other officer authorized by Committee, in the presence of Bidders or their representatives who may be present at the time of opening.

4.14.2. The representatives of the bidders are advised to carry the identity card or a letter of authority from the bidders as a proof of their identity for attending the bid opening.

4.15. Bid Evaluation

A committee will be constituted to evaluate the Bids submitted by Bidders. A three-stage process, as explained hereinafter, will be adopted for evaluation of Bids. No correspondence will be entertained outside the process of evaluation with the Committee.

4.16. Pre-qualification Criteria & Evaluation

The pre-qualification bids envelopes of the bidders will be opened. The bidders will be assessed as per the pre-qualification criteria defined in the RFP. Only the bidders who qualify all the pre-qualification

Requirementsshall be eligible for technical evaluation. Non-conforming Bids will be rejected and will not be eligible for any further processing. Consortium/Joint venture shall not be allowed. A pre-qualification criterion is as below:-

Sr. No	Basic Requirement	Specific Requirements	Documents Required
1.	Covering Letter &Power of Attorney/Board Resolution	a. Covering letter as per Form 1A b. Power of Attorney/Board Resolution as per specified format	a. Form 1A
2.	Fees	The responding firm / agency a. Should have made a payment for the RFP document as per document control sheet. b. Should have submitted an EMD as per document control sheet	a. DD OR original receipt of the payment of tender fee. b. Demand Draft OR Original bank guarantee must be furnished in the format prescribed in Annexure B
3.	Legal Entity	a. Bidder should be registered either under Indian Companies Act, 1956 or registered under Limited Liability Partnerships (LLP) Act, 2008	Certificate of Incorporation or Partnership Deed
		b. Registered with the Service Tax and sales tax Authorities	Registration Certificate for Service Tax and sales tax
		c. Should have been operating for the last five years as of 31st March 2013	Authentic certificate from the practising member of Institute of Chartered Accountant of India.
4.	Relevant Business Continuity	The Bidder should be in the business of System Integration for at least 5 years as of 31st March 2013	Memorandum and Articles of Association and Copy of Work orders

			confirming only year and Area of activity
5.	Total Turnover	Average Annual Sales Turnover should be minimum INR Sixty (60) Crores from IT Business during the last three (3) financial years as of 31st March 2013.	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor.
6.	Turnover from System Integration	Average Annual Sales Turnover should be minimum INR Forty (40) Crores from System Integration during the last three (3) financial years as of 31st March 2013.	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor.
7.	Turnover from Software Development	Average Annual Sales Turnover should be minimum INR fifteen (15) Crores from Software Development during the last three (3) financial years as of 31st March 2013.	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor.
8.	Certifications	The Bidder should be:- I. ISO 9000/9001:2008 certified& II. CMMi level 3 Certified	a. Copy of certification which is valid on date of submission. b. Copy of certificate
9.	Manpower Strength	The bidder should have minimum Hundred (100) qualified Professionals having BE/B.Tech/MCA in IT/Computer Science/ Electronics & Communication/Electronics or higher on company payroll as on submission of bid.	Certificate from HR Department of the Bidder for number of technically qualified professionals employed along with educational qualification.
10.	Blacklisting	The Bidder shall not be under a declaration of ineligibility for corrupt or fraudulent practices and should not be blacklisted by any State Govt. / Central Govt. / PSU for any reason.	Self-Certified letter

4.17. Technical Bid Criteria & Evaluation

4.17.1. Technical Bids would be evaluated only for those Bidders, who qualify the Pre- qualification evaluation.

4.17.2. Any credential/criteria of Technical Bid below "Minimum" requirement shall not be considered for evaluation.

4.17.3. The technical score of all the bidders would be calculated as per the criteria mentioned below.

4.17.4. All the bidders who achieve minimum **70 marks** in the technical evaluation would be eligible for the next stage i.e. Commercial Bid opening.

4.17.5. The evaluation committee will evaluate the Technical Bids on the basis of the technical evaluation criterion as provided below:

S. No	Criteria	Max Criteria/ Sub Criteria Marks
1	Bidder Profile	30
2	Relevant Past Experience of the Bidder	30
3	Adequacy and Quality of Resources proposed for Deployment	20
4	Approach and methodology	20
Total Points		100

Sr. No	Criteria	Max Marks	Criteria	Marks
1. Bidder Profile (Total Marks = 30) :				
A	Average Annual Sales Turnover should be minimum INR Sixty (60) Crores from IT business during the last three (3) financial years as of 31st March 2013.	6	More than INR 150 Crore	6
			From INR More than 100 Crore to 150 Crore	5
			From INR 60 Crore to 100 Crore	3
b	Average Annual Sales Turnover should be minimum INR Forty (40) Crores from System Integration during the last three (3) financial years as of 31st March 2013.	7	More than INR 90 Crore	7
			From INR More than 60 Crore to 90 Crore	5
			From INR 40 Crore to 60 Crore	4

Sr. No	Criteria	Max Marks	Criteria	Marks
c	Average Annual Sales Turnover should be minimum INR Fifteen (15) Crores from Software Development during the last three (3) financial years as of 31st March 2013.	7	More than INR 50 Crore	7
			From INR More than 30 Crore to 50 Crore	5
			From INR 15 Crore to 30 Crore	4
d	The bidder should have minimum Hundred (100) qualified Professionals having BE/B.Tech/MCA in IT/Computer Science/ Electronics & Communication/Electronics or higher on company payroll as on submission of bid.	6	More than 200 Nos.	6
			151 to 200 Nos.	5
			100 to 150 Nos.	3
f	CMM Certification	4	CMMi Level 5	4
			CMMi Level 3	2
2. Relevant Past Experience (Total Marks = 30) : **(**For all of above, Projects must be Fully Completed or Made Go-Live but in O&M phase and cut-off date is 5 Years from last date of submission of Bids)			
a.	The Bidder must have experience of minimum 2 projects implementation of integrated turnkey projects around application development as a System Integrator having total project value of INR 4 Crore & above.	5	More than 6 projects	5
			4 – 6 projects	4
			2 – 3 projects	3
b.	The Bidder must have experience of minimum 2 projects of Delivering IT Hardware as a System Integrator having Hardware value of INR 2 Crore & above.	5	More than 6 projects	5
			4 – 6 projects	4
			2 – 3 projects	3
c.	The Bidder must have experience of at least two completed Software Application Development projects, having a minimum value of INR 1.50Crore each for software development component only).	5	More than 6 projects	5
			4 – 6 projects	4
			2 – 3 projects	3
d.	The Bidder must have experience of at least two projects where training has been provided to the minimum	5	More than 6 projects	5
			4 – 6 projects	4

Sr. No	Criteria	Max Marks	Criteria	Marks
	1000 users in each project.		2 – 3 projects	3
e.	The Bidder must have experience of minimum two projects in the field of IT Services where O&M Services / Helpdesk Services have been provided, covering minimum 10 different locations with a minimum overall Project value of INR 2 Crore each	5	More than 6 projects	5
			4 – 6 projects	4
			2 – 3 projects	3
f.	The Bidder must have experience of minimum two projects in Data Digitization with minimum 3 lakhs record in each project.	5	More than 6 projects	5
			4 – 6 projects	4
			2 – 3 projects	3
3. Adequacy and Quality of Resources proposed for Deployment (Bidder has to be passed minimum level of criteria to be qualified) **(Total Marks = 20)**				
A	**Project Manager cum Application Lead**	**10**		
	Overall Experience of minimum 8 years in IT Project implementation & Management with Minimum 4years as Team Leader/ Project Manager.	4	More than 11 years	4
			8 years to 11 years	2
	Relevant experience in implementing multi location e-Governance/ IT project with minimum 1000 users.	4	More than 3 Projects	4
			2 to 3 Projects	2
	Relevant Certification Either of PMP or Prince certification	2	Certification	2
			No Certification	0
B	**Database Administrator**	**5**		
	Overall minimum Experience of 6 years in relevant (Quoted) database administration like instance tuning, schema management, space management, backup and recovery, disaster recovery, data replication,	3	More than 8 years	3
			6 years to 8 years	2

Sr. No	Criteria	Max Marks	Criteria	Marks
	database refresh etc.			
	Relevant Certification as per Quoted Solution Minimum one certification of SQL/Oracle/Sybase	2	More than One Certification	2
			One Certification	1
C	**System Administrator**	**5**		
	Overall minimum experience of 6 years in relevant (Quoted) IT infrastructure management, networking, trouble shooting, software applications support etc.	3	More than 8 years	3
			6 years to 8 years	2
	Relevant Certification as per Quoted Solution Minimum one certification of Microsoft/Linux	2	More than One Certification	2
			One Certification	1

4. Approach & Methodology (Total Marks = 20)

(It shall be Presentation based marks. Marks shall be awarded as Average of marks given by each member of Bid Evaluation Committee)

a.	**Proposed Solution** Requirements addressed as mentioned in different parts of the RFP and the quality of the solution Spare equipment availability plans for project Implementation including software development, implementation and training for all the departments and their sub offices / units , backing up of data, Technical details of the hardware required with the quantity to be deployed at State Data Centre (SDC), System software, Technical details of the RDBMS and other software, details of the platform used for the development of the HRMS software, proposed solution architecture, any other software and hardware required for the smooth implementation of the HRMS	7	Evaluation Committee will evaluate whether all the points/ requirements mentioned in the RFP are addressed well and award points accordingly, the important parameters being:- • Solution architecture conceptualized for this project including Security architecture • Application deployment and testing Strategy including Quality Control Procedures suggested by responding firm • Comprehensiveness of Bill of material of all	7

Sr. No	Criteria	Max Marks	Criteria	Marks
	software across all the departments and their sub offices in the State of Punjab. (please specify the pages accordingly)		the components (e.g. software, hardware, etc.) along with their quantities	
b.	**Understanding of Project along with Proposed Approach and methodology** Evaluation Committee will evaluate whether the implementation methodology is in line with the requirement. The important parameters being:- - Plan for meeting the SLA norms. - Redundancy and failover options.	5	In this section, the responding firm should: • Explain the understanding of the project requirements, highlight the expected support from the State, approach to the services, SLA management methodology, methodology for carrying out the activities for expected output • Explain the methodologies the responding firm proposes to adopt and highlight the compatibility of those methodologies with the proposed approach including Planning and Building Infrastructure (assessment, design, integration / migration of existing infrastructure) Highlight the associated risks / problems and plans for mitigation and explain the technical approach it would adopt to address them	5
c.	Information Security Plan	4	• Application certification methodology • Proposed information Security plan	4

Sr. No	Criteria	Max Marks	Criteria	Marks
d.	**Training & Help Desk support** Proposed Training and Change Management plan Proposed methodology of formation of the manpower support team. Operating and Maintaining Infrastructure	4	The Evaluation will be based on: • Proposed Training Schedule & Training Manuals • Proposed Helpdesk infrastructure and operating Plan	4

Note:-

i. Evaluation Committee at its discretion may ask for any additional information from the bidder(s) through email/fax/telephone/meeting or any other mode of communication. Bidder shall supply all such asked information within the set out time frame as communicated by the Evaluation Committee, otherwise Evaluation Committee shall make its own reasonable assumptions at the total risk and cost of the bidders which may result into rejection of the bid. Seeking clarifications cannot be treated as acceptance of the bid.

For verification of information submitted by the bidders, the committee may visit bidder's offices at its own cost. The bidders shall provide all the necessary documents, samples and reference information as desired by the committee. The bidders shall also assist the committee in getting relevant information from the bidders' references.

ii. Bidders who scores **70 or above marks** (Technical Scores –TS) shall be considered eligible for opening of the commercial bids.

iii. For the technical bid evaluation Criteria no. 4. i.e. 'Approach & Methodology', sum average of the marks given by each committee member shall be taken into account.

4.18. Commercial Bid Evaluation and Final Evaluation

4.18.1. The Commercial Bids of technically qualified bidders will be opened on the prescribed date in the presence of bidder representatives.

4.18.2. Commercial Bids that are **less than 30% of the average bid value** will be disqualified (the average bid price shall be computed by adding all Commercial Bid values of all the technically qualified bidders and dividing the same by the number of such bidders).

4.18.3. The bidders whose total bid value is lowest would be considered as **L1 (successful) bidder**.

4.18.4. The Finance Department will award the contract to the successful Bidder(s)

4.18.5. The Finance Department reserves the right at the time of award of contract to exclude any item, increase or decrease of the quantity of Items/services or change in location where equipment are to be supplied from what was originally specified while floating the tender without any change in unit price or any other terms and conditions.

4.18.6. There shall be no post tender negotiations with L1 or any other participating bidder.

4.18.7. Due to any reason, if L1 does not enter into contract then EMD of the L1 bidder shall be forfeited.

4.19. Final Evaluation

4.19.1. Errors & Rectification

    i.   If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected.

    ii.   If there is a discrepancy between words and figures of the total price, the amount in words will prevail.

    iii.   If the bidder doesn't accept the correction of error(s) as specified, its bid will be rejected.

4.20. Notification of Award of Contract

Finance Department will notify the successful bidder in writing that its bid has been accepted. The notification of award will constitute the formation of the contract after submission of performance bank guarantee by the successful bidder.

4.21. Performance Bank Guarantee (PBG)

4.21.1. The successful bidder will furnish unconditional Performance Bank Guarantee within 15 working days from the notification of award, for a value equivalent to 10% of the total cost of contract as per format provided as per Annexure with this RFP.

4.21.2. PBG shall remain valid for a period of ninety days beyond the date of completion of all contractual obligations of the successful bidder including warranty obligations.

4.21.3. The successful bidder will be responsible for extending the validity date and claim period of the PBG as and when it is due on account of non-

completion of the project. In case the successful bidder fails to submit performance guarantee within the time stipulated, the Finance Department at its discretion, may cancel the award of contract to the successful bidder without giving any notice.

4.21.4. The System Integrator will not be entitled for any interest on the PBG submitted.

4.21.5. Finance Department shall forfeit the PBG in full or part in the following cases after giving reasonable time:

    i.   When the terms and conditions of contract are breached/infringed

    ii.   When contract is being terminated due to non-performance of the System Integrator

    iii.   Finance Department incurs any loss due to System Integrator's negligence in carrying out the project implementation as per the agreed terms & conditions.

The decision of Finance Department in this regard shall be final.

4.22. Signing of Contract

The successful bidder will submit the PBG and sign the Contract with Finance Department within 15 working days of the release of notification/Letter of Intent. After signing of the Contract, no variation in or modification of the term of the Contract shall be made except by mutual written amendment signed by both the parties (i.e. Finance Department & System Integrator).

4.23. Fraud and Corruption

All the Bidders must observe the highest standards of ethics during the process of selection of Project System Integrator and during the performance and execution of contract.

For this purpose, definitions of the terms are set forth as follows:

    i.   "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of the Finance Department or its personnel in contract executions.

    ii.   "Fraudulent practice" means a misrepresentation of facts, in order to influence a selection process or the execution of a contract, and includes collusive practice among bidders (prior to or after Bid submission) designed to establish Bid prices at artificially high or non-competitive levels and to deprive the Finance Department of the benefits of free and open competition.

iii.   "Unfair trade practice" means supply of services different from what is ordered on, or change in the Scope of Work given in RFP.

iv.   "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the selection process or execution of contract.

4.23.1.   Finance Department will reject a bid for award, if it determines that the Bidder recommended for award, has been found to having been engaged in corrupt, fraudulent or unfair trade practices.

4.23.2.   Finance Department will declare a bidder ineligible, either indefinitely or for a stated period of time, for award of contract, if bidder is found to be engaged in corrupt, fraudulent and unfair trade practice in competing for, or in executing, the contract at any point of time.

4.23.3.   The Bidder will not engage or retain any System Integrator /individual to facilitate or lobby for award of contract. Canvassing by its agent(s) for getting the contract awarded will be construed as **corrupt practice.**

4.24.   Confidentiality

4.24.1.   Information relating to the examination, clarification and comparison of the Bids shall not be disclosed to any Bidder or any other persons not officially concerned with such process until the selection process is over. The undue use by any Bidder of confidential information related to the process may result in rejection of its Bid. During the execution of the project except with the prior written consent of Finance Department, the System Integrator or its personnel shall not at any time communicate to any person or entity any confidential information acquired in the course of the Contract.

4.24.2.   Confidential information shall mean and include any and all confidential or proprietary information furnished, in whatever form or medium, or disclosed verbally or otherwise by the Bidder/ System Integrator and/ or the Finance Department to each other including, but not limited to, the services, plans, financial data and personnel statistics, whether or not marked as confidential or proprietary by the parties.

4.25.   Conflict of Interest

The System Integrators shall provide professional, objective, and impartial advice and at all times hold the Finance Department's interests paramount, strictly avoid conflicts with other assignments/jobs or their own corporate interests and act without any consideration for future work. The System Integrator shall not deploy former employees of the Finance Department in any assignment under the RFP to ensure zero biasness.

5.0   General Contract Conditions (GCC)

5.1.   Application

These general conditions shall apply to the extent that provisions in other parts of the Contract do not supersede them. For interpretation of any clause in the RFP or Contract Agreement, the interpretation of Finance Department shall be final and binding.

5.2.   Relationship between the Parties

Nothing mentioned herein shall be construed as relationship of master and servant or of principal and agent as between Finance Department and the System Integrator. The System Integrator subject to this contract for selection has complete charge of its personnel in performing the services under the Project from time to time. The System Integrator shall be fully responsible for the services performed by it or any of its personnel on behalf of the System Integrator hereunder.

5.3.   Standards of Performance

The System Integrator shall perform the services and carry out its obligations under the Contract with due diligence, efficiency and economy in accordance with generally accepted professional standards and practices. The System Integrator shall always act in respect of any matter relating to this contract as faithful advisor to the Finance Department. The System Integrator shall always support and safeguard the legitimate interests of the Finance Department, in any dealings with the third party. The System Integrator shall abide by all the provisions/Acts/Rules etc. of Information Technology prevalent in the country. The System Integrator shall conform to the standards laid down in the RFP in totality.

5.4.   System Integrator Personnel

5.4.1.   System Integrator shall get the approval from Finance Department before deploying any new manpower in the project.

5.4.2.   Bidders would deploy on-site and full time team of manpower as proposed in the bid. No separate/ additional payment shall be made for any type of off-site/additional deployment.

5.4.3.   The System Integrator shall deploy and provide such qualified and experienced personnel as may be required to perform the services under the project. It is desirable from the System Integrator to deploy the

domain/ subject specialists, from time to time, who have adequate experience in the domain related with the project.

5.4.4. Each member of the team must be a full time employee of the bidder.

5.4.5. The team shall be deployed on an exclusive basis; no resource deployed under this project will work on any other engagement and a declaration for the same to be provided.

5.4.6. Finance Department shall have no liability whatsoever for any loss or injury to any property or any individual assigned to perform the services under this Agreement or otherwise, including while on System Integrator premises or anywhere else, including any liability that may arise as a result of malfunction of any equipment or otherwise howsoever.

5.4.7. System Integrator will alone be responsible for any mishap or accident or untoward incidence during the maintenance of computer hardware and other devices which may occur due to negligence / default on the part of the Bidder or its staff deployed.

5.4.8. System Integrator shall provide a list of staff deployed with a copy of ID card issued by System Integrator, telephone nos. and two copies of passport size photographs in the prescribed format and other requisites to the satisfaction of Finance Department.

5.5. Outsourcing

5.5.1. System Integrator shall not outsource any work related to the project or the part thereof to any other associated/franchisee/third party without the approval of Finance Department. If System Integrator outsources any part of the work without Finance Department approval, Finance Department reserve the right to forfeit the PBG & terminate the contract.

5.5.2. In any case, System Integrator shall not outsource more than 40% of the total contract value.

5.5.3. Outsourcing of Application Development Work shall not be allowed.

5.6. Applicable Law

Applicable Law means the laws and any other instruments having the force of law in India as may be issued and in force from time to time. The Contract shall be interpreted in accordance with the laws of the Union of India and the State of Punjab.

5.7. Intellectual Property Rights (IPR)

5.7.1. No services covered under the Contract shall be sold or disposed by the System Integrator in violation of any right whatsoever of third party, and in particular, but without prejudice to the generality of the foregoing, of any patent right, trademark or similar right, or any charge mortgage or lien. The System Integrator shall indemnify Finance Department from all

actions, costs, claims, demands, expenses and liabilities, whatsoever, resulting from any actual or alleged infringement as aforesaid and at the expenses of the System Integrator, Finance Department shall be defended in the defence of such proceedings.

5.7.2. All IPR including the source code and materials shall remain the sole property of Finance Department of the complete HRMS Solution to be implemented under this Project and the same shall be handed over to the Department after completion of the project. However all pre-existing IPR with the bidder proposed in the bid shall remain the property of the bidder. Bidder shall declare all such IPR in the bid submitted.

5.7.3. All products and related solutions and fixes provided pursuant to this RFP shall be licensed according to the terms of the license agreement packaged with or otherwise applicable to such product.

5.7.4. System Integrator shall be responsible for arranging any licenses associated with products. "Product" means any computer code, web-based services, or materials comprising commercially released, pre-release or beta products (whether licensed for a fee or no charge) and any derivatives of the foregoing which are made available to Finance Department for license which is published by product owner or its affiliates, or a third party. "Fixes" means product fixes that are either released generally (such as commercial product service packs) or that are provided to you when performing services (such as workarounds, patches, bug fixes, beta fixes and beta builds) and any derivatives of the foregoing.

5.8. Confidentiality

5.8.1. The Finance Department or its nominated agencies shall allow the System Integrator to review and utilize highly confidential employee records and the System Integrator shall maintain the highest level of secrecy, confidentiality and privacy with regard thereto.

5.8.2. Additionally, the System Integrator shall keep confidential all the details and information with regard to the Project, including data, systems, facilities, operations, management and maintenance of the systems/facilities.

5.8.3. The Finance Department or its nominated agencies shall retain all rights to prevent, stop and if required take the necessary punitive action against the System Integrator regarding any forbidden disclosure.

5.8.4. The System Integrator shall execute individual non-disclosure agreements with all its employees, agents and sub-contractors with respect to this project and shall submit a declaration in writing to Finance Department regarding the same. Finance Department may ask System Integrator to share all or any of such non-disclosure agreement.

5.8.5. For the avoidance of doubt, it is expressly clarified that the aforesaid provisions shall not apply to the following information:

I. Information already available in the public domain;
II. Information which has been developed independently by the System Integrator;
III. Information which has been received from a third party who had the right to disclose the aforesaid information;
IV. Information which has been disclosed to the public pursuant to a court order.

5.9. Governing Language

The Contract shall be written in English Language. All correspondences and other documents pertaining to the contract, which are exchanged between the parties, shall be written in the English Language.

5.10. Project Review & Monitoring

Finance Department shall form a "Project Review Committee"for review & timely implementation of the project respectively. Brief responsibility of this committee shall be as below:-

I. Review and supervise the project progress,
II. Review and approve the deliverables submitted by the System Integrator,
III. Recommend release of payments and levy of applicable penalties,
IV. Overall direction and guidance for successful implementation of the project

5.11. Contract Period

Contract shall commence on the date on which it is executed by the Finance Department and the System integrator and shall, unless terminated earlier in accordance with its terms or unless otherwise agreed by the Parties, expire on the date on which this Agreement expires or terminates, which shall be a period of five years starting from the date of the GO-Live.

5.12. Prices

5.12.1. The prices quoted in the commercial bid shall be firm throughout the period of contract and shall not be subject to any escalation due to any factor.

5.12.2. Quantities mentioned in the bid are indicative. Finance Department at its discretion may increase/decrease the quantity of any line item or cancel

any line item during the Contract period. Quoted Unit Rates shall be used for any financial calculation/implication in case of such increase/decrease or cancellation of quantity of any line item.

5.12.3. Prices of any additional quantity of any line item shall be calculated on pro-rata basis.

5.13. Taxes and Duties

5.13.1. All taxes, duties and any statutory levies etc. payable by the System Integrator during the contract tenure shall be the sole responsibility of the System Integrator.

5.13.2. All taxes, duties and statutory levies payable to the System Integrator shall be paid as per prevailing rates.

5.14. Limitation of Liability

The liability of System Integrator (whether in contract, tort, strict liability in tort, by statute or otherwise) for any claim in any manner related to this Agreement, including the work, deliverables or Services covered by this Agreement, shall be the payment of direct damages only which shall in no event, in the aggregate, exceed the Total Contract Value. This liability cap given under this Clause, however shall not be applicable to the willful misconduct, negligence, indemnification obligations, breach of Confidentiality & Information Security management.

5.15. Termination of Contract

Following reasons shall lead to the termination of contract:

5.15.1. Failure of the successful bidder to accept the contract and furnish the Performance Bank Guarantee within specified time period

5.15.2. The term of Contract expires

5.15.3. If penalty reached beyond the Limit specified in the RFP, Finance Department may use its discretion to terminate the contract.

5.15.4. Termination of Contract by the Finance Department due to non-adherence of contract/RFP terms and conditions.

5.16. Termination for Insolvency, Dissolution etc.

Finance Department may at any time terminate the Contract by giving written notice of 30 days as curing period to the System Integrator, if the System Integrator becomes bankrupt or otherwise insolvent or in case of dissolution of firm/company or winding up of firm/company. In this event, Finance Department at its discretion may decide to pay to the System

Integrator any eligible due payment for service performed till the date of notice after approval of the competent authority, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to Finance Department.

5.17. Termination for Convenience

Finance Department reserves the right to terminate, by prior written notice the whole or part of the contract, at any time for its convenience. The notice of termination shall specify that termination is for Finance Department's convenience, the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective. No payment in lieu of notice period shall be given to the System Integrator. However, Finance Department at its discretion may decide to pay to the System Integrator any eligible due payment for service performed till the date of notice after approval of the competent authority. Further, Finance Department at its discretion may give curing period of 30 days in case of any non-adherence of RFP/ Contract terms & condition which has caused the notice of termination.

5.18. Force Majeure

5.18.1. The System Integrator shall not be liable for forfeiture of its PBG or termination of contract for default if and to the extent that delays in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

5.18.2. For purposes of this clause, "Force Majeure" means an event beyond the control of the System Integrator and not involving the System Integrator's fault or negligence, and not foreseeable. Such events may include, but are not restricted to, acts of Finance Department in their sovereign capacity, wars or revolutions, riot or commotion, earthquake, fires, floods, epidemics, and quarantine restrictions.

5.18.3. If a Force Majeure situation arises, the System Integrator shall promptly notify Finance Department in writing of such condition and the cause thereof. Unless otherwise directed by Finance Department in writing, the System Integrator shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

5.19. Resolution of Disputes

If any dispute arises between parties, then these would be resolved in following order:

5.19.1. Amicable Settlement

Performance of the Contract is governed by the terms and conditions of the Contract, however at times dispute may arise about any interpretation of any term or condition of Contract including the scope of work, the clauses of payments etc. In such a situation either party of the contract shall send a written notice of dispute to the other party. The party receiving the notice of dispute will consider the Notice and respond to it in writing within 30 working days after receipt. If that party fails to respond within 30 working days, or the dispute cannot be amicably settled within 60 working days following the receipt of such notice by other party, then the dispute shall be referred as per "Arbitration" clause of the RFP follows hereunder.

5.19.2. Arbitration

"Any dispute or difference whatsoever arising between the parties to this Contract out of or relating to the construction, meaning, scope, operation or effect of this Contract or the validity of the breach thereof shall be referred to a sole Arbitrator to be appointed by mutual consent of both the parties herein. If the parties cannot agree on the appointment of the Arbitrator within a period of thirty (30) working days from the notification by one party to the other of existence of such dispute, then the Arbitrator shall be appointed as per the provisions of the Arbitration and Conciliation Act, 1996 and the award made there under shall be final and binding upon the parties hereto, subject to legal remedies available under the law. Such differences shall be deemed to be a submission to arbitration under the Indian Arbitration and Conciliation Act, 1996, or of any modifications, Rules or re-enactments thereof. The Arbitration proceedings will be held at Chandigarh, India."

5.20. Legal Jurisdiction

All legal disputes between the parties shall be subject to the jurisdiction of the Courts situated in Chandigarh, India only.

5.21. EXIT MANAGEMENT SCHEDULE

5.21.1. PURPOSE

I. This Schedule sets out the provisions, which will apply on expiry or termination of the MSA, the Project Implementation, Operation and Management SLA.

II. In the case of termination of the Project Implementation and/or Operation and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.

III. The Parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule.

5.21.2. TRANSFER OF ASSETS

Finance Department, Government of Punjab shall be entitled to serve notice in writing on the SI at any time during the exit management period as detailed hereinabove requiring the SI and/or its sub-contractors to provide the Finance Department, Government of Punjab with a complete and up to date list of the Assets within 30 days of such notice. Finance Department, Government of Punjab shall then be entitled to serve notice in writing on the SI at any time prior to the date that is 30 days prior to the end of the exit management period requiring the SI to sell the Assets, if any, to be transferred to Finance Department, Government of Punjab or its nominated agencies at book value as determined as of the date of such notice in accordance with the provisions of relevant laws.

In case of contract being terminated by Finance Department, Government of Punjab reserves the right to ask SI to continue running the project operations for a period of 6 months after termination orders are issued.

Upon service of a notice under this Article the following provisions shall apply:

I. in the event, if the Assets to be transferred are mortgaged to any financial institutions by the SI, the SI shall ensure that all such liens and liabilities have been cleared beyond doubt, prior to such transfer. All documents regarding the discharge of such lien and liabilities shall be furnished to the Finance Department, Government of Punjab

II. All risk in and title to the Assets to be transferred / to be purchased by the Finance Department, Government of Punjab pursuant to this Article shall be transferred to Finance Department, Government of Punjab, on the last day of the exit management period.

III. Finance Department, Government of Punjab shall pay to the SI on the last day of the exit management period such sum representing the Net Block (procurement price less depreciation as per provisions of Companies Act) of the Assets to be transferred as stated in the Terms of Payment Schedule.

IV. Payment to the outgoing SI shall be made to the tune of last set of completed services / deliverables, subject to SLA requirements.

V. The outgoing SI will pass on to Finance Department, Government of Punjab and/or to the Replacement SI, the subsisting rights in any

leased properties/ licensed products on terms not less favourable to Finance Department, Government of Punjab/ Replacement SI, than that enjoyed by the outgoing SI.

5.21.3. COOPERATION AND PROVISION OF INFORMATION

During the exit management period:

I.   The System integrator will allow the Finance Department, Government of Punjab or its nominated agency access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable the Finance Department, Government of Punjab to assess the existing services being delivered;

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

5.21.4. CONFIDENTIAL INFORMATION, SECURITY AND DATA

The System integrator will promptly on the commencement of the exit management period supply to the Finance Department, Government of Punjab or its nominated agency the following:

I.   information relating to the current services rendered and customer and performance data relating to the performance of sub-contractors in relation to the services;

II. documentation relating to Computerization Project's Intellectual Property Rights;

III. documentation relating to sub-contractors;

IV. all current and updated data as is reasonably required for purposes of Finance Department, Government of Punjab or its nominated agencies transitioning the services to its Replacement of System integrator in a readily available format nominated by the Finance Department, Government of Punjab , its nominated agency;

V. all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable Finance Department, Government of Punjab or its nominated agencies, or its Replacement of System integrator to carry out due diligence in order to transition the provision of the Services to Finance Department, Government of Punjab or its nominated agencies, or its Replacement of System integrator (as the case may be).

Before the expiry of the exit management period, the System integrator shall deliver to the Finance Department, Government of Punjab or its nominated agency all new or up-dated materials from the categories set out in Schedule above and shall not retain any copies thereof, except that the System integrator shall be permitted to retain one copy of such materials for archival purposes only.

Before the expiry of the exit management period, unless otherwise provided under the MSA, the Finance Department, Government of Punjab or its nominated agency shall deliver to the System integrator all forms of System integrator confidential information, which is in the possession or control of Chairperson, Project Review Committee or its users.

5.21.5. EMPLOYEES

Promptly on reasonable request at any time during the exit management period, the System integrator shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the Finance Department, Government of Punjab or its nominated agency a list of all employees (with job titles) of the System integrator dedicated to providing the services at the commencement of the exit management period.

Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the System integrator to the Finance Department, Government of Punjab or its nominated agency, or a Replacement of System integrator ("**Transfer Regulation**") applies to any or all of the employees of the System integrator, then the Parties shall comply with their respective obligations under such Transfer Regulations.

To the extent that any Transfer Regulation does not apply to any employee of the System integrator, department, or its Replacement of System integrator may make an offer of employment or contract for services to such employee of the System integrator and the System integrator shall not enforce or impose any contractual provision that would

prevent any such employee from being hired by the Chairperson, project review committee or any Replacement.

5.21.6. TRANSFER OF CERTAIN AGREEMENTS

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

5.21.7. RIGHTS OF ACCESS TO PREMISES

At any time during the exit management period, where Assets are located at the System integrator's premises, the System integrator will be obliged to give reasonable rights of access to (or, in the case of Assets located on a third party's premises, procure reasonable rights of access to) the Finance Department, Government of Punjab or its nominated agency and/or any Replacement of System integrator in order to make an inventory of the Assets.

The System integrator shall also give the Finance Department, Government of Punjab or its nominated agency or its nominated agencies, or any Replacement of System integrator right of reasonable access to the Implementation Partner's premises and shall procure the Finance Department, Government of Punjab or its nominated agency or its nominated agencies and any Replacement of System integrator rights of access to relevant third party premises during the exit management period and for such period of time following termination or expiry of the MSA as is reasonably necessary to migrate the services to the Finance Department, Government of Punjab or its nominated agency, or a Replacement of System integrator.

5.21.8. GENERAL OBLIGATIONS OF THE <<'System integrator'>>

The System integrator shall provide all such information as may reasonably be necessary to affect as seamless a handover as practicable

in the circumstances to the Finance Department, Government of Punjab or its nominated agency or its Replacement of System integrator and which the System integrator has in its possession or control at any time during the exit management period.

For the purposes of this Schedule, anything in the possession or control of any System integrator, associated entity, or sub-contractor is deemed to be in the possession or control of the System integrator.

The System integrator shall commit adequate resources to comply with its obligations under this Exit Management Schedule.

5.22.   EXIT MANAGEMENT PLAN

The System integrator shall provide the Finance Department, Government of Punjab or its nominated agency with a recommended exit management plan ("Exit Management Plan") which shall deal with at least the following aspects of exit management in relation to the MSA as a whole and in relation to the Project Implementation, and the Operation and Management SLA.

(i)   A detailed program of the transfer process that could be used in conjunction with a Replacement of System integrator including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer;

(ii)   plans for the communication with such of the *System integrator'*s sub-contractors, staff, suppliers, customers and any related third party as are necessary to avoid any material detrimental impact on the *Finance Department, Government of Punjab* 's operations as a result of undertaking the transfer;

(iii) (if applicable) proposed arrangements for the segregation of the *'System integrator*'s networks from the networks employed by *Finance Department, Government of Punjab* and identification of specific security tasks necessary at termination;

(iv)   Plans for provision of contingent support to Finance Department, Government of Punjab, and Replacement of System integrator for a reasonable period after transfer.

(v)   The System integrator shall re-draft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date.

(vi)   Each Exit Management Plan shall be presented by the System integrator to and approved by the Finance Department, Government of Punjab or its nominated agencies.

(vii) The terms of payment as stated in the Terms of Payment Schedule include the costs of the System integrator complying with its obligations under this Schedule.

(viii) In the event of termination or expiry of MSA, and Project Implementation, each Party shall comply with the Exit Management Plan.

(ix) During the exit management period, the System integrator shall use its best efforts to deliver the services.

(x) Payments during the Exit Management period shall be made in accordance with the Terms of Payment Schedule.

(xi) This Exit Management plan shall be furnished in writing to the Finance Department, Government of Punjab or its nominated agencies within 90 days from the Effective Date of this Agreement.

5.23. Record Retention

SI shall retain the entire records and information generated from this project right from the commencement of the Project. SI shall make necessary arrangements to preserve the record in its original form. SI shall be responsible to protect the data from any type of co-mingling.

6.0 Scope of Work-I (SOW-I)

6.1. Introduction

The Human Resource Management (HRMS) system is a system used to acquire, store, manipulate, analyse, retrieve, and distribute information regarding an organization's human resources. The Human Resource Management (HRMS) System is built to handle personnel of varying conditions. It also replicates personal information held across the department as required.

In a growing number of organizations human resources are now viewed as a source of competitive advantage. There is greater recognition that distinctive competencies are obtained through highly developed employee skills, distinctive organizational cultures, management processes, and systems and this is in contrast to the traditional emphasis on transferable resources such as equipment. Increasingly, it is being recognized that competitive advantage can be obtained with a high quality work force that enables organizations to compete on the basis of market

responsiveness, product and service quality, differentiated products, and technological innovation.

6.2. Objective of HRMS

6.2.1. Development of an integrated view of employee information across all departments of Government of Punjab.

6.2.2. Provision of timely & reliable management information relating to human resources for effective decision making within the government.

6.2.3. Provision of 'single window' services to employees.

6.2.4. Provision of user-friendly operating environment (to the employee), where in, the HRMS system is accessible by a majority of employees, over a browser.

6.2.5. Complete personnel information to be available on-line, in order to eliminate delays in decision making.

6.2.6. All personnel rules to be integrated into the decision making process defining the interconnectivity of different modules.

6.2.7. All forms and templates to be on the HRMS platform.

6.2.8. To achieve more efficient and effective workforce to serve the citizens of the State.

6.3. Existing System

Currently there is no comprehensive Human Resource Management System application in use in Departments of the Government of Punjab. A limited effort has been made by a few departments to develop modules related to HRMS application i.e. Integrated Work flow & Document Management system (IWDMS), Punjab Government Personal Management System (PGPMS). The prospective bidder is required to study the applications already running in the State to avoid any duplicity of work. The prospective bidder will make suitable interfaces to integrate these applications with HRMS.

6.4. Statement of Work

Procurement and deployment of Hardware and Supporting Software and Study, Design, Development, installation, configuration, customization, integration and testing of the HRMS Application for all the modules mentioned in the RFP together with the relevant and necessary database and other software. Operation and Maintenance of the entire HRMS solution including Application and IT infrastructure for a period of 5 years from the date of Go-Live of all the locations.

The detailed Scope of Work is as given but not limited to:

6.4.1. The details of study, design, development and Installation, implementation and testing of the Software which shall include the modules as described in the RFP but not limited to. However in case during gap analysis and system study of the HRMS application in the department, if it is observed that additional modules are required in the HRMS software then those modules are to be included in development of this HRMS software. All necessary Hardware and supporting Software for the HRMS solution shall be procured, supplied, installed and configured by the selected bidder.

6.4.2. Data digitization module development for entry of legacy data of service records of all the employees of Punjab. The bidder is responsible to key in all such data of the employee so as to make the software live. District wise employee's details may be referred in *Annexure* which may increase or decrease at the time of data entry. `

6.4.3. Application training / Basic Computer Training to all the concerned End users identified by Department.

6.4.4. Data Digitization and data migration of legacy data

6.4.5. Integration of HRMS with treasury and IFMS/IWDMS/PGPMS application already running in the state.

6.4.6. Establishment of Helpdesk and IVRS based solution for employees

6.4.7. PAWAN Horizontal Connectivity of Internal Audit Offices (12 Old Districts) to be provided at District level.

6.4.8. Supply of Hardware i.e. Computer, printer, scanner, UPS in the Internal Audit Offices at State/District level/Tehsil/block level as per requirement of Finance Department

The project will be implemented in Phase manner.

Phase I: All permanent/Temporary/ contractual employees of Personnel, Finance
Department and GAD

Phase II: All permanent/Temporary/contractual employees of next 15 Departments

Phase III: All permanent/Temporary/contractual employees of next 15 Departments

Phase IV: All permanent/Temporary/Contractual employees of next 15 Departments

Phase V: All permanent/Temporary/Contractual employees of remaining all the Departments.

All employees of PSUs/Boards/Corporations shall be covered after the Go-Live of above mentioned departments. The SI must take into account all the above mentioned five phases, all employees of PSUs/Boards/Corporations and All the pensioners for sizing of the Data Centre hardware and software components. Total number of employees in first 5 phases shall be approximately 3.22 lakhs and the same shall be evenly divided into 5 phases. The Department wise list of employees is attached in Annexure of RFP.

The HRMS software shall follow open standards for easy future integration and highly scalable architecture. The application should integrate with the UID standards and should Digital Signature compliant. It is expected to be integrated with the Aadhar database and SMS gateway wherever applicable. The application should be compliant with the Interoperability and Standardization Guidelines as provided by DeitY.

6.5. Geographical Scope

6.5.1. The project will be implemented in all Departments and its field offices up to Tehsil/Block level/DDO Level.
6.5.2. PAWAN Horizontal Connectivity of Internal Audit Offices (12 Old Districts) to be provided at District level.
6.5.3. Supply of Hardware i.e. Computer, printer, scanner, UPS in the Internal Audit Offices at State/District level/Tehsil/block level as per requirement of Finance Department
6.5.4. Data digitization of service records will be done at centralized location i.e. District level and State level.

6.6. State HRMS portal

State HRMS Portal is envisaged as the User Interface to all the logged in employees and provide a dash board view of the required status. This web portal will be accessed by below means.

I. DDO offices
II. Internal Audit Offices & All other Government offices
III. Through other points like Home, Internet Café where internet access is available

This web based portal shall incorporate the functionalities as mentioned below:

I. The Portal should strictly follow the Guidelines for Indian Government website (GIGW-http://web.guidelines.gov.in) as mentioned by GOI/State.

II. The System Integrator can also come up with design ideas and static design screen shots for the central portal which has to be included in the presentation

III. The Web portal should support English and Punjabi Language.

6.7. Application Architecture

6.8. Application Modules

The below mentioned Modules are generally classified as HRMS specific modules and the same may be broadly referred for the implementation of HRMS Application. HRMS application shall be integrated with various State applications like IFMS/IWDMS/PGPMS. System Integrator shall study these applications for integration of these applications with HRMS.

Sr. No	Module of Application
1.	Organization Structure
2.	Recruitments & Appointments
3.	User Credential Module
4.	E-Profile (EIS)

5.	Employee self-service management
6.	Attendance Management
7.	GIS Records (Group Insurance Scheme)
8.	Posting Details
9.	Leave Management
10.	Probation & Confirmation
11.	Payroll Processing
12.	Loans & Advances
13.	Reimbursements
14.	Travel & Tour Management
15.	Property & Income Statements
16.	General Provident Fund
17.	Vacancy Position
18.	Service Records / Service Book
19.	Promotion
20.	Annual Confidential Reports
21.	Awards & Punishments
22.	Departmental Inquiry
23.	Pension Management
24.	Employee Exit
25.	Grievance redressal system
26.	Document Management System
27.	Integration with Treasury and IFSM
28.	MIS / Reports/Analytics

The above mentioned modules are indicative in nature. SI shall study the requirement in detail with Finance Department and prepare a Functional Requirement Specification (FRS) document. The FRS document shall be approved by Department of Finance.

6.8.1. Organization Structure

This module would facilitate authorized users to structure new location, organization and post creation under that organization, employee creation and mapping of that employee to post. User can add, modify organization related data such as Parent Locations, Child Locations, Branch/Section/Wings, Branch Head Post and employee mapping, Designations, Roles, Access Rights, Subjects, Subject-Role-Post mapping and other relevant applications to build an organization's basic details.

6.8.2. Recruitments & Appointments

This module would facilitate authorized users/DEO to add details of Recruited employees. Recruitment would happen through external agencies. This module would capture the list of successful candidates as published by the external agency with some basic information such as Name, Date of Birth, Category of Recruitment, Date of Recruitment, Start date and End Date of probation etc. Based on the approval of final list of successful candidates the system would allow completing candidate allocation on vacant posts and generating unique ID for each candidate .System would also facilitate department/offices to recruit directly employee on temporary/permanent post.

6.8.3. User Credential Module

This module will be responsible for User Management. This module would have the given below features:

  i.   Create User
  ii. Modify User
  iii. Delete User
  iv. Managing User Groups and Permissions
  v.   User Access rights
  vi. User Mapping
  vii. Reset Password

6.8.4. E-Profile (EIS)

After completion of recruitment process, Data Entry Operator/Authorized user would be able to create e-Profile for newly joined employees and submit the details to Authorized User/HoD for required approval. The E – Profile would capture following information like Personal details, Address details, Family details, nomination details, qualification details, per-employment details, co-curricular details and miscellaneous details including EID or UID number if available.

All HRMS applications/modules would re-use the data as maintained in E-profile application. For e.g. Service Book – Data from Personal details, Payroll –Data from Miscellaneous details, Recruitment Management, Leave Management, Training, Transfers & Postings, etc.

6.8.5. Employee Self Service Management

This module should have capability to empower employees to enter the data/view/edit pre-defined data on self-e.g. updation of personal records like Bank details, marital status, record/change nomination etc. and leave balance, leave status (Cannot be modified), Salary details, liabilities, declare investments for IT returns, Property returns, Lease data, Medical & Entertainment etc.

I. Capability of providing functionality to the employees of a bill payment system which would also include reimbursements by uploading scanned copy of bills with barcode sticker interaction. This would have features for submission, tracking, and approval and credit/debit the account, for receiving of physical proof/bills; there should be provision.

II. Capability to remind the employee through self-service/e-mail/SMS regarding modification or requirement of additional data

III. Provision of a section of important circulars/ instructions/ policy documents /rule and positions related to HR.

IV. Capability to provide projection features for viewing projections on Income Tax liability, terminal benefits etc.

V. Capability to approve leave, bill payments, loans etc for employees reporting to a Manager

VI. Capability of compiling online appraisal/performance report, review and approve

VII. Capability to apply for or cancel any kind of leave on-line, submit self-appraisal, generate reminders for those working under him/her who have not submitted the A&L/ Self-Appraisal, (also covered under respective heads)

VIII. The system should send the employee confirmations after changes are made online.

IX. The system should allow the user to customize the menus

X. The system should provide immediate updates to the core HRMS database when data changes complete the workflow cycle.

XI.   The system should provide workflows. Accommodates multiple levels of review and approval

XII.   Facility for processing of different employment related certificates including NOC for passport, Identity Certificate, Experience certificate

XIII.   The System should provide the capability to create new self-service transactions as and when required. The system should allow the superior officer to Provide access to staff performance review information (Linked to point no. 7)

XIV.   The system should allow the manager to conduct performance appraisals.

XV.   The system should enable superior officers to recommend job change actions (Promotion, demotion, etc.)

XVI.   The system should Provide employee performance history including his posting profile of posts held in last ten years along with direct supervisor and direct subordinates

XVII.   The system should provide appraisal forms, performance plan templates and employee performance plans.

XVIII.   The system should provide access to staff training information.

XIX.   The system should enable managers to review staff training history.

XX.   The system should enable managers to approve training enrolments.

XXI.   The system should accommodate multiple levels of review and approval.

XXII.   The system should provide immediate updates to the core HRMS/payroll database when data changes complete the workflow cycle.

XXIII.   The system should provide an audit trail.

XXIV.   The system should give managers the ability to create and save their own custom reports

XXV.   The system should allow managers to view their direct reports as well as drilldown to lower levels under their area of responsibility only to the second level of reporting not beyond that. It should be restricted to custodian.log and alerts should be generated.

XXVI.   Development of a mobile app supported on three platforms – iOS, Android and Windows 8 – which will provide an employee access to employee self-service module through his mobile.

6.8.6.   Attendance Management:

The Attendance module will consist of features like attendance through biometric devices, interface for entering total number of working days in a month for pay bill preparation, link with leave Management system etc. Currently Biometric attendance is not implemented, but the functionality may be used later.

The module may have provision to download attendance from bio-metric or other machines automatically at regular intervals and process attendance thereafter in the software.

6.8.7.   GIS Records (Group Insurance Scheme)

This module would allow authorized user / Data entry operator to capture details of employee enrolment in Group Insurance Scheme. The details would include start date and end date of that particular scheme and monthly deductions as premium amount for an employee. Data entry Operator (DEO) would also be able to capture the details of the family members covered under the Group Insurance Scheme.

6.8.8.   Posting Details

This module would facilitate authorized users/DEO to maintain posting details of an employee in case of transfer and deputation. The module would facilitate in submitting the details of an employee to authorized users/HoD for required approval. After approval of request posting details would be updated in service book of employee.

6.8.9.   Leave Management

This module would allow authorized users / DEO to enter details of leave request of the employee into the system. System would allow all data to be approved by Authorized User / HoD before the changes are reflected. The module would allow the following leave types Earned Leave, Half Pay Leave, Commuted Leave, Leave-not-Due, Maternity/Paternity Leave, Casual Leave, Compensatory Leave and Joining Leave as provided in CSR.

It shall have following major functionalities and features:

    i.   Leave Request details
    ii.   Joining Report details

    iii.   Cancelled Leave Requests details

    iv.   Modified Leave Requests details

    v.   Leave Balance Credit details

    vi.   Earned Leave Encashment details

    vii.   In-charge details

    viii.   Or any other

6.8.10. Probation & Confirmation

This module would allow the authorized users/DEO to identify the employees whose probation is nearing completion, probation period, mandatory requirements for confirmation, including department exam clearance and assessment parameters for the probationary employees.

It would have following major functionalities and features:

    i.   Identify the Employees whose Probation is getting Complete
    ii.   Criteria for Confirmation
    iii.   Extension of Probation
    iv.   Probation on Promotion

6.8.11. Payroll Processing

Payroll deals with generating and maintaining Salary related information of the employee. The term 'payroll' encompasses every employee of a department who receives a regular remuneration or other compensation. All of these payments are calculated by a payroll specialist and the appropriate pay-checks are issued. Various Inputs like Salary Structure, leave, loans and advances, HRA, House Availed and others would be considered for Payroll Generation. Regular deductions such as tax, medical insurance, leave, loans and so on are then categorized and subtracted. The remaining balance is then transferred through ECS to the account of the employee and becomes the employee's net pay for that time period.

Payroll module would be provided for each office Location. Data entry of various components (excluding the linked based allowances which would be auto calculated) would have to be entered by authorized user/DEO. Data entry with respect to loans availed, amount subscribed, GPF withdrawn, Leave en-cashed, different types of allowances entitled, special allowances, special benefits, bonus, food/festival or any other kind on advances, special pay, other allowances etc. would be entered in the respective HRMS modules as may be applicable

This module would facilitate end user to update the tax declaration and calculate tax automatically on the basis of final document submission. Module will also provide interface to generate form 16 and other tax related information online.

6.8.12. Loans & Advances

This module would allow authorized user / DEO to maintain data of various sanction loans and advances of employees. This would also include data of any permission/NOC availed by an employee from the department/office for seeking any loan from outside financial institutes. The system would facilitate to capture details for the following types of loans and advances:

   i.   Medical Advance
   i.   Travel Advance

   ii.   GPF Advance

   iii.   Leave Travel Concession Advance

   iv.   Pay Advance

   v.   Welfare Scheme

   vi.   Food Grain Advance

   vii.   Festival Advance

   viii.   Vehicle Loan

   ix.   House Building Loan

6.8.13. Reimbursements

This module would allow authorized user / DEO to maintain data of various reimbursements and claims of employees. The system would facilitate to capture details for different types of reimbursements and loans available:

   i.   Medical Reimbursement
   ii.   Leave Travel Concession
   iii.   Travel Reimbursement
   iv.   Transfer Allowance
   v.   Charge Allowance
   vi.   Canteen Bills
   vii.   Telephone Bills
   viii.   Newspaper Bills
   ix.   Miscellaneous Bills

This is an indicative list of reimbursements

6.8.14. Travel & Tour Management

This module would facilitate an authorized user / DEO to maintain data of various Tours and Travels undergone by an employee who have gone or would be going for an official tour. System would facilitate authorized user / DEO to submit the statement of expenses incurred by an employee.

It would have following major functionalities and features:

i. Pre-sanction Travel Request
ii. Post-Facto Apply for Travel Reimbursements

6.8.15. Property & Income Statements

This module would allow authorized user / DEO to maintain details of assets owned by an employee and other transactions carried out by an employee during his service period. This would help the department to figure out those employees who are possessing disproportionate assets. An authorized user / DEO would be able to file details of returns of the property transactions for an employee through this module.

6.8.16. General Provident Fund

This module would allow entry of GPF related data for each employee in the organization by the authorized user / DEO. All employees who have subscribed to the GPF facility would be eligible for GPF advance and GPF Part/Final Withdrawal. DEO would be able to enter necessary records with respect to each of these applications below:

i. New GPF Account
ii. Change Subscription Details
iii. GPF Advance
iv. GPF Part and Final Withdrawal
v. GPF Account Transfer
vi. GPF Monthly/Annual Upload

6.8.17. Vacancy Position

This module would facilitate authorized users/DEO to add, modify or delete post related details such as No. of Posts in organizations, Post and Designation mapping, Post and employee mapping. This would help to generate the vacancy statement in detail which would comprise of no. of sanctioned posts, no. of occupied posts and hence no. of vacant posts with aging analysis. Vacancy for the organization would be automatically updated as & when post is filled, vacated, surrendered, etc. This would also be integrated with applications like Transfer, Promotion and Deputation etc.

6.8.18. Service Records / Service Book

The Service Record of the employee is maintained in the service book and contains personal details pertaining to the employee such as date of birth, community details, caste details, qualification details, family information and previous experience. These details are vital for many of the employee's service related matters. A service book is opened when the employee joins government service and the service record of the employee is maintained and regularly updated in this book throughout the service of the employee.

The main objectives of Service Record are to:

i.   Provide a central database of record for all employee data
ii. Provide a single point of entry for all employee data input and changes
iii. Create an interface to the establishment & administration departments to update employee data.

Details captured/stored in all the modules would be integrated in a Service Book. The Service book would be accessible to the employee and administrative staff on a real-time basis. Service Book would be automatically generated based on above application and would be maintained in read-only (non-editable) format.

6.8.19. Promotion

This module would allow authorized user / DEO to maintain details of promotion of an employee. This would allow DEO to capture details such as new designation after promotion, new grade pay, updation of seniority number and date of joining the new post. Any transfer of employee because of promotion would also reflect the data of the employee in the new office and discontinue access to the data in the previous office.

6.8.20. Annual Confidential Reports

This module would allow authorized user / DEO to maintain details of employee appraisals, assessments and review of assessments. DEO would fill in the details of final appraisal of the employee and it would be submitted to Authorized Users/HoD for Approval. The final grading of the employee based on the appraisal done would be reflected in the Employee Service Records. This module would be integrated with Employee Information System, Employee Service Record, and Promotion Modules.

6.8.21. Awards & Punishments

This module would allow the authorized user / DEO to maintain record of an employee nominated for awards and punishments. Awards would include State-level Awards and National Awards, Cash prizes, Certificates, Medals, etc. In case of punishment it may include a monetary fine, withholding increment for certain time, etc. This module would be integrated with Employee Service Records, and Payroll processing module.

6.8.22. Departmental Inquiry

This module would allow authorized user / DEO to maintain details of departmental enquiries against an employee. It would facilitate DEO to capture the details of enquiry at different stages. DEO would be able to capture responses filed during the case like charge sheets and track the process at different stages.

6.8.23. Pension Management

This Module is a workflow based Retirement and Pension Management system for all the Employees and module should facilitate to generate/maintain pension details of all the employees who are going to retire. The module would also facilitate DEO to maintain pension details of an employee in case of death, Termination, Resignation, VRS etc. i.e. the employee ceases to be in Service due to any reason. The module would facilitate in submitting the details of an employee to DDO for required approvals. The module should be able to generate complete pension papers of the employee to be submitted to the AG Punjab. Similarly, complete documentation should also be generate-able in case of revision of pension/pensionery benefits due to any reason. Presently, the pension is being sanctioned by the AG Punjab but the system should be scalable and flexible enough to generate PPO/allied sanctions, in future if need be.

This module must also include the complete functionality of National Pension Scheme (NPS).

6.8.24. Employee Exit

This module would maintain details for the complete process of the exit. It would have following major functionalities and features:

iv.   Details of Exit Initiation: - Superannuation, Death, Termination, VRS, Resignation, Compulsory Retirement
v.   Details of Clearances Completed
vi.   Final Settlement details

Integration: This module would be integrated with Employee Information System, Employee Service Record, Maintain Posts, Organization Chart, Payroll, Loans and Advances, Departmental Inquiry.

6.8.25. Grievance Redressal System

This module would facilitate end user to enter the grievance and forward it to next level for action. The system should have functionality for process the Grievance online. There should be option to check the status online and SMS should be sent to end user with unique reference number.

6.8.26. Document Management System

DMS is a workflow based system that replaces the existing manual handling of documents like Circulars, LAQs and Notifications with a more efficient electronic system. This system involves all stages, including the maintaining of inward receipts, creation of files, movement of receipts and files and finally, the archival of records. With this system, the movement of receipts and files becomes seamless and there is more transparency in the system since each and every action taken on a file is recorded electronically. Through this module documents can be easily searched and retrieved and actions on them can be taken instantly.

SI has to suggest and provide a Document management system (DMS). The requirement under DMS is as following:

   I.   The system should be able to manage the supporting documents submitted by the Employees so that there is no duplication of documents submitted by Employees while accessing the services of HRMS modules.
   II. The data in the present application shall be stored in such a fashion that its migration to DMS is very smooth without any technical issue.
   III. During the complete application management (customization, development. Modification etc.) SI has to follow ITIL standards.

6.8.27. Integration with Treasury/IFMS/IWDMS/PGPMS

This module will be responsible for integrating payroll module with treasury and IFMS/ IWDMS/PGPMS Software. Currently state finance department is using an Integrated Financial Management System (IFMS) application for the treasury and sub-treasury functions in the state. The proposed HRMS solution should be able to send the payroll data to the treasury application to computerize the whole payroll process. All the modules like payroll processing, GPF, GIS etc. where payment is involved

through treasury shall be integrated with Integrated financial management system application. Further details should be finalized during the FRS preparation.

Brief scope and objective of IFMS may be referred in Annexure as attached in RFP.

6.8.28. MIS / Reports

System would have provision to generate various kinds of reports for each application as per the requirement of Finance Department from time to time. The parameters based on which report should be generated would be those for which Data Entry was done. Reports would have generic features to Export the Reports in Excel, PDF format. Users would also be able to take print out.

Tentative list of reports are E-Profile report (based on Name, Address, Caste, Gender, Category, Date of Birth, Educational qualification, Co-curricular details etc.) , different kind of leave report, loans and advance report, GPF application based reports, Employee incumbency, Assets reports like (Form II & III – AIS Manual, Defaulter report), Reimbursement reports, Pay Related brief/detailed reports etc.

Moreover, reports in specified templates sought by 13th Finance Commission would be generated from the system. This report would include Online Employee Census, Employee wise Profile History, Online Tracking of Expenditure on Salaries, Employee wise Loans and Advances Status, Employee wise Posting Details, Employee wise Pay Details, Employee wise Leave Accounts, Employee wise Retirement Details, DSS – State Profile – Recruitment Vs. Retirement etc. The system will generate all the reports based on entered data.

HRMS should be completely functional and modules mentioned in the RFP are illustrative but not exhaustive. The system should have add-on features for future requirements. The details of all the above modules shall be finalized by SI during the preparation of FRS document in consultation with Finance Department.

6.9. Application Requirements

The HRMS application would be based on central and networked data processing architecture. The system shall be proposed & designed as to avoid any single point failure to the extent possible. This central location would be connected to the various departmental units through different

Network Point of Presence (PoP's) of Punjab Wide Area Network (PAWAN) or broadband or any other connectivity mode.

The application would be web based application and accessible over a standard browser. The 3-tier architecture will be employed incorporating three components – front-end software, middleware and back end DB tier. In the envisaged architecture, the entire processing shall take place in these three layers:

  I.   Front-end software (client tier) will be responsible for the presentation of information to User.

 II.   Middleware (application server tier) is the layer where all business rules will be defined. This layer shall process data for reporting purpose

III.   Server Software (database server tier) will be responsible for the manipulation and storage of data.

IV.   Document Management System: - SI has to suggest and provide a Document management system (DMS). The Document Management system should be able to store and manage the all the digitized data/scanned images of service records and also other documents as per the requirement of Finance Department. The data in the present application shall be stored in such a fashion that its migration to DMS is very smooth without any technical issue. During the complete application management (customization, development. Modification etc.) SI has to follow ITIL standards

 V.   Application should have functionality to upload all the data in excel/csv or other sheets/formats on HRMS application in order to all the modules as mentioned in RFP. For example if the employee does not have computing infrastructure/connectivity to enter the details on daily/regular basis on HRMS then all the details submitted by employee shall be uploaded centrally by DDO's/Internal Audit Offices on regular intervals.

VI.   Development of mobile application with minimum functionalities like apply for leave, Checking leave status, checking salary slips, View Profile. The detailed shall be finalized during preparation of FRS.

6.9.1. Design Considerations

Application would be hosted at centralized location and all the users will access the application through intranet or internet. The application tier shall be clustered on a fail-over configuration.

The solution landscape should be architected with following key drivers in mind:

- o No Single point of Failure
- o High Availability & Redundancy
- o Scalability
- o Load Sharing
- o Performance Objectives
- o Optimization of Hardware
- o Maintainability
- o Security

6.9.2. No Single point of failure

There should not be any single point of failure in the proposed solution (at the application, database & the components proposed at data centre level).

6.9.3. High Availability & Redundancy

High Availability of application is a key requirement. The project must provide users with timely, continuous access to application - all day, every day. The system must also be able to rebound or recover from any planned or unplanned system downtime, ensuring a minimal impact on the operations.

Availability is the quality aspect of whether the service is present or ready for immediate use. Availability represents the probability that a service is available. Larger values represent that the service is always ready to use while smaller values indicate unpredictability of whether the service will be available at a particular time. Also associated with availability is time-to-repair (TTR). TTR represents the time it takes to repair a service that has failed. Ideally smaller values of TTR are desirable.

6.9.4. Scalability

The proposed equipment shall be scalable to cater for the expansion of processor, memory and the number of interfaces. The configuration proposed is expected to have adequate upgrade capability in terms of processors, memory, disk storage, etc. This should be achievable with minimum disruptions to processes and Users.

6.9.5. Failover and Load Balancing

All network equipment and devices shall have the capability to failover to a redundant or secondary unit upon failure of the primary unit. Likewise, the

load on the primary unit shall be shared with a secondary unit upon the primary unit reaching its capacity.

6.9.6. Backup and recovery

Data is an asset, just as personnel, physical resources, and financial resources are assets. Data and information are resources that are extremely valuable for the organization; hence data management processes must be in place to maintain the data. The development of information technology has made effective management of corporate data far more manageable. The Database backup and recovery guidelines have been incorporated in IT solution of HRMS however detailed backup and recovery policies shall be implemented at the time of solution implementation by the vendor. The responsibility of taking backups and testing, as per the policy, lies with Contractor for the project period

6.9.7. Study, Design and Development of Web based Portal/Software

i. To prepare Functional Requirement Specifications (FRS)
ii. To prepare a System Requirement Specifications (SRS)
iii. The solution architecture/ Application need to be designed on following criteria:
   a. The framework should have the provisions to integrate middleware's like CMS, DMS etc. in the future
   b. It should be PKI enabled for provision of Digital Signature
   c. Adhere to the latest data and Meta data standards issued by the Department of Information Technology, Government of India through its web site at **http://egovstandards.gov.in**
   d. Adhere to the latest OGPL standards **http://ogpl.gov.in.**
   e. A 3rd party Quality certifying agency must be engaged in due course of time of the project to ensure that proper application design and development standards are met. In case there is any modification required due to the audit; the successful Bidder should rectify the solution accordingly.
   f. To develop the HRMS based on the specifications finalized through the System Requirement Specifications (SRS) and solution design submitted by the bidder.
   g. System have provision to pull out the biometric authenticated data
   h. System shall define external access levels to the database / tables / columns based on
      i. Read only feature
      ii. Read-write (insertion / modification / deletion)
      iii. Read-write (insertion / modification)
      iv. Read-write (modification only)
   i. Any other feature as per requirements

6.9.8. Integration with the existing IFMS/IWDMS/PGPMS application and Treasury

     i.   Successful bidder should submit Integration Plan with other applications and Integration Test cases & results for applications developed

     ii.   Successful Bidder should evaluate and integrate the proposed application with the existing IFMS/IWDMS/PGPMS application and Treasury.

     iii.   Successful Bidder should address all issues pertaining to integration of the application which includes but not exclusive of databases, MIS reports, application modules, data migration, Application forms, etc.

6.9.9.   Application Software Testing

     i.   To prepare the testing approach and plan

     ii.   To Develop UAT procedures and design Test Cases for the solution including Unit Test Plan, System/Integration Test Plan

     iii.   To Prepare User Acceptance Test Plan, Security Test Plan, Load Test Plan

     iv.   Inspection and testing procedures manual including QA Policy as per ETDC Test

     v.   Plans and Test cases (Functional testing, Volume testing, Stress/Load testing, Usability testing, Performance testing, Security testing, Facility testing, Configuration testing, Recovery testing, Documentation testing, Procedure testing, Install ability testing, Storage testing, Serviceability testing)

     vi.   To perform the testing of the solution based on the approved test plan, document the results and fixing of the bugs found during testing

     vii.   The Implementation Partner needs to get all the modules of the developed HRMS application duly tested and accepted by 3rd party Auditor (engaged by bidder)

     viii.   The staging environment should be used for functional and user acceptance testing, stress testing, and performance benchmarking.

     ix.   The test environment should be a scaled-down configuration of the production environment.

     x.   System Integrator shall provide a defect tracking tool on the test environment where all the stakeholders can put the defects/ bugs encountered. This tool shall help in keeping a track on the defect resolution.

6.9.10.   Installation

     i.   Installation and Configuration of HRMS solution

     ii.   Installation/integration of Operating System, Database, Application Server etc.

     iii.   Configuration of Users, providing access as per roles defined

     iv.   Updation of Installation Manuals with lessons learnt/identified Gaps

6.9.11.   Implementation

     i.   To implement the HRMS solution in all the locations

     ii.   Assessment of the software, user acceptance and testing

iii. To ensure that the software design and implementation takes care of necessary security aspects such as data safety, access controls, integrity, back up measures and disaster recovery

iv. Incorporation of changes, if any, in the HRMS solution Implementation and roll out of the HRMS solution in all the implementation Locations

v. Department of Finance shall approve all the deliverables mentioned in this section.

6.9.12. Technical Documentation

To provide full documentation of the FRS, SRS and design (including Entity Relationship (ER) diagrams, flow diagrams, UML diagrams etc.) installation and implementation of the Software and user manuals both in hard copy and a soft copy on a Compact Disc (CD).

6.10. Non-Functional Requirements

The non-functional requirements relating to performance, availability, deployment, implementation, operations and others are listed in the subsequent subsection. Based on the assessment of the requirements listed below, SI shall prepare Functional requirement specification, System Requirement Specifications (SRS) and obtain a formal sign-off before proceeding with the design and implementation of the solution.

6.10.1. Technical Solution Architecture Requirements

I. The HRMS solution needs to be architected using robust and proven software and hardware technologies like Service-Oriented Architecture (SOA) and open industry standards. Framework architecture be based upon industry standards and proven technology components, which reduce the total risk of solution. Loosely coupled Service Oriented Architecture to provide flexibility and agility of HRMS solution Framework.

II. An approach based on specialty driven pre-integrated capabilities - like enterprise document management system, business process manager, analytics, dashboard, unified view of service situation, collaboration tools and easy to develop design builders

III. Wizard driven designer & template approach should allow the user to very quickly build a solution

IV. The widgets based development should expose all events and capabilities programmatically, empowering solution Developers to create rapidly deployable custom-built UIs.

V. Making reuse of components which reduces the time-frame of implementing new functionalities.

VI.   The solution architecture should be built on sound architectural principles enabling fault-tolerance, high-performance, and scalability both on the software and hardware levels.

VII.   Framework architecture be extensible and flexible to incorporate new functionalities, products and technologies as they become available.

6.10.2. Software Architecture Requirements

I.   Software architecture must support flexibility in adding functionalities or applications.

II.   Software architecture components should utilize the high availability, clustering, and load balancing features available in the proposed hardware architecture to increase system performance and scalability features.

III. Software architecture must support trace logging, error notification, issue resolution and exception handling.

6.10.3. Hardware Architecture Requirements

I.   Hardware architecture at SDC must provide redundancy and high availability capabilities at the hardware level.

II.   All servers and systems must be configured with no single point of failure.

III. Hardware architecture should be capable of consolidating several applications / workloads in a number of servers as required.

IV.   Server must be placed and protected from external cyber threats with appropriate Information security Infrastructure.

V.   Hardware architecture must support existing Storage Area Network (SAN) & backup solution (at SDC)

VI.   The technical solution architecture for HRMS should be sound and complete with high performance, redundancy, and scalability.

6.10.4. Development, Testing, Staging, and Production Requirements

I.   Appropriate development, test, and staging hardware environments should be provided and explained how they are related to production environment. This must be supported by explanations on how the development, test, and staging environment support the implementation activities of HRMS Solution.

II.   Development and test environment should include configuration management capabilities and tools for system configuration,

versioning scheme, documentation, change control processes and procedures to manage deployment of solution deployment.

III. The test, development, and staging environment should include required workstations, desktops, and tools appropriate to support development, testing, and staging, and deployment tasks.

IV. Appropriate development, test, and staging hardware environments should be provided and explained how they are related to production environment. This must be supported by explanations on how the development, test, and staging environment support the implementation activities of HRMS Solution.

V. Development and test environment should include configuration management capabilities and tools for system configuration, versioning scheme, documentation, change control processes and procedures to manage deployment of solution deployment.

VI. The test, development, and staging environment should include required workstations, desktops, and tools appropriate to support development, testing, and staging, and deployment tasks.

6.10.5. Security Requirement

I. A secure solution should be provided at the hardware infrastructure level, software level, and access level.

II. Authentication, Authorization & Access Control factors (User ID & Password, Biometric, and Digital Signature) security mechanisms should be implemented to enable secure login and authorized access to portal information and services.

III. Confidentiality and sensitive information and data of users and portal information should be ensured.

IV. Appropriate mechanisms, protocols, and algorithms necessary to protect sensitive and confirmation data and information both during communication and storage should be implemented.

6.10.6. Monitoring and Management Requirements

I. The HRMS Solution should provide monitoring and management of the entire Solution including all software components and application.

II. The monitoring and management should monitor health of software and hardware infrastructure running the HRMS Solution covering operating system, database, software components, applications, servers, and other related software and hardware components. It should provide proactive monitoring, alerting and reporting.

6.10.7. Performance and Scalability Requirements

I. The design of the HRMS Solution should be scalable to handle increasing number of users.

II. HRMS Solution should provide measurable and acceptable performance requirements for users, for different connectivity bandwidths.

III. The HRMS solution should provide optimal and high performance Portal Solution satisfying response time for slow Internet connections and different browsers.

IV. The design of the HRMS Solution should be scalable to handle increasing number of users.

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6.10.8. Implementation Requirements

I. The SI will be required to deploy manpower and other project resources as per the terms & conditions of the Contract

II. The SI will be required to work closely with the Finance Department and perform detailed functional requirements and analysis of HRMS Solution to confirm and document functional / system requirement specifications for the portal and its applications to fulfil its objectives.

III. The SI is expected to develop, test, stage, and deploy all functional modules of the HRMS software and any hardware components of technical & functional requirements

6.10.9. Project Management

I. Selected bidder is required to provide an implementation plan illustrating all functional analysis, development, testing, staging, and deployment activities.

II. Selected bidder is required to specify and describe the different phases and activities of the project. It is very important for the Finance Department that the selected bidder provide a quality implementation plan covering all aspects of the project. The plan shall clearly specify the start and end dates (relative to contract signing) of each of the project phases specifying key milestones allowing visibility of project progress.

III. Selected bidder is required to use standard project management tools such as precedence diagrams, critical path charts, etc. to create and manage implementation plan and schedule.

IV. Selected bidder is required to describe in detail project management processes, methodologies and procedures.

V. Describe how Finance Department will receive up-to-date reports on project status.

VI. Describe the change management procedures to handle such things as "out-of-scope" requests or changing business needs of Finance Department while the project is underway.

VII. Describe what procedures will be used to keep the project on track, and what escalation procedures will be employed to address any problems with project progress.

VIII. Describe what quality assurance processes, procedures, formal reviews, etc. will be in place.

IX. Describe the proposed conflict resolution / escalation process between the Bidder and Finance Department to handle project or contractual disputes.

X. Selected bidder is required to describe the proposed project structure identifying all project individuals including project manager, business analysts, software developers, QA engineers, hardware / network engineers, administrators, Change Management experts, and others.

XI. Selected bidder shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance of HRMS. The warranty should cover all materials, licenses, services, and support for both hardware and software. Selected bidder shall administer warranties with serial number and warranty period. Upon final acceptance of the Finance Department, all OEM warranties will be transferred to the Finance Department at no additional charge. All warranty documentation (whether expired or not) will be delivered to Finance Department at the issuance of the final acceptance certificate.

XII. Selected bidder is required to provide Premium Level warranty and support through the vendor for all hardware and software used for HRMS. Selected bidder' warranty must cover all equipment and work activities contained in the contract against all design, manufacturing, and environment faults until the issuance of the final acceptance.

XIII. Selected bidder shall be responsible to generate the MIS report for updated entries and submit the same to the Finance Department on alternate weeks.

Selected bidder is required to commit to the following warranty terms:

I. All products / components / parts shall be covered under OEM warranty up to the Implementation Phase and AMC support shall commence after successful implementation.

II. The warranty shall include the repair or replacement of the products / components / parts during the warranty period by the bidder. The replacement products / components shall meet the related specifications without further repair or modification.

III. Selected bidder shall be liable for all costs including, but not limited to, the costs of material, labour, travel, transport and living expenses associated with the collection and return of the units covered by the warranty.

IV. The date of manufacture or assembly of any equipment, parts or consumables, shall not be more than six months before delivery.

V. Selected bidder shall state the location of his repair Centre(s) for all items not being repaired onsite.

VI. Finance Department has the right to require a replacement if the repair is deemed to be impractical.

VII. Selected bidder ensures that replacement components shall be available for any failed component during the warranty period.

VIII. Selected bidder shall guarantee the availability of spare parts and technical assistance for all components (or appropriate alternatives) to ensure the equipment would run for at least five (5) years, without major changes, at the completion of final acceptance. Six months advance notice is required on any discontinued part(s) with a suggestion for alternatives.

IX. Selected bidder need to define the process & methodology in their proposal, for achieving the response time of engineers to respond to an incident and also for resolving such incidents as per the SLA.

X. Selected bidder is required to provide additional training if the satisfaction levels/ learning does not reach 80% in evaluation/feedback from trainees, and expected to provide additional training, if required.

XI. The HRMS application & infrastructure being provisioned by the bidder shall be insured. The Goods supplied under the Contract shall be fully insured against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery for the entire project term.

XII. Selected bidder is required to explain their warranty, maintenance procedures, and support to meet the terms and requirements outlined above.

6.10.10. Operations Requirements

I. The selected bidder is expected to provide the following in support of HRMS operations:

II. Selected bidder shall provide procedure documentation for all operations procedures, and SLA's (based on ITIL best practices) for all the hardware and applications provided including backup procedures, system update procedures, security procedures, failure recovery procedures, upgrade procedures, remote access procedures, user manual, SOP's, etc.

III. All such procedures and documents must be submitted for review and approval by the Finance Department prior to adoption. Such documentation shall be updated by the during the project term by the bidder as and when required along with the necessary approval.

IV. Selected bidder will be required to provide Finance Department with weekly statistics reports on the various services provided to users a mechanism as well as track and log all related statistical reports on the various delivery channels and access patterns.

V. Selected bidder will be required to provide weekly portal performance reports showing health of system operations to Finance Department.

VI. Selected bidder will be required to provide Finance Department with Helpdesk for recording all the day to day problems and other technical incidents occur during the O&M phase. This shall also record the resolution of such incidents & problems.

VII. Selected bidder will be required to commit to Service Level Agreements (SLAs) that show, among other metrics, appropriate escalation procedures and guarantee corrective actions within a pre-determined time. Selected bidder is required to respond to required levels of accuracy, quality, completeness, timeliness, responsiveness, cost-effectiveness, productivity and user satisfaction that are equal to or higher than the SLA system requirements.

6.10.11. Quality Assurance & Acceptance Requirements

I. Selected bidder is required to develop and implement quality assurance processes and procedures to ensure that the HRMS development and operations are performed to meet the quality standards that are relevant to each area in all project phases.

II. Selected bidder is required to use various tools and techniques that can make tests run easily and the results are automatically measured. In this way, testing tools provide a more cost-effective and efficient solution than their manual counterparts. Plus, they minimize the risk of human error during testing.

III. In order to ensure that such a QA mechanism is effective and acceptance of HRMS, the following tests are required for acceptance:

IV. Unit Testing: Basic validation of developed components by developers.

V. Functional / Internal Integration Testing: Validation of developed components against

VI. Functional requirements and design specifications.

VII. System Testing: Validation of both functional and technical requirements for the integrated Solution. This could include external integration if required or it can be separated into testing phases.

VIII. UAT: User Acceptance Testing (UAT) validation of the Portal Solution and assurance that it meets both functional and technical requirements

IX. Stress and Performance Testing: Load testing enabling understanding of performance and behavior of Portal Solution under large number of users and high-load conditions.

X. Selected bidder is required to describe their QA and testing approaches and procedures as well as testing tools for conducting various tests in support of the acceptance of the Portal Solution.

XI. Furthermore, Selected bidder to describe their documentation standards e.g. Documentation description, documentation identification, content, nomenclature etc. as well.

XII. Sample documents to be enclosed as part of the technical proposal.

6.10.12. Confidentiality

SI shall make necessary provision to obtain the user consent while capturing the sensitive/personal information of the user data.

6.11. Helpdesk Requirement

6.11.1. The SI has to provide central help desk support for the period of 5 Years from the date of Go-Live.

6.11.2. Central Helpdesk will be located at Chandigarh.

6.11.3. The helpdesk support shall be available during office working hours (9 AM to 6 PM) of Government of Punjab from Monday to Friday (excluding Govt. Gazette Holidays). However, Finance Department may ask System Integrator to extend helpdesk support service on any State holiday as well during any non-working hours (6 PM to 9 AM) with prior notice, if required as per any Departmental exigency.

6.11.4. System Integrator shall provide all the necessary space and infrastructure including physical environment of helpdesk, telephone lines for toll free operations, desktops, etc.

6.11.5. System Integrator shall set up centralized helpdesk at Chandigarh to log complaints of the users and Issue the log ticket number and communicate the corrective measure.

6.11.6. System Integrator shall provide Customer support interface with online, telephone and onsite support, and other deliverables as described below.

I. All problems/issues faced by officials need to be solved through helpdesk. Helpdesk should have facility for complain recording and monitoring.

II. This provision is in addition to the help desk support that bidder will provide at the time of application roll out.

6.11.7. (ITIL) Information Technology Infrastructure Library practices must be followed.

6.12. Implementation of the IVRS solution

6.12.1. Interactive voice response System (IVRS) should be scalable and provide ease of integration with the other components of HRMS solution.

6.12.2. IVRS shall interact with the callers in duplex mode through synthesized recorded voice in Punjabi/Hindi/English depending on region where the call is being made.

6.12.3. IVRS shall have a GUI based tool to develop call trees / applications, configure customer types, configure messages based on campaigns, caller group identification etc.

6.12.4. Caller may skip menu by pressing the necessary response. At any time during the call the caller may be transferred to the Helpdesk Agent by pressing a pre-defined number.

6.12.5. IVRS should be integrated with the HRMS Solution and stakeholder profiles of previous callers can be referenced through their contact number, Unique ID etc. based on caller input

6.12.6. IVRS should be able to retrieve HA availability from Automatic Call Distributor (ACD) and announce expected caller's queue waiting time and queue length

6.12.7. Provide automated responses outside of working hours

6.12.8. The detailing of Helpdesk/IVRS section shall be done by system integrator after discussion with Department of Finance during the Functional Requirement Phase.

6.12.9. Trouble ticket management system

This proposed software system is expected to facilitate the following:

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

I. email

II. Through intranet for departmental users or web-portal for external users

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

The flow of events at the call centre should be:

I. Event is triggered and forwarded to service desk.

II. Service desk submits and updates the trouble ticket.

Tasks expected:

I. Ticket mapping and allocation: According to the severity, the ticket should be given the priority level. Also it should map the ticket to the appropriate personnel for the resolution.

II. Updating the status: Update the status of ticket.

III. It should be able to log and escalate user interactions and requests.

IV. It should have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues.

V. Status of registered calls with interface for Call centre, using which call centre can inform the status to users over phone.

VI. Historical report indicating number of calls, time to resolve, status etc for a specified period of time.

6.13. Data Digitization and Migration of Legacy Data requirements

6.13.1. Data Digitization

I. Data entry of all the records of the employee from the date of start of service of each employee so as to get the maximum benefit of HRMS including overall year-wise overall assessment (ACR) of the Government Employees. Indicative no. of Employees, PSUs, Boards, Corporations, Improvement Trust, Aided Institutions etc. may be referred at Annexure.

II. System Integrator shall digitise all historical data lying at various department offices using data digitization module developed by System Integrator, as per the requirement specified in the RFP.

III. System Integrator shall formulate the Data Digitization Strategy which will also include internal quality assurance mechanism. This will be reviewed and signed–off by Finance Department prior to commencement of data digitization.

IV. System Integrator shall incorporate all comments and suggestions of Finance Department in the Data Digitization Strategy.

V. System Integrator shall ensure complete data cleaning and validation for all data digitized and loaded on to HRMS Application.

VI. System Integrator shall validate the data before uploading the same to the production environment.

VII. System Integrator shall generate appropriate control reports before and after data digitization to ensure accuracy and completeness of the data.

VIII. System Integrator shall conduct the acceptance testing and verify the completeness and accuracy of the data Digitized in data digitization module.

IX. Finance Department may verify the test results provided by bidder as per requirement.

X. Digitized data must be provided to department in 3 DVDs and 1 hard copy as well for backup.

XI. The Annexure D may be referred for indicative service record digitization.

6.13.2. Data Digitization Process to be followed

I. Date entry of service records and Scanning of average 25-30 pages per service book in data digitization module prepared by Bidder. Every year approximately 8-10 parameters are entered on the service record including 1-2 parameters from ACR. Therefore the older employees of Punjab government shall have more data

entry to be done. District/year wise list of employees of Punjab is attached with RFP. SI may refer Annexure for the same. Year wise transactions shall help the prospective bidder to estimate the average number of entries to be done per service record. The service record book and the ACR are two separate documents and data entry shall be done primarily from service record book but 1-2 parameters from ACR book.

II. Cropping, refinement of scanned image (If applicable). All the pages of the Service records need to be scanned.
III. Printout of scanned images
IV. Entry of record in English/Punjabi thru Bilingual software.
V. Print out of checklist – 1 for proof reading
VI. Proof reading &updation of corrections in database.
VII. Print out of checklist – 2 for final proof reading.
VIII. Proof reading &updation of corrections in database.
IX. Final print out for Random checking by the concerned office/ official.
X. Handover of final Hard & Soft copy of backup.

It needs to be ensured by the System Integrator that a robust Quality Check Mechanisms is built-in to ensure 100% accuracy of digitized data. Bidder needs to prepare Data Quality Metrics as a measurement tool to evaluate data quality. First the concerned DDO/Establishment Officer will authenticate the digitized data. Secondly, random checking and authentication will be done through the DCFAs of Internal Audit Offices at District Level and at State Level it will be done through Data Base Cell office.

6.13.3. Data Migration

Currently HRMS related data is also available in IFMS/IWDMS/ PGPMS applications already implemented in the state. The data is also available in physical form across the various offices of the State. All the relevant data available in these applications shall be migrated to HRMS before Go-Live. The detailing shall be done by the System Integrator during the functional requirement phase.

The System Integrator needs to do the following on data migration from the existing legacy systems and/or data stored but not limited to-

i. Mapping of the data
ii. Identifying the data gaps
iii. Providing templates for data collection
iv. Extraction and Loading of the data
v. Listing of errors during the data migration

vi. Correction of Data
vii. Final porting of the data into HRMS
viii. Data entry and scan service records
ix. Meta tagging of key words

Migrating the data from the other systems/manual operations to the new system will include collection and migration of user data, collection and migration of master data, closing or migration of open transactions, collection and migration of documentary information, and migration of data from the legacy systems.

The System Integrator shall perform the data migration from existing systems to the new system. The Data migration task shall be preceded by an appropriate data migration need assessment including data Quality Assessment.

The Data migration strategy and methodology shall be prepared by bidder and approved by Finance department. Though state is required to provide formal approval for the Data Migration Strategy, it is the ultimate responsibility of bidder to ensure that all the data sets which are required for operationalization of the agreed user requirements are migrated.

Any corrections identified by Finance department or any appointed agency, during Data Quality Assessment and Review, in the data migrated by System Integrator, shall be addressed by System Integrator at no additional cost to Finance Department. So far as the legacy data is concerned, it is mostly available as structured data in the IT systems.

6.13.4. Data Migration Requirements

I. Since there could be structural differences in the data as stored currently from the new system there should be a mapping done between the source and target data models that should be approved by Finance Department.

II. Carry out the migration of legacy electronic data

III. Provide checklists from the migrated data to Finance Department for verification, including number of records, validations (where possible), other controls / hash totals. Highlight errors, abnormalities and deviations.

IV. Incorporate corrections for the errors discovered during verification process, as proposed

V. Get final sign off from department for migrated data.

VI. At the end of migration, all the data for old cases must be available in the new system.

6.13.5. Scope of Data Migration and Data digitization

The approximate volume of data to be digitized is provided in the RFP. However the actual volume of data could vary on either side (higher or lower) and thus System Integrator shall be paid on actual basis for the same.

6.13.6. Recommended Methodology of Data Migration

Data migration methodology will comprise the following steps, explained as below. However this is just a guideline for data migration effort and the System Integrator will be required to devise his own detailed methodology and get it approved by Finance Department.

i. Analysis

Analysis of the legacy data and its creation, conversion, migration and transfer to the proposed new data base schema will start immediately after signing of the contract and shall be completed before the Go-Live of respective service. It will cover the following steps:

a. Analyze the existing formats of data in lieu of the new proposed system.
b. Write a specification to create, transfer and migrate the data set
c. Document all exceptions, complex scenarios of the data
d. This phase will generate the specification for Data Take–On routines

ii. Transformation:
a. Transformation phase will entail the following steps:
a. Identify the fields, columns to be added/ deleted from the existing system
b. Identify the default values to be populated for all 'not null' columns
c. Develop routines to create (Entry if any by data entry operators), migrate, computer records to the new database
d. Develop test programs to check the migrated data from old database to the new database
e. Test the migration programs using the snapshot of the production data
f. Tune the migration programs & iterate the Test cycle
g. Validate migrated data using the application by running all the test cases
h. Test the success of the data take-on by doing system test

iii. Data Take–on
b. Take–On phase will entail the following steps:

a. Schedule data transfer of the computerized data that has been newly created by the data entry operators.

b. Schedule data transfer of the existing digital data in the proposed new format

c. Migrate the data from an old system (legacy) to the envisaged database

d. Test on the staging servers after the data take-on with testing routines

e. Migrate from staging servers to production servers

6.13.7. Additional Guidelines

6.13.8. Data Migration

I. System Integrator shall migrate/convert/digitize the data at the implementation sites of State.

II. System Integrator shall formulate the "Data Migration Strategy document" which will also include internal quality assurance mechanism. This will be reviewed and signed–off by Finance Department prior to commencement of data migration.

III. System Integrator shall incorporate all comments and suggestions of State/ Finance Department in the Data Migration Strategy and process documents before obtaining sign–off from Finance Department.

IV. System Integrator shall perform mock data migration tests to validate the conversion programs.

V. System Integrator shall ensure complete data cleaning and validation for all data migrated from the legacy systems to the new application.

VI. System Integrator shall validate the data before uploading the same to the production environment.

VII. System Integrator shall generate appropriate control reports before and after migration to ensure accuracy and completeness of the data.

VIII. System Integrator shall convey to Finance Department in advance all the mandatory data fields required for functioning of the proposed solution and which are not available in the legacy systems and are required to be obtained by State.

IX. In the event Finance Department is unable to obtain all the mandatory fields as conveyed by bidder, bidder shall suggest the most suitable workaround to Finance Department. System Integrator shall document the suggested workaround and sign-off will be obtained from Finance Department for the suggested workaround.

X. System Integrator shall develop data entry programs / applications that may be required for the purpose of data migration in order to capture data available with / obtained by Finance Department in non – electronic format.

XI. System Integrator shall conduct the acceptance testing and verify the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.

XII. Finance Department may, at its will, verify the test results provided by System Integrator.

6.13.9. Data Digitization

I. System Integrator needs to deploy a transliteration tool for conversion of records entered in Punjab to English vice-a-versa.

II. The System Integrator shall be required to maintain a backup of the data digitized. An electronic copy of the data so digitized shall be handed over to Finance Department.

III. System Integrator needs to ensure integrity of the data with the HRMS application so that digitized/ migrated data is actively used for service request processing and delivery besides being used for database verification.

IV. System Integrator needs to use autocorrecting software and similar logics, so as to facilitate correct data entry.

V. The manner in which records shall be handed over to the System Integrator and taken back shall be finalized in discussion with the concerned department. During the custody of the records, bidder shall be completely responsible for the safety and security of the records. And no alteration in the records shall be made by any resource person of the bidder. In case, any such act is done appropriate legal action may be initiated against the bidder.

VI. System Integrator needs to deploy adequate number of data entry operator and IT infrastructure for completing the data entry assigned to them with in timeline.

VII. Quality Check-The System Integrator should ensure at-least 98% data accuracy.

VIII. Random checking will be conducted by the officer/agency appointed by the concerned department.

IX. Location of work shall be at a central place in the District and State. Bidder has to arrange all necessary facilities not limited to Space, electricity, power back up, water, cleaner, computers & other hardware at his own. Department of finance shall ensure that old records of various field offices of the districts/various offices/departments of state are timely available to the system integrator.

6.13.10. Loss of data

    I.   System Integrator should take good care of all Government records and will be responsible for security of the record from time of receipt to time of delivery.

    ii.   Penalty for per record will be charged against the loss or damage of record.

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

6.13.11. Sign off Deliverables / Exit Criteria

    I.   Data Digitization Strategy Document

    II.   Data Migration Strategy & Methodology Document.

    III.   Approval by Finance Department on successful digitization of data

6.14.　　Change Management and Training

6.14.1. The System Integrator shall provide a change management plan to Finance Department and respective stakeholders of the project which addresses the various aspects of capacity building and training. The System Integrator shall impart training to Departmental staff and other key stakeholders on the usage of the HRMS. Concerned Departments along with the System Integrator shall identify key resources to impart skill based training to allow the "Train-the-Trainer" programme.

6.14.2. The System Integrator shall propose different training modules for different user profiles at appropriate timelines.

6.14.3. Other than the Departmental Trainings, the bidder is expected to conduct Periodic trainings at the State Designated location for various levels of User Groups. The bidder shall provide such additional training as the Finance Department may deem necessary in order to ensure that the training imparted is comprehensive and complete.

6.14.4. The System Integrator must also prepare Training Modules/content/FAQs to enable the users for self-learning and build a Knowledge Base Repository for the HRMS project which is accessible to all the employees listed in the HRMS Project.

6.14.5. System Integrator would also be required to develop user manuals and computer based tool kits, PPTs and videos to promote self-learning and assist training participants in undergoing the training.

6.14.6. System Integrator should also ensure that there is an ability to capture feedback of training programs conducted to gauge the effectiveness of instruction and make improvements

6.14.7. The System Integrator must provide a training plan for the SDC/Finance Department personnel for the hardware and third party software being installed in the SDC.

6.15. Training Requirements

System Integrator shall also undertake change management interventions as necessary to achieve project objectives. In addition to this bidder shall be carrying out at-least following activities:

6.15.1. Shall train the officials to enable them to effectively operate the system

6.15.2. Training shall also be provided for teaching the basic trouble shooting activities (hardware and software related) in case of problems.

6.15.3. For all the listed training programs, the System Integrator has to provide necessary course material, user manuals, system admin, manuals etc. to the trainees.

6.15.4. The course material shall be in both English and Punjabi.

6.15.5. The course material shall be first approved by Finance Department and then only be handed over to the trainees.

6.15.6. System Integrator has to establish its own infrastructure (including Physical location, Projector, Computers for user training, Stationary, Printer, Scanner, Consumable, UPS etc.) at-least at State and District levels to conduct the trainings.

6.15.7. The trainers shall be proficient in Punjabi language so as to impart training to the officials.

6.15.8. The System Integrator should consider all the costs related to training like manuals, travelling cost of the trainer etc. while proposing the manpower cost for training.

6.15.9. At the end of the training, the System Integrator shall take a feedback from all the officials to whom the training has been provided, shall conduct a written/ online test for the training so imparted to the functionaries and share the results with the Finance Department. All the passing participants shall be provided with a participation certification and candidates not passing the test shall be required to provide training again with no additional cost to Finance Department.

6.15.10. The System Integrator shall maintain daily based attendance registers for the trainees and shall submit a copy to the DCFA, Internal Audit Offices (IAO) of the districts and Finance Department at the completion of each batch.

6.15.11. System Integrator shall provide training as per its proposed training plan and any deviation shall be reported to and approved by Finance Department.

6.15.12. The indicative number of officials to whom the training is to be provided, is given in the *Annexure*, however the payment shall be made only as per actual.

6.15.13. Training will be provided by the System Integrator to the Departments officials for a batch of minimum 10 and maximum 25 people to be identified by the System Integrator in consultation with the State/District Nodal Officer.

6.15.14. Minimum 12-15 hours training to be provided which includes Basic Computer and Application Training.

6.15.15. To provide post training support for 6 months after successful completion of training

6.15.16. A detailed training plan is to be provided by System Integrator. The training plan should carry necessary details like detailed training schedule, including the dates, areas to be covered, time and the training literature (to be supplied to the Department) at various stages of the cycle and feedback for effectiveness etc. the plan shall be reviewed by Finance Department and after incorporating the comments/ suggestions, System Integrator shall be required to implement the same.

6.15.17. Sign off Deliverables / Exit Criteria
  I.   Capacity Building Plan
  II. Change Management Plan
  III. Training Plan
  IV. Completion of training and change management activities

6.16.   Information Security Management

Security Requirements
Overall Solution
I. The proposed solution should include design and implementation of a comprehensive IS security policy in line with ISO 27001 standards to comply with the security requirements mentioned in this section. All the necessary procedures / infrastructure / technology required to ensure compliance with IS security policy should be established by the selected Bidder and should be approved by the finance department before they are implemented. The IS Policy shall include all aspects such as physical and environmental security, human resources security, backup and recovery, access control, incident management, business continuity

	management etc.
III.	The proposed solution should ensure proper logical access security of all the information Assets
IV.	The proposed solution should be able to classify information assets according to criticality of the information asset.
V.	The proposed solution should provide security including identification, authentication, authorization, access control, administration and audit and support for industry standard protocols
VI.	The proposed solution should have a security architecture which adheres to the security standards and guidelines such as • ISO 27001 • Information security standards framework and guidelines standards under eGovernance standards (http://egovstandards.gov.in) • Information security guidelines as published by Data Security Council of India (DSCI) • Guidelines for Web Server Security, Security IIS 6.00 Web-Server, Auditing and Logging as recommended by CERT-In (www.cert-in.org.in) • System shall comply with IT Act 2000 and IT Act Amendment 2008.
VII.	The proposed solution should support the below Integration security standards: • Authentication • Authorization • Encryption • Secure Conversation

	• Non-repudiation • XML Firewalls • Security standards support • WS-Security 1.0 • WS-Trust 1.2 • WS-Secure Conversations 1.2 • WS-Basic Security Profile
VIII.	The proposed solution should be a multi-layered detailed security system covering the overall solution needs having the following features: • Layers of firewall • Network IPS • Enterprise-wide Antivirus solution • Information and incident management solution for complete Finance department landscape • Two factor authentication for all administrators i.e. system administrators, network administrators, database administrators. • Audit Log Analysis • Selected Bidder must ensure that the security solution provided must integrate with the overall system architecture proposed
IX.	The proposed solution should be monitored by periodic information security audits / assessments performed by or on behalf of the Finance department. The scope of these audits / assessments may include, but are not limited to, a review of: access and authorization procedures, physical security controls, backup and recovery procedures, and program change controls. To the extent that the Finance Department deems it necessary to carry out a program of inspection and audit / assessment to safeguard against threats and hazards to the confidentiality, integrity, and availability of data, the Selected Bidder shall provide the Finance Department representatives access to its facilities, installations, technical resources, operations, documentation, records, databases and personnel.

6.16.1. Other Broad Security requirements

I. Security features should be compliant with IT Act 2000 and IT Act Amendment 2008, Indian Cyber Act 2000, amended Act 2011 and other e-Governance standards prescribed by Ministry of Information Technology, Government of India. All systems should have integrated security features that are configurable by the system administrator to control access to the application, functional modules, transactions, and data. Public key verification methods should be followed for verifying that the contents of a document have not been tampered with, and allowing the receiver to confirm the identity of the sender. The applications should require the use of unique user IDs and passwords for authentication purposes and digital signatures as applicable.

II. The application should allow for the following:
   a. The enforcement of password standards
   b. The establishment of a specified period for password expiration, and
   c. The prohibition of recent password reuse

III. System administrator should be able to define functional access rights and data access rights by assigned user ID, functional role, and owner organization.

IV. The systems should permit the system administrator to assign multiple levels of approval to a single user.

V. System administrator should be able to restrict access to sensitive data elements by named user, groups of users, or functional role.

VI. System should be auditable as per requirements from time to time.

VII. System should have audit logging capability to record access activity, including the following:
   a. All log-in/log-out attempts by user and workstation;
   b. User-submitted transactions;
   c. Initiated processes;
   d. System overrides events; and direct additions, changes, or deletions to application-maintained data

VIII. System should provide the ability to query the audit log by type of access, date and time stamp range, user ID, or terminal ID.

IX. All the information assets (information and information systems) should be classified and security should be defined according to criticality of the information asset. No information should be made public either directly or indirectly nor allowed to be accessed by an unauthorized person.

X. System should have security incident management procedures. This incident management procedure has to use Technical Support

facilities and should be reported in the incident management System.

XI. System should be capable of sending out email and/or sms alerts to the System Administrator and the concerned employee whenever sensitive data related to the employee is being modified as defined by the Department.

XII. The audit logs and critical data should be appropriately protected to avoid tampering even by a user with full admin access. Some method of time-stamping /digital signing /or logging to a secondary system, should be utilized to dissuade tampering by the system administrator

XIII. System should be capable to handle forgot password and send link to email or SMS one time password and provision to change the password online.

6.17. Business Continuity Planning

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

I. Designing and implementing adequate data backup, business continuity and restoration procedures for the HRMS data (including but not limited to the database, attachments and all other data elements created in and generated by the system and users).

II. Ensuring that there is no single point of failure (At the database, application & components provided at Data centre) and adequate level of redundancy is built in to meet the uptime and other requirements of this RFP. Preferably, all the redundancy will be in auto fail over mode so that if primary component fails, secondary component automatically takes over.

III. Ensuring data backup till the last transaction occurring in the system to ensure enhanced service levels and following RPO and RTO objectives:
   a. **Peak hours: Zero RPO and Zero RTO**
   b. **Non-Peak Hours: Zero RPO and RTO <= 60 minutes**

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

V. SI shall be required to provide the backup server at a location, to be decided and provided by Finance Department (within Chandigarh). The space & connectivity shall be provided by Finance Department. The purpose is to ensure real-time backup of HRMS data and SI

shall be required to designing and implement data synchronization procedures for the backup server. Periodic testing may be done to ensure that all replication and data synchronization procedures are in place all the time. Replication between Data Centre and backup server as well as change-over during disaster should be automatic and real-time for minimal impact on user experience.

7.0 Scope of Work-II (SOW-II) -Site Preparation, Hardware requirement (Data Centre& Field Hardware)

7.1. Site Preparation

Currently there are 12 District level offices and 1 State level office where site preparation and Hardware shall be required. Site preparation at State level office(s) and Internal Audit Offices(s) will include:

7.1.1. A local office point of presence (LPOP) in each office for connectivity equipment's to PAWAN/proposed SDC and Local Area Network (LAN) connectivity equipment's. SI shall supply and install below in LPOP.

   i.   Network Rack
   ii.   LAN Switches, patch panels.
   iii. Online UPS with 1 hour backup

7.1.2. Concealed Electrical fittings and LAN cabling to computer location.

7.1.3. Power backup for the Network, Computer preferably with centralized UPS.

7.1.4. Earthing wherever required

7.1.5. Furniture & Fixtures

7.2. Additional Guidelines

7.2.1. SI shall use structures cabling as per IEEE 802 standards Local Area Network at various field offices as well as the Data centre. The details of number of offices for site preparation will be provided by the Finance Department.

7.2.2. Maintenance of the computing and connectivity infrastructure for 5 years and training support to be imparted to the end user.

7.2.3. LAN cabling shall include any kind of Active/passive components. Ensure adequate number of LAN ports so as to ensure flexibility of operations by the officials.

7.2.4. To setup the LAN in case of a shift of office from one location.

7.2.5. All the active components shall be IPv6 compliant.

7.2.6. SI shall conduct survey of each location of the work area. A comprehensive survey report shall be submitted for approval of Finance Department covering following but not limited to areas:

I. List of existing infrastructure (Desktops, Laptops, Printers, Scanners, UPS, Switches, Routers, and Racks) along with specifications and status to be prepared floor wise and room wise.
II. Local Area Network drawings of existing infrastructure.
III. Infrastructure GAP analysis.

After approval of Survey Report, SI shall submit detailed system design document for approval of Finance Department which shall include but not Limited to:-

I. Proposed network design document showing the location LPOP
II. Floor wise proposed network layout diagrams for Local Area Network.
III. Local Area Network design shall provision to connect network printers, IP phones.
IV. Provisioning of Raw power points for printers.
V. Detailed report on existing infrastructure to be used.
VI. Proposed procedures & standards for network layout, device configuration and logical network segregation to maintain network throughput.

7.2.7. Below are the points required to be considered while implementing Local Area Network:

I. LAN segments shall be implemented using gigabit CAT 6 UTP cables for distances less than 100 mts.
II. Enclosed rack for each LPOP's.
III. Enclosure and power backup for active components which are installed on location other than LPOP.
IV. Proper tagging of network cables/nodes from LPOP to Information outlet.
V. Powering on equipment after ensuring correctness of terminations interfaces and power supply and making the system ready for testing and commissioning.
VI. Testing of LAN Cables after laying, terminations and ferruling at both the ends. All testing tools and instruments shall be brought by the bidder and taken back after the testing. Cabling work shall also be got certified from OEM.
VII. Configuration of the equipment as per the requirements, including Network segmentation and Network Monitoring.

VIII. Site acceptance tests to establish satisfactory performance of the equipment's as per specs.

7.2.8. Testing Local Area Network: SI shall offer the site to Finance Department for Final Acceptance Test after completing implementation work. SI shall also submit plan to test & certify network nodes on below tests:-
  I. Continuity of wire map
  II. Length
  III. Attenuation
  IV. Near-end cross talk (NEXT)
  V. SI shall also submit test results. Further, SI shall benchmark network throughput. Finance Department shall issue a Final Acceptance Test (FAT) certificate after conducting the required inspection & testing.

The detailing shall be done by the System Integrator during the functional requirement phase.

7.3. Supply / Procurement of IT Infrastructure at Data Centre

The State Data Centre (SDC) to be established by Department of Governance Reforms as per of core infrastructure under National e-Governance Plan (NeGP) shall be leveraged for hosting applications and databases of HRMS project. However at present SDC project is under selection of SI phase and after that implementation of SDC would take place. It may take another 11-12 months to complete the SDC, till then, servers of HRMS project can be temporarily hosted at location provided by Finance Department or by the Department of Governance Reforms. Exact location of Date Centre would be provided to System Integrator (SI) at the time of implementation. After the completion of new SDC, all the servers and equipment's of HRMS project shall be moved to new SDC and all the expenses related to shifting will be borne by SI.

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

7.3.2. Bids / proposals which do not meet the minimum IT infrastructure specifications given in this RFP will be summarily rejected. The minimum technical specifications for the IT Infrastructure are provided in RFP.

7.3.3. The Bidder will be responsible for sizing the hardware to support the scalability and performance requirements of the HRMS application. The Bidder shall ensure that the servers are sized adequately and redundancy is built into the architecture required to meet the service levels mentioned in the RFP. The hardware requirement shall be finalized after proper

justification on the complete sizing of the solution including Hardware, Software, Operating System and Servers. The bidder shall provide detail configuration of all the hardware with justification. Certificate in this regard from OEM is required.

   i.   OEM letter confirming to hardware specification

   ii.   OEM certification for number of licenses required for each software proposed for the proposed solution.

   iii.   OEM letter confirming that none of the IT Infrastructure proposed is declared "End-of-Sale" by the respective OEM in next 2 years as on date of submission of Bid.

7.3.4. The IT Infrastructure proposed should be purchased within last 2 months from the date of deployment and documentary proof for warranty and proof of purchase should be produced at the time of deployment of infrastructure.

7.3.5. The Bidder should provide requisite licenses for all the system software required as part of offered solution including, but not limited to server operating system, database software, application server software, web server software and all other required software with sufficient number of licenses. OEM shall provide letter for the no of licenses required for the proposed hardware configuration. The database software licenses shall be of highest available software edition.

7.3.6. The Bidder will be responsible for providing all the details of the Bill of Material (BoM) and specifications of the IT Infrastructure proposed, licenses of the system software, all other equipment proposed as part of its Technical Proposal. The financial quote submitted by the Bidder should include costs for these.

7.3.7. Bidder shall be responsible for site preparation including installation of racks & other hardware, networking, electrical cabling from UPS panel etc. for the successful installation & commissioning of the hardware.

7.3.8. For carrying out the sizing of the SDC infrastructure the SI may take into consideration the following factors:-

Sr. No.	Parameter	Indicative Load
I.	Total Number of Users update the record in HRMS	4 Lakhs
II.	Number of Intranet Users (Departments)	7000
III.	Concurrent End user	Should support 50,000

		Concurrent end user.
IV.	Peak load months	Last week and first week of every month
V.	Portal response time	Static pages: 3-5 seconds
		Dynamic pages: < 7 seconds
		Business applications: < 10 seconds

7.3.9. In future, approximately 4 lakhs more employees including Pensioners, PSU/Corporation employees shall also access HRMS application. The same should be taken into account while sizing the data centerhardware.SI shall be required to give a successful load testing report for at-least 50000 concurrent users. However this number shall not be taken as reference by the System Integrator with regard to maximum number of concurrent users. During actual operation the actual number of concurrent users could be higher than this.

7.3.10. SI shall, every 6 months carry out load testing through tools like Load Runner, Rational Robot, and Performance tools etc. to ensure compliance to the sizing criterion, quoted in the tender.

7.3.11. Portal will be audited by a Government certified Agency at the stage of acceptance testing stage and periodically thereafter, at least once a year, to ensure that the security systems are intact and that the security policies are strictly being enforced.

7.4. Hardware Supply, installation and configuration at field offices

7.4.1. Design, Supply, Installation, Commissioning, Operations & Maintenance of IT Infrastructure. This shall consist of

  i. Supply / Procurement of IT Infrastructure at Department Offices (State, Internal Audit offices located at district level)

  ii. Installation and Commissioning of the IT Infrastructure.

The Bidders are required to carefully assess the requirements of this RFP and propose the IT Infrastructure required at Department Offices. The hardware and peripherals need to be installed as mentioned in the RFP

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

7.4.2. Bids / proposals which do not meet the minimum IT infrastructure specifications given in this RFP will be summarily rejected. The minimum technical specifications for the IT Infrastructure are provided in RFP and note that these are the minimum requirements only.

7.4.3. None of the IT Infrastructure proposed is declared "End-of-Sale" by the respective OEM in next 2 years as on date of submission of Bid.

7.4.4. The IT Infrastructure proposed should be purchased within last 2 months from the date of deployment and documentary proof for warranty and proof of purchase should be produced at the time of deployment of infrastructure.

7.4.5. The Bidder will be responsible for providing all the details of the Bill of Material (BoM) and specifications of the IT Infrastructure proposed, licenses of the system software, all other equipment proposed as part of its Technical Proposal. The financial quote submitted by the Bidder should include costs for these.

7.4.6. Bidder shall be responsible for new and additional procurement as well as renewal of digital signatures during the duration of contract. In case of transfer of any official during the implementation as well as the O & M period it shall be the responsibility of the SI to supply the Digital signature to the new official.

7.4.7. Digital Signature shall be Type-III as per information Technology Act-2000 and from the Government of India approved CCAs only.

7.4.8. The SI shall be required to maintain a suitable inventory at State/district level, of all the items/digital signature supplied so as to meet the SLAs provisioned in the bid. The SI shall submit a monthly report regarding inventory status to Finance Department.

7.5. Installation and Commissioning of IT Infrastructure

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

7.5.1. All IT Infrastructure including operating systems and any other system software required for making the infrastructure operational and tuned for satisfactory performance.

7.5.2. The IT Infrastructure will be installed and configured in accordance with the IT Policies of the Government of India/ State of Punjab.

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

7.6. Licenses

7.6.1. The software licenses mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) shall be in the name of Finance Department.

7.6.2. The SI shall provide with a full use database license. All the licenses and support (updates, patches, bug fixes, etc.) shall be in the name of Finance Department. SI shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance by Finance Department. The warranty should cover all materials, licenses, services, and support for both hardware and software. SI shall administer warranties with serial number and warranty period. SI shall transfer all the warranties to the Finance Department at no additional charge at the time of termination of the project. All warranty documentation (no expiry) will be delivered to Department.

8.0 Payment Terms

8.1. Payment Conditions

8.1.1. Payment for services shall be payable only after getting due as the Timeline & Payment Schedule.

8.1.2. Payment for any additional item during the contract period shall be calculated on the basis of total remaining quarters of the contract from the date of such addition.

8.1.3. System Integrator will submit the invoice along with supporting documents/proofs.

8.1.4. Finance Department will release the payment within 60 days of submission of Invoice, subject to necessary approval of invoice by the Finance Department & only after proper verification of the invoice and all supporting documents.

8.1.5. Finance Department may ask System Integrator to provide the supporting documents required to verify the invoice.

8.1.6. Payment shall be made through account payee cheques only after statutory deductions and penalties as applicable.

8.1.7. Payment will be released after submission of all requisite reports as asked by Finance Department and Invoice after completion of every quarter.

8.1.8. Any failure to perform the services as stipulated in the contract will attract non-Performance charges as mentioned above and such non-performance charges for the quarter will be deducted from the bill amount before making payment for the next quarter.

9.0   Penalty, Deliverables & SLAs

All below penalties shall be levied on the System Integrator for any failure happened on System Integrator part in any of the agreed Timelines/ SLAs/ Terms & Condition. However, in any case, the total penalty value shall not be greater than 20% of the total contract value."

9.1.   Manpower

Following penalties pertaining to manpower deployment shall be applicable to only on Project Manager, Database administrator, System Administrator, Associate Project Manager

Sr. No.	Parameter	SLA	Penalty
1.	Attendance (i.e. absenteeism of resource without any replacement)	Attendance less than 90%	Penalty will be applicable as per resource category man month rate provided in the commercial bid on pro-rata basis for the entire period of absence.
2.	Shortfall of attendance of compulsory resources	If a resource is absent for more than 8 days per quarter or 5 consecutive working days without any reasonable cause, the resource will have to be replaced, if required by the Finance Department.	INR 25,000per replacement penalty for each absentee related replacement during the term of the project in addition to penalties for replacement of resources as applicable under Sr. No. 3
3.	Substitution of resources from those whose CVs Provided during the technical evaluation	No substitution of those resources will be allowed (except in case of death, medical incapacity,) whose CVs have been provided along with the technical bid	A Penalty of INR 50,000 per substitution of those resources who's CVs have been provided along with the technical bid will be applicable. However, in case the issuance of LOI is delayed more than 120working days after last date of Bid Submission, Bidders will be

Sr. No.	Parameter	SLA	Penalty
			allowed to substitute there sources at the time of contract signing with resources possessing equivalent or higher Qualification and experience without imposing any penalty". However, in any case, bidder shall submit the detailed justification for any such substitution

9.1.1. Any replaced / substituted resources must qualify the RFP criteria and shall be approved/ evaluated by the Finance Department. The required documents for evaluation must be provided to the Finance Department as per standard format of technical bid. Finance Department may ask for extra documentation for support wherever required.

9.1.2. In case of any allowed leave, SI shall provide the alternate resource with the same qualification to maintain the continuity of the project. However if resource is on allowed leave for more than 5 days, alternate resource shall be provided with the prior approval of Finance Department.

9.1.3. In any circumstances, position of System Administrator & Database Administrators shall not be left vacant even for single day.

9.1.4. The minimum manpower shall be deployed as per below schedule:

Sr. No.	Manpower	No. of Personnel	Deployment Period	Remarks
1.	Project Manager	1	From Signing of Contract to Go-live of the Project	After Go-live of project, system integrator shall designate either Database administrator or System administrator
2.	Database Administrator	1	Total Contract Period	
3.	System Administrator	1	Total Contract Period	
4.	Associate Project Manager	5	From Signing of Contract to Go-live of the Project	

5.	Field staff	22	From Signing of Contract to Go-Live of Project + Five months from date of Go-Live of project	as Single Point of Contact (SPOC).

9.1.5. In case of delay in any timeline due to system integrator default, no additional payment shall be made to SI on account of manpower e.g. if project go-live is delayed due to SI default, project manager will be required to deployed in the project till go-live with no additional costs.

9.1.6. The System Integrator will ensure that the time lines will be adhered to. If there are any perceived slippages on the timelines, System Integrator would deploy additional manpower, free of any additional charges.

9.1.7. In case of absence (apart from allowed leaves) of a resource during contract period, no payment will be made for the days a resource is absent (per day payment will be calculated by dividing man-month rate by number of working days in that month). In addition a penalty as per above table will be levied on such absence.

9.1.8. All the resources shall be allowed 18 days leave per year on pro rata basis. However, prior intimation to the Finance Department is required before availing any leave.

9.1.9. Bidder shall be responsible for the discipline and conduct of the staff deployed. The staff deployed by the Bidder shall be the responsibility of the Bidder at all times and it is expressly understood that such staff shall be the employees of the Bidder at all times.

9.1.10. The Manpower deployed by SI will report to the Nodal officer appointed by the Finance Department at State and district level on daily basis. This deployed manpower shall mark their attendance in the register maintained by the Finance Department at the respective location.

9.1.11. Working Hours, Overtime, Leave

9.1.12. The Personnel shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave except as specified in the Agreement, and the Manpower remuneration shall be deemed to cover these items. Any taking of leave by any Personnel for a period exceeding 3 days shall be subject to the prior approval of the Finance Department,

9.2. Reporting Mechanism

System Integrator shall provide the Project Progress Reports as per matrix, format, type, frequency decided by the Finance Department from time to time.

9.3. Helpdesk

SI shall be responsible to record the time taken in answering a call on toll-free number maintained by SI to provide helpdesk services during O&M phase. 95 % of all calls should be answered within 60 seconds. Any drop in answering the calls below 95% shall be levied a penalty of INR 10,000 for every 1% drop. The SI shall be responsible to maintain complete log record in support of SLA verification.

9.4. Data Digitation

SI shall complete the data digitization in maximum three iterations. In the event the SI is unable to digitize the given data in three iterations, the finance department shall get the same done from the third party on the risk and cost of system integrator. However, due government procurement procedures shall be followed the get the same done from the third party.

9.5. Other Operational Penalties

Infrastructure Management Parameters			
Sr. No.	**Activity**	**SLA**	**Parameters**
1.	Uptime for LAN Components	99%	Call Log Register / Switch Log
2.	Uptime for Application Servers	99%	Server Log/Automated reports
3.	Uptime for Database Servers	99%	Server Log/Automated reports
4.	Uptime for Web servers	99%	Server Log/Automated reports
5.	Availability of all modules of the application software to office staff in office working hours	99%	Server Log/Automated reports
6.	Availability of Computing hardware inclusive but not exclusive of Computers, Printers, Scanners, UPS, etc.	97%	Call log register /Email Facility

Sr. No.	Parameter	Availability during working hours	Penalty % of respective Quarterly payment
1.	All categories of servers, Desktops, UPS	Within SLA	Nil
		Less by 1% of SLA	0.5%
2.		>1% but < 2% of SLA	1%
		>2% but <5% of SLA	2%
		>5% but <20% of SLA	2.5%
		>20% of SLA	No Payment
3.	Local Area Network	Within SLA	Nil
		Less by 1% of SLA	0.5%
		>1% but < 2% of SLA	1%
		>2% but <5% of SLA	2 %
		>5% but <20% of SLA	2.5%
		>20% of SLA	No Payment
4.	HRMS Application	Within SLA	Nil
		Less by 1% of SLA	0.5%
		>1% but < 2% of SLA	1%
		>2% but <5% of SLA	2 %
		>5%	2.5%

Note:

HRMS project may require changes post implementation and the SI has to carry out all the "Minor Changes" as and when the application so desires. Any changes within the available functionalities of any of the application modules will be considered as "Minor Changes". All changes which require a new addition of a completely new functionality which is not present in any of the module will be treated as the "Major Change" and this will be taken separately.

It should be noted that Finance Department will have the complete right to decide on the category of the changes- "Major-Changes" and "Minor-Changes"

The system integrator shall provide SLA monitoring tool to measure the SLA's mentioned in the RFP.

9.6. Timelines & Payment Schedule

Sr. No.	Deliverables	Activities	Timelines (In Months)	Payment Due (%age of contract value)	Basis of Approval
	Signing of Contract		*T*	*Nil*	*NA*
1.	**Setting Up of Servers in Data Centre & Data Recovery Centre**	Procurement of the Hardware, Software, License, Networking & Other equipment's	*T+1*	5%	*Approval of Project Review Committee*
		Installation and Testing of Equipment's			
2.	**Site Preparation (Internal Audit offices and State Level Office)**	Establishment of LAN cabling, Connectivity and electrical wiring	*T+2*	5%	*Approval of Project Review Committee*
		Supply and Installation of required Hardware			
		Supply of Furniture			
3.	**Development of Application**	FRS,SRS, SDD preparation	*T+2*	*5%*	*Approval of Project Review Committee*
		Approval from Department and Incorporation of Change by SI in case of suggestions			
		Customization, Configuration and Development of Application development including data entry module			

		Testing of application			
4.	**Helpdesk Establishment**	Establishment of Helpdesk at State level for Providing Support to DDOs & Department users	*T+3*	*5%*	*Approval of Project Review Committee*
5.	"**Go-Live" of HRMS solution in 10 Departments covering all the Permanent/Contractual employees (Phase – I)**	Data Digitization & Migration (All Service Book/ACR)	*T+3*	*5%*	*Approval of Project Review Committee*
		Creating awareness and Sensitization (Through seminars, meetings, workshops)			
		Training of Master Trainers for HRMS Application			
		Training of application Software to all DDO's			
		System administration and Maintenance Training			
		Any other Activity required for the Go-live of services			
		User acceptance Testing			
		Go-Live of HRMS solution at first 10 department			
6.	"**Go-Live" of HRMS solution in 10 Departments covering all the Permanent/Contractual employees (Phase – II)**	Data Digitization & Migration (All Service Book/ACR)	*T+4*	*5%*	*Approval of Project Review Committee*
		Creating awareness and Sensitization (Through seminars, meetings, workshops)			
		Training of Master Trainers for HRMS Application			

		Training of application Software to all DDO's			
		System administration and Maintenance Training			
		Any other Activity required for the Go-live of services			
		User acceptance Testing			
		Go-Live of HRMS solution at first 10 department			
7.	"**Go-Live" of HRMS solution in 10 Departments covering all the Permanent/Contractual employees (Phase – III)**	Data Digitization & Migration (All Service Book/ACR) Creating awareness and Sensitization (Through seminars, meetings, workshops) Training of Master Trainers for HRMS Application Training of application Software to all DDO's System administration and Maintenance Training	*T+5*	*5%*	*Approval of Project Review Committee*
		Any other Activity required for the Go-live of services			
		User acceptance Testing			
		Go-Live of HRMS solution at first 10 department			
8.	"**Go-Live" of HRMS solution in 10 Departments covering all the Permanent/Contractual employees**	Data Digitization & Migration (All Service Book/ACR) Creating awareness and Sensitization (Through seminars, meetings, workshops)	*T+6*	*5%*	*Approval of Project Review Committee*

	(Phase – IV)	Training of Master Trainers for HRMS Application			
		Training of application Software to all DDO's			
		System administration and Maintenance Training			
		Any other Activity required for the Go-live of services			
		User acceptance Testing			
		Go-Live of HRMS solution at first 10 department			
9.	**"Go-Live" of HRMS solution in 10 Departments covering all the Permanent/Contractual employees (Phase – V)**	Data Digitization & Migration (All Service Book/ACR)			*Approval of Project Review Committee*
		Creating awareness and Sensitization (Through seminars, meetings, workshops)			
		Training of Master Trainers for HRMS Application			
		Training of application Software to all DDO's	*T+7*	*5%*	
		System administration and Maintenance Training			
		Any other Activity required for the Go-live of services			
		User acceptance Testing			
		Go-Live of HRMS solution at first 10 department			
10.	**STQC Certification**	Third Party Audit of Application	*T+8*	*10%*	Copy of STQC certification

11.	**O&M Support after Implementation after Go Live**	Operations and Maintenance support	Five years from Go-Live	40% To be paid In-Arrears in 20 Quarters @ 2% per Quarter	Successful compliance of SLA as defined in RFP.
		Warranty and AMC services			
		Fixing of issues / defects incidental to use the solution			
		All Technical and Backup Support			
12.	**Successful Exit Management**	Compliance of Exit Management	After successful completion of O & M Phase	5 %	Successful compliance of Exit Management. Subject to approval of Committee.

9.6.1. The **"Application development cost (Blended person Cost)"** shall not be considered in the Total Contract Value for the purpose of making milestone based payments.

9.6.2. **Definition of Go-Live:** Go-Live of the HRMS solution includes successful Readiness for all the offices, i.e. Completion of all activities like Placement of all the Manpower, Site preparation, Networking, Commissioning of all Hardware, Training, Data Digitization and "Successful running the application modules".

9.6.3. To meet the above different timelines, SI may start various activities on various deliverables simultaneously so as to avoid any cascading effect of any delay in any particular milestone.

9.6.4. Total O&M support payment shall be recalculated after adjustment of all previous payments made to the SI against supply of actual quantities/actual work done by SI.

9.6.5. The penalty for late deliverable shall be 1% of contract value per month. The penalty shall be levied against each deliverable on pro rata basis.

9.6.6. In case there is delay in subsequent milestones as a result of a cascading effect, the penalties will also be suitably cascaded. For example, if there is a delay in third milestone, a penalty of 1% of the payment amount of the third milestone will be charged as penalty. Further to this, if the fourth milestone is getting delayed timelines as per the state, then appropriate penalty as per the defined slabs would be imposed even if the standalone timeframes are met for the fourth milestone.

9.6.7. In addition to the above mentioned Deliverables, the bidder is expected to submit the following documents to Finance Department prior to the Final Sign Off:

I. Detailed Project Plan

II. Documents for HRMS application

    a. Detailed Application Study Report

    b. Updated/vetted SRS

    c. HLD documents

    d. E-District Application architecture documents.

    e. ER diagrams and other data modelling documents.

    f. Logical and physical database design.

    g. Data dictionary and data definitions.

    h. Application component design including component deployment views, control flows, etc.

        • LLD documents (including but not limited to)

    i. Application flows and logic.

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

        • All Test Plans & All Test Cases

III. Requirements Traceability Matrix

IV. Change Management and Capacity Building Plans.

V. Design of real-time tools for monitoring e-Transaction volumes and for generating real-time MIS

VI. SLA and Performance Monitoring Plan.

VII. Training and Knowledge Transfer Plans.

VIII. Functional requirement Specifications (FRS)

IX. System requirement Specification (SRS)

X. System Design Document (SDD)

XI. Communication Plan listing all stakeholders in the project, defining their roles and responsibilities.

XII. Interface Control Document, documenting the interface characteristics of one or more systems and any previously documented information together with any agreements between interface owners.

XIII. Intellectual Property Rights (IPR)

XIV. Final Source Code

XV. Test Plan and Test Reports

XVI. User Manual including FAQs (Frequently Asked Questions).

XVII. Go-Live report for state and district level

XVIII. UAT Report signed off from Finance Department and other departments.

XIX. SI shall submit the Local Area Network installation report to the Nodal officers along with necessary sign offs from the field level offices. The final Network Connectivity report than shall be submitted to Finance Department along-with the individual sign offs from District nodal officers. A separate report in this regard shall also be submitted for the Data centre.

XX. Site Preparation Completion Report.

XXI. STQC certification

XXII. On-Line Help Text

XXIII. Data Dictionary and other Related Documentations.

XXIV. Sign Off from every Department.

10.0 Bid Formats

Following are the bid formats to be used by the bidders for submitting their Bids under this RFP:-

Sr. No.	Form	Description
1.	Form-1A	*Covering Letter*
2.	Form-1B	*Pre-qualification Form*
3.	Form-2	*Compliance Sheet for Technical Qualification Bid*
4.	Form–2A	*Bidder Profile*
5.	Form–2B	*Relevant Past Experience*
6.	Form–2C	*Adequacy and Quality of Resources proposed for Deployment*
7.	Form–2D	*Approach & Methodology*
8.	Form–2E	*Technical Specifications Compliance Sheet*
9.	Form–2F	*Manufacturer/Producers Authorisation Form*
10.	Form–3	*Commercial Bid Format-Summary of Costs*

[Note: Italicized comments in rectangular brackets of formats have been provided for the purpose of guidance/ instructions to bidders for preparation of the Bid Formats. These should not appear in the final Bids to be submitted by the bidders]

10.1. Form-1A:Covering Letter requesting selection as System Integrator

Bid Reference No. :
[Bidders are required to submit the covering letter as given here on their letterhead]

To

Additional Secretary Finance cum Director Treasury and Accounts,,
Room no. 10, 7th Floor, Punjab Civil Secretariat,
Chandigarh- 160001

Sub: Bid for Selection as System Integrator for implementing HRMS for State Of Punjab

Dear Sir,

1.   We, the undersigned, have carefully examined the referred RFP no. ……………………, offer to propose for the selection as System Integrator, in full conformity with the said RFP.

2.   We have read all the provisions of RFP & Corrigendum and confirm that these are acceptable to us.

3.   We further declare that additional conditions, variations, deviations if any, found in our bid shall not be given effect to.

4.   We agree to abide by this Bid, consisting of this letter, our Pre-qualification, Technical and Commercial Bids, and all attachments, for a period of 180 days from the date of submission of Bids as stipulated in the RFP and modifications resulting from contract negotiations, and it shall remain binding upon us and may be accepted by you at any time before the expiration of that period.

5.   We have indicated unit rates in the relevant bid forms. These unit rates are for the purpose of payment as well as for any price consideration in case of any increase / decrease of quantities from the scope of work under the contract.

6.   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.

7.   We hereby declare that all the information and statements made in this bid are true and accept that any misrepresentation or misinterpretation contained in it may lead to our disqualification.

8.   We declare that we have not been blacklisted or declared ineligible by any Central Govt. / State Govt. /PSU, to participate in any tender.

9.   We understand you are not bound to accept any bid you receive, not to give reason for rejection of any bid and that you will not defray any expenses incurred by us in bidding.

10.   We declare that this is our sole participation in this RFP bid and we are not participating/co-participating through any of other related party or channel.

11.   Demand Draft no. _____ dated _____towards EMD as per Document Control sheet requirement is attached.

12.   Demand Draft no. _____ ____ dated _____ towards RFP Document Fee as per Document Control sheet requirement is attached.

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place…………………….**

[*: Strike off whichever is not applicable]

10.2. Form-1B: Pre-Qualification Form Cum Compliance sheet

Bid Reference No. :

[Bidders are required to provide details as per following format. Bidder must fill the corresponding particulars under "Description/ Details" column. The information will be used to check conformance of bidders to the Pre-qualification criteria. Bidder must submit requisite supporting proof as mentioned under the "Reference Documents" column and the reference page number of the supporting proof document must be entered in the "Page No." column. In case bidders desires to add more Information, can use extra sheet.]

Sr. No.	Particulars	Reference Documents	Provided (Y/N)	Reference Page Number	Remarks (If any)
1.	**EMD & Tender Fee**		(Y/N)		
2.	**Covering Letter 1A**	**Covering Letter 1A**	(Y/N)		
3.	**Power of Attorney/Board Resolution**	-			
4.	**Name of Bidder**	--	(Y/N)		
5.	**Contact Details** a) Address b) Telephone c) Fax d) Email e) Website	--	(Y/N)		
6.	**Legal Entity** a) Incorporation Number b) Date of Incorporation c) Authority	Certified copy of incorporation/ Registration Certificate	(Y/N)		
7.	**Operating Detail**	Authentic certificate from the practising member of Institute of Chartered Accountant of India confirming			

		that entity was in operation in last five years as on 31.03.2013.			
8.	**Relevant Business Continuity**	a. Memorandum and Articles of Association/ Partnership Deed b. Copy of Work orders confirming only year and Area of activity	(Y/N)		
9.	**Sales Turnover** a) 2010-11 b) 2011-12 c) 2012-13 Average	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor confirming that Average Annual Sales Turnover during the last three (3) financial years (FY 12-13, FY 11-12, and FY 10-11) is INR Sixty (60) Crore.	(Y/N)		
10.	**Turnover from System Integration** a) 2010-11 b) 2011-12 c) 2012-13 Average	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor confirming that Average Annual Sales Turnover from System Integration during the last three (3) financial years (FY 12-13, FY 11-12, and FY 10-11) is INR Forty (40) Crore.	(Y/N)		
11.	**Turnover from Software Development** a) 2010-11 b) 2011-12 c) 2012-13	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor confirming that Average Annual	(Y/N)		

	Average	Sales Turnover from Software Development during the last three (3) financial years (FY 12-13, FY 11-12, and FY 10-11) is INR Fifteen (15) Crore.			
12.	**ISO 9000/9001:2008 or higher Quality System Implemented** a) Certificate Number b) Issue Date c) Valid Up to d) Issued by	Self-attested copy of certificate	(Y/N)		
13.	**The bidder should be CMMi level 3 company** a) Certificate Number b) Issue Date c) Valid Up to d) Issued by	Self-attested copy of certificate	(Y/N)		
14.	**Manpower** (The bidder should have minimum Hundred (100) qualified professionals having BE/B.Tech/MCA in IT/Computer Science/ Electronics & Communication/Electronics or higher on company payroll as on submission of bid.).	Certificate from HR Department of the Bidder for number of technically qualified professionals employed along with educational qualification.	(Y/N)		
15.	**Blacklisting** (The Bidder shall not be under a declaration of ineligibility for corrupt or fraudulent practices. And should not be blacklisted by any State Govt. / Central Govt. / PSU for any reason).	Self-certified letter	(Y/N)		

16.	**Name of Authorized Signatory** a) Position b) Telephone c) Fax d) Mobile e) Email	Special Power of Attorney/Board Resolution, duly authorizing the person signing the bid documents to sign on behalf of the bidder and thereby binding the bidder	(Y/N)		
17.	**Service Tax & Sales Tax Registration Details** a) Service Tax No. b) Date c) Registration Authority d) Sales Tax No. e) Date f) Registration Authority	Certified copy of valid Service Tax Registration in India	(Y/N)		

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place…………………….**

[*: Strike off whichever is not applicable]

10.3. Form-2: Compliance Sheet for Technical Qualification Bid

Bid Reference No. :

Sr. No.	Specific Requirement	Documents Required	Provided (Y/N)	Reference & Page Number
1.	Bidder's Profile	Form -2A along with necessary supporting documents		
2.	Relevant Past Experience	Form -2B along with necessary supporting documents		
3.	Manpower	Form -2C along with necessary supporting documents		
4.	Approach & Methodology	Form -2D along with necessary supporting documents		

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place…………………….**

[*: Strike off whichever is not applicable]

10.4. Form-2A: Bidder Profile

[Bidders are required to provide details of bidder profile in the format given below along with the supporting authentic documents]

Bid Reference No. :

Sr.No.	Particular	Documents Required	Reference & Page Number
1.	Sales Turnover a) 2010-11 b) 2011-12 c) 2012-13 Average	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statuary Auditor confirming that Average Annual Sales Turnover should be minimum INR Sixty (60) Crores from IT Business during the last three (3) financial years as of 31st March 2013..	
2.	Sales Turnover from System Integration a) 2010-11 b) 2011-12 c) 2012-13 Average	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor confirming that Average Annual Sales Turnover should be minimum INR Forty (40) Crores from System Integration during the last three (3) financial years as of 31st March 2013.	
3.	Turnover from Software Development a) 2010-11 b) 2011-12 c) 2012-13 Average	Authentic certificate from the practising member of Institute of Chartered Accountant of India /Statutory Auditor confirming that Average Annual Sales Turnover should be minimum INR Fifteen (15) Crores from Software Development during the last three (3) financial years as of 31st March 2013.	
4.	Manpower	Certificate from HR Department of the Bidder certifying that the bidder should have minimum Hundred (100) professionals	

Sr.No.	Particular	Documents Required	Reference & Page Number
		having BE/B.Tech/MCA in IT/Computer Science/ Electronics & Communication or higher on company payroll as on date of submission of bid.	
5.	The Bidder should be CMMi certified.	Certified Copy of Certification	
	a)Certificate Number		
	b) Issue Date & valid up to		
	d) Issued by		

Signature……………………………….
In the capacity of………………………
Duly authorised to sign Bid for
And on behalf of……………………….
Date…………………..   **Place………………**

10.5.   Form-2B: Relevant Past Experience

For all the below details, the Completion Certificate of the projects completed or Made Go-Live but in O&M phase in the last five (5) years as on last date of submission of bid need to be provided (issued to the responding bidder by the respective client).

The value of the projects considered in the above criterion would be based on the Purchase Order/LOI/Contract/ Work order or Client Certificate issued to the responding bidder. In absence of the supporting documents, the projects would not be considered for evaluation.

[Bidders are required to provide details of relevant experiences in the format given below, highlighting experience of designing & implementing a similar service delivery for each project. Use separate sheet for each citation]:-

Bid Reference No. :

Sr. No.	Particular	Details	Reference & Page Number
1	The Bidder must have experience of minimum 2 projects implementation of integrated turnkey projects around application development as a System Integrator having total project value of INR 4 Crore & above. *(Use this format for all projects as asked in technical bid)*		
	Project Serial number		
	Name of Project		
	Name & Address of Client		
	Contact Person Name &Mobile / Telephone of Client		
	Total Project Value (INR)		
	Project Start Date		
	Project End Date		
	Brief narrative description of Project		
2	The Bidder must have experience of minimum 2 projects of Delivering IT Hardware as a System Integrator having Hardware value of INR 2 Crore & above.		

	Project Serial number	
	Name of Project	
	Name & Address of Client	
	Contact Person Name & Mobile / Telephone of Client	
	Total Project Value& IT Hardware Value	
	Project Start Date	
	Project End Date	
	Team Size	
	Brief narrative description of Project	
3	The Bidder must have experience of at least two completed Software Application Development projects, having a minimum value of INR 1.5 crore each for software development component only).	
	Project Serial number	
	Name of Project	
	Name & Address of Client	
	Contact Person Name & Mobile / Telephone of Client	
	Total Project Value & software development Cost	
	Project Start Date	
	Project End Date	
	No. of Users in the project	
	Team Size	
	Brief narrative description of Project	
4	The Bidder must have experience of at least two projects where training has been provided to the minimum 1000 users in each project.	
	Project Serial number	
	Name of Project	
	Name & Address of Client	

	Contact Person Name & Mobile / Telephone of Client		
	Project Start Date		
	Project End Date		
	No. of Users Trained		
	Total number of end users in project		
	Team Size		
	Brief narrative description of Project		
5	The Bidder must have experience of at least two projects in the field of IT Services where Maintenance Services / Helpdesk Services have been provided in minimum 10 different locations with a minimum overall Project value of INR 2 Crore each		
	Project Serial number		
	Name of Project		
	Name & Address of Client		
	Contact Person Name & Mobile / Telephone of Client		
	Project Start Date		
	Project End Date		
	No. of resources used Concurrently in helpdesk services		
	Total number of end users in project		
	Team Size		
	Brief narrative description of Project		
6	The Bidder must have experience of at-least two projects in Data Digitization with minimum 3 lakhs record in each IT implementation project		
	Project Serial number		
	Name of Project		
	Name & Address of Client		
	Contact Person Name & Mobile / Telephone of Client		

	Project Start Date	
	Project End Date	
	No. of resources used Concurrently in helpdesk services	
	Total number of end users in project	
	Team Size	
	Brief narrative description of Project	

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place……………………..**

[*: Strike off whichever is not applicable]

10.6. Form-2C: Adequacy and Quality of Resources proposed for Deployment

Bidders are required to provide the profiles of Recourses mentioned in Technical Evaluation

1. Project Manager cum Application Lead
2. Database Administrator
3. System Administrator
4. Associate Project Manager
5. Field Staff

as per format given below. Use separate sheet for each citation. Each citation should be signed by the respective staff themselves or by authorized signatory

Compliance sheet:

Sr.No.	Resource Category	Name	Resume Provided (Y/N)	Ref & Page No
1.				
2.				
3.				

Resume Specimen. :

Name:		
Age & Date of Birth:		Photograph
Present Designation:		
Nationality:		
Languages Known:		

Educational Qualification(s)	
Name Of the Institute	
Relevant Professional Qualification along with name of the Institute	
Certification(s) along with name of the Issuing agency/ Institute	
Membership of any relevant organization/ associations	
Relevant Training(s) undertaken	
Total experience (No of Years)	
Experience as Team Leader/ Project Manager	
Relevant experience (No of Years)	
No. of years with the Bidder	
Employment Record (starting from	

present employment & designation and in reverse order with details of Dates, roles & responsibilities, achievements etc.)			
Proposed position for this project			
Past Relevant Projects experience relevant to this project detail:- (Provide all the projects as per Technical Evaluation Criteria)			
Name of Project			
Duration: From:	To:		Position Held:
Client Name & Address			
Main Project Features			
Responsibility			

I, the undersigned, certify that above profile correctly describes about qualifications and experiences about myself/ my staff to best of my knowledge. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place…………………..**

[*: Strike off whichever is not applicable]

10.7.   Form-2D: Approach &Methodology

Based on the broad areas of work outlined in the RFP and bidder's own experiences, bidders are required to provide details in the form of Power-point Presentation

Sr. No.	Understanding the objectives of the assignment	Approximate time for presentation (In Minutes)
1.	I. Proposed Solution II. Understanding of Project along with Proposed Approach and methodology III. Information Security Plan IV. Training& Help Desk support	25

Assessment to be based on a note covering all requirements as mentioned in Presentation & Information submitted by Bidder before the Committee

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date…………………..   **Place……………………**

[*: Strike off whichever is not applicable]

10.8. Form-2E: Technical Specifications Compliance Sheet

10.8.1. Bidders shall submit Manufacturers'/Producers' Authorization Form (MAF) duly certified the OEMs for all the products proposed as part of the bid along with technical bid. MAF must contain proper authorization by the OEM to the bidder to act on OEM behalf in fulfilling all installations, Technical support and maintenance obligations required by the contract. MAF must also have OEM certification to extend full guarantee and warranty for the Solution, Products and services offered by the above bidder on behalf of OEM. Any conditional MAF shall not be accepted.

10.8.2. Hardware Sizing at Field Offices and State level office (indicative)

S. No.	Item (BOM)	Quantity *
1.	Desktop	96
2.	Scanners	40
3.	Network Laser Printer	14
4.	Line Matrix printer	1
5.	Digital Signature Certificate (Type-III) as per information Technology Act-2000 and from the Government of India approved CCAs only.	7000
6.	UPS (1 KVA)– Online	13
7.	UPS 600VA for Desktops	96
8.	Rack (To accommodate Switch, Router, Modem & UPS with battery)	13
9.	LAN per point Connection	96
10.	Electrical Connection per workstation	96
11.	24 Port Switch	13
12.	Router	13
13.	Computer Table	96
14.	Computer Chair	96

10.8.3. Desktop

Features	Minimum Required Specifications	Specifications Proposed
Processor	Intel Core i3 or higher/AMD equivalent; min2.9GHz	
Motherboard	OEM Motherboard	
Chipset	Latest Generation compatible chipset to the supplied CPU	
RAM	Memory 4 GB(2x2GB) expandable to 8GB Non-ECCDDR31333MHz SD RAM Memory, minimum Two DIMM slots	
Hard Disk Drive & controller	HDD 500 GB or higher 7200RPM3.5"SATA Hard Drive	
Optical Drive	Optical Drive16XMax DVDR/CD-R	
Graphics	Integrated Graphics	
Audio	High Definition Audio Card	
Ethernet	NIC 10/100/1000	
Slots	4PCI /PCI Express slots, VGA (1),USB2.0(6+2)	
Ports	Rear I/O:(6)USB2.0ports,(1)serial port,(1)RJ-45,(1)VGA,(1)lineout,(1) mic in, Front I/O:(2)USB2.0ports	
Power Supply	250 Watt ATX with Energy star 5.0	
Keyboard	USB 104 keys keyboard (Same make as PC) with bi-lingual keys (English and local language of the State (i.e. Punjabi) compliant to Enhanced. In script Keyboard based on Unicode version6.0 or later.	
Monitor	18.5" LCD Monitor , Maximum resolution - 1366 x 768; Response time (typical)- 5ms; TCO5certification for Monitor	
Mouse	USB 2 Button Optical Scroll Mouse(Same make as PC)	
Operating System	Preloaded Genuine Windows(R)7 ProfessionalSP1(English) or above updates/patches over the periodof3 years	
Office suite	Open office suite with Word Processing, Spreadsheet & Presentation preparation capability	
Compliance and Certification	As per industry standard for PC and energy star for Monitor	
Drivers for Different Operating systems	Recovery CD to be provided in media along with PC	

10.8.4. Scanner

Features	Minimum Required Specifications	Specifications Proposed
Type	Legal Size Flatbed	
Speed	20 PPM	
Scan technology	Charge Coupled Device (CCD)	
Resolution	Minimum 600DPI	
Bit Depth	24bit	
Duty Cycle	Cycle up to 800pages/day	
Paper Handling	Inbuilt ADF(50Page)	
Paper Size	Max Scan Size Min. 8.5X11.7"for A4, 8.5X14"forLegal (Flatbed)	
Scan File Formats	BMP, JPEG, GIF, TIFF, TIFF compressed, PNG, PDF, JPG, RTF, TXT,UNICODE,HTM, DOC and other common formats	
Interfaces	USB 2.0port,	
Operating systems Support Required	Windows, Linux	
Accessories	With All the standard accessories (Drivers/ Software Yes (Linux, MS-Windows XP/Vista/7),OEM Scanning Software	

10.8.5. Network Laser Printer

Features	Minimum Required Specifications	Specifications Proposed
Print speed, black	25ppm	
Print resolution, black	1200x1200dpi	
Print technology	Laser	
Network Port	Ethernet	
Monthly duty cycle	18000	
Memory	32MB or higher	

Duplex printing (printing on both sides of paper)	Automatic (Standard)	
Media sizes, Standard	Letter, legal, executive, postcards, envelopes	
Media sizes, custom	250-sheet input tray:5.8x8.27to8.5x14in;priority feed slot:3x5 to 8.5x14in	
Interfaces	Hi-SpeedUSB2.0port,	
Media types	Paper(laser, plain, photo, rough, vellum),envelopes, labels, cardstock, transparencies, postcards	
Operating systems support	Windows, Linux	

10.8.6. Line Matrix Printer

Features	Minimum Required Specifications	Specifications Proposed
Cabinet	Closed Cabinet/Modular Enclosure Sure Stak Power Stacker Rear Slide-Out Paper Drawer with ergonomic features Front Paper Access Expanded Doors to accommodate larger forms up to 17 inches.	
Connectivity Interface	USB 2.0/3.0, Serial-Rs-232,Ethernet 10/100 & Parallel IEEE-1284	
Printing Speed	1000 Lines per minute or higher	
Cartridge	Extended Life Cartridges (25000 pages or higher) Backward-compatible cartridge ribbon	
Management	Remote diagnostics	
Character Pitch	5, 6, 6.7, 7.5, 8.3, 8.6, 10, 12, 13.3, 15, 16.7, 17.1, 20	
Line Spacing	1.5, 2, 3, 4, 5, 6, 8, 9, 10, 12	
Graphic Resolution	180 dpi Horizontal, 144 dpi Vertical or higher	
Dot Size	16.7 mil (.42mm)	
Character Style	Bold, italic, superscript, subscript, underline, over line, strike-through	

Operating Temperature	50° to 104° F, 10° to 40° C	
Fonts	Draft, Data Processing, Courier, Gothic, OCR-A and B	
Bar Codes	Code 39, Code 128, Interleaved 2 of 5, UPC-A, UPC-E, EAN 13, EAN 128, Codobar, MSI, PDF-417, Post net, Intelligent Mail Barcode (IMB)	
OS compatibility	Windows, Linux & Other standard operating systems	
Power Voltage	AC input range 100-240 VAC, 50/60 HZ	
MTBF	10000 Hours at 25% duty cycle & 25% page density	

10.8.7. Digital Signature Certificate (Type-III) as per information Technology Act-2000 and from the Government of India approved CCAs only.

10.8.8. UPS (1 KVA) – Online

Feature	Minimum Required Specifications	Specifications Proposed
Technology	True On Line UPS with double conversion technology	
	Rectifier and inverter should be based on IGBT	
Power Rating Input	1000VA/ 800W	
Voltage Range	160VAC–300VAC@100%Load,110VAC–300VAC@50% Load	
Frequency	40Hz~70Hz	
Power Factor	≥ 0.95	
Output		
Voltage Range	220/230/240VAC+/- 3%	
Voltage Distortion	≤3%(Linear Load)	
	≤6%(non Linear Load)	
Frequency	47.5~52.5Hz	
Power Factor	0.8	
Crest Factor	3:1	
Inverter Overload		
Transient Response	Less or equal to 3% for 100% nonlinear load (Battery mode)	
Battery		
Type	Sealed Maintenance Free, Valve Regulated Lead Acid	

Battery cell rating	Batterycellsof12V	
Rated Voltage	36VDC	
Backup Time	30minVAH936;	
Protection	Inbuilt protection for surge suppression and EMI/RFI filter provided as well as The unit shall have Surge Current Capacity of min. 10kA with two mode of protection & <0.5ns Response time. UPS shall be provided with only externally connected SPD as per IEEE Standard 1100-2005	
Environmental and Other		
Audible Noise	Less than 45dB at1 meter	
Operating temp & Humidity	20–90%RH @0–40°C (non condensing)	
LCD Display	UPS Status, Load level, Battery level, Input/output voltage, Discharge Timer & Fault conditions	
Management		
SMARTRS 232	Supports Windows, Novell, Linux and Free BSD	
SNMP	Power Management from SNMP manager and web browser option should be present	
Credentials	Manufacturer Should be ISO9001:2000 certified Manufacturer Should be ISO14001 certified	

10.8.9. UPS 600 VA for Desktops

Features	Minimum Required Specifications	Specifications Proposed
Capacity	600VA line interactive	
Technology	DSP based PWE using Mosfet/IGBT	
Certifications	CE or Equivalent Certificate. Quality standards ISO 001;2000;2008/IO14001	
AC Input		
Voltage	160VAC–300VAC@100%Load,110VAC–300VAC@50%Load	
Frequency	50Hz	
AC Output		

Voltage Window	220/230/240VAC+/- 3%	
Frequency	47.5~52.5Hz	
Voltage regulation	230+/-3%(on Battery)	
Frequency	50hz	
Load Power Factor	0.8(lag)or better	
Output Load capacity	600VA	
Overload capacity	At 120%load minimum1Min	
Waveform	Sinewave/ Modified sine wave	
Total Harmonic Distortion	<8%	
Overall Efficiency	85%	
Storage/Operating Temp.	0–45°C	
Battery	Sealed Maintenance Free (VRLA)30Min backup on full load	
Battery Bank Recharge Time	2-8Hrs (to 90%capacity after discharge into full Load)	
Suggested Make ofbattery	Reputed Brands	
Protections		
Short-circuit	Electronic current limit on inverter mode/MCB protection on Mains mode	
Surge/Spikes	Through Line Filters	
DC under voltage	Yes	
Overload	Yes	
DISPLAY	LCD/LED Display(UPS Status, Load Status, Battery Status/Low Battery)	
ALARMS	Mains failure, Fault conditions, Low battery, Overload	
Other Feature	Generator Compatibility should be provided.	
Warranty, AC Output		

10.8.10. Rack

Minimum Required Specifications	Specifications Proposed
Wall mount	
Minimum Powder quoted steel Body with front door of glass.	
Completely covered & have security locks.	
Proper ventilated with One Fan, One Cable Manager, Power Distribution Unit of 6 No.(5 and 5 Amp) Sockets with surge protection, Mounting Accessories	
Fitted with Copper Strip for earthing the equipment's.	

10.8.11. 24 Port Switch

Features	Minimum Required Specifications	Specifications Proposed
Throughput	Min 50Gbps & 40Mpps forwarding rate	
Data Transfer Rate	Non-Blocking, Wire speed Architecture	
Number of Ports	24*10/100/1000Mbps port Uplink Port: should have 4SFP Based uplink ports	
Standards	IEEE 802.1D IEEE 802.1p IEEE 802.1Q IEEE 802.1s IEEE 802.1w IEEE 802.1x IEEE802.1ab IEEE802.3,802.3ad,802.3u, 802.3ab,802.3z	
Twisted-pair Rx Reverse Polarity	Auto-correction for each port	
MAC Address	Should have atleast 8K MACs & 255 active VLANs	
RAM	Minimum 64 MB or higher	
Power Supply	100-240 V AC, 50/60Hz	
Security	Should support a) 802.1x b)SSH v1,v2	

Management	Should have a. IPv6 management capability b. SNMPv1,v2,v3 c. RMON d. RADIUS e. CLI via console f. Web Interface g. Provision of software and firmware upgrades with latest version releases through admin login	

10.8.12. Router

Features	Minimum Required Specifications	Specifications Proposed
Architecture	a) Should be chassis based & modular architecture for Scalability. b) Should have support for IPSECVPN. c) Should have minimum of 256MB of RAM and 32MB of Flash Memory d) Should have support 70Kpps of performance e) ACL+QoS and NAT enabled for both IPv4 & IPv6	
Interface	a) 4 x 10/100 Base interface with support for both LAN & WAN protocols b) At least 1 free slots for future (slot should support both V.35 (2 Mbps) interface including necessary cables , 10/100/1000 Ethernet Base interfaces.	
Performance	a) Should support high performance traffic forwarding b) Should support variety of interfaces like V.35 Sync Serial (2 Mbps), E1, ADSL for remote office aggregation b) Should support 2G/ 3G USB modem for connectivity or support external 3G modem d) Should have USB 2.0 ports for storing OS images	
High Availability	a) Should support redundant connection to LAN b) Should support VRRP or equivalent	
Protocols	a) Should support Routing protocols like RIP, OSPF, BGP, IS-IS , Telnet , MPLS b) Multicast routing protocols support : IGMPv1,v2, v3), PIMSM, PIM-SSM and PIM-DM c) Should be IPv6 ready from day 1	

QoS Features	a) Classification and Marking: Policy based routing, IEEE 802.1p b) Congestion Management: WRED, Priority queuing, Class based queuing c) Traffic Conditioning: Committed Access Rate/Rate limiting d) Per VLAN QoS. Time Based Shaping and Policing for QoS e) Port mirroring	
Security Features	a) Support for SNMPv3 authentication, SSHv2 b) AAA support using Radius and/or TACACS+ c) Support for PAP and CHAP authentication for P-to- P links d) Multiple level authentications. e) Time based & Dynamic ACLs f) IEEE802.1xsupportforMAC address authentication g) IP sec/3DeS encryption support	
Management	a) Shall have support for Web based management, CLI, Telnet and SNMPv3 b) Shall support Secure Shell for secure connectivity.	
Certification	(a) FCC (b) Safety EMI/EMC	
Power	AC 200 –240V	

10.8.13. Computer Table

Minimum Required Specifications	Specifications Proposed
Size in (LxBxH) = 1000x600x750 mm	
Keyboard pull out tray	
With one drawer	
'Sufficient Space for CPU & UPS for Desktop (CPU & Desktop to be supplied under this Bid)'	

10.8.14. Computer Chair

Minimum Required Specifications	Specifications Proposed
Permanent Contact mechanism allowing back, to flex, naturally during reclining.	**10.8.15.**

Seat and the backrest are made up of moulded polyurethane foam	**10.8.16.**
Pneumatic height adjustment	**10.8.17.**
Swivel Mechanism	**10.8.18.**
Twin wheel castors	**10.8.19.**

10.9. Hardware Sizing at SDC (Indicative and to be provided by Bidder)

Sr. No	Item (BOM)	Proposed Quantity**
1.	Web servers	
2.	Application Servers	
3.	Database Servers	
4.	Load Balancer	
5.	Staging server*	
6.	Authentication server / Proxy Server / LDAP Server (with Rredundancy)	
7.	5KVA UPS, etc	
8.	Rack	
9.	Storage Area Network (SAN)	
10.	SAN Switch	
11.	Tape Library	
12.	Firewall	
13.	Layer 3 Switch	
14.	Fireproof Safe for keeping minimum 100 backup tapes	
15.	Any Other	

* Staging server can be used in virtualization environment for development and testing. SI should also consider Operating System licenses for virtualized environment.

** System Integrators required to carry out the sizing and propose the quantity accordingly.

*** For backup server, to be placed at Disaster recovery site, SI has to provide a suitable rack.

For each hardware item quoted under this bid, the SI needs to provide an un priced BOM as part of the technical bid carrying at least the following information in a table

I.   Reference of the server/storage information in the Submitted Proposal (Please provide page number/section number/ volume)
II.   Services proposed to be hosted on the Server
III. Quantity
IV.   Make and Model
V.   Year of Introduction
VI.   Operating System along with version(if applicable)
VII. Processor and Number of Cores Offered (if applicable)
VIII. Architecture (RISC/EPIC/CISC) (if applicable)
IX.   RAM/HDD/LAN Ports/HBA (as relevant)
X.   Additional Information as required to indicate the compliance to the requirements in the RFP (ex, Capacity, Disk Space) (if applicable)

Note:-

☐   *For each individual item proposed under this bid, SI shall enclose hard copies of the original OEM data sheets. The data sheet should contain complete details of specification as asked for in the RFP. Datasheets should be signed and stamped by the bidder.*

10.9.1.   Web Server , Application Server & Staging Server(Form Factor : Blade) Blade Chassis

Features	Minimum Required Specifications	Specifications
Slots	Solution to house at least 12 half height Blade Servers or 6 full height Blade Servers in smallest number of enclosures. Industry standard suitable for housing in Industry Standard Server Racks (Please refer to section 6.6.13 for rack specification).	
OS Support	Other than proposed OS, The server should support flavours of Enterprise Windows /Enterprise Linux Operating Systems.	

	DVD RW can be internal or external, which can be shared by all the blades all owing remote installation of S/W and OS	
	2 * 10Gb/16-Port Module for Blade System: 2 x 10Gb shared internal cross connects for redundancy and stacking Features: Minimum no. of downlink: 8 x 10Gb Ethernet downlinks to server blade NICs and Adapters. (Each 10Gb downlink shall supports up to 3 NICs and 1 HBA or 4 Virtual NICs. Each HBA shall be configured to transport either Fibre Channel over Ethernet/CEE or Accelerated iSCSI protocol)	
	Minimum no. of Uplink: 4 SFP+ external uplink ports configurable as either 10Gb Ethernet or 2/4/8Gb auto-negotiating Fibre Channel connections to external LAN or SAN switches. 4 SFP+ external uplink ports configurable as 1/10Gb auto-negotiating Ethernet connected to external LAN switches.	
	10G Support on Chassis is required	
	Pre-Failure Alerts on Hard disk drives, processors, memory	
	Architecture should be redundant without compromising the performance	
	Blade Chassis should not be populated more than 75% from dayone. Support for Quad CPU and Dual CPU blades in the same enclosure	
Management Module	System Management Port to allow simultaneous management access of multiple Blade Servers in the Chassis.	
	GUI, console-based deployment server to set up multiple OS and application configurations	
	Remote management should provide SSL encryption capabilities through internet	
	Built-in KVM switch (Chassis should have provision of accommodating Optional redundant KVM switch) or virtual KVM feature over IP	
	Dedicated management network port should have separate path for management	
	Support heterogeneous environment: Xeon/AMD and CPU blades must be in same chassis with scope to run Win2008 Server, Enterprise Linux (having full-fledged support)	
Power Modules	The enclosure should be populated fully with power supplies of the highest capacity available with the IA. Power supplies should support N+N or N+1 redundancy configuration	

	Should offer choice of a single phase or 3 phase power subsystem for flexibility in connecting to data centre power enabled with technologies for lower power consumption	
	Guaranteeing complete availability even on failure of any 2 power units across the enclosures	
Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics	

Blade Features	Minimum Required Specifications	Specifications Proposed
CPU	2 No. Of Quad Core processor, minimum 2.0GHz clock speed or equivalent /subsequently better. The CPU should be of latest generation at the time of bidding i.e. Vendor should offer the highest clock speed and cache supported on the offered model with latest supported/compatible server chipset	
Chipset	Suitable Processor OEM motherboard/chipset	
Architecture	x86 as per OEM architecture	
Operating System	Latest version of Linux/Windows.	
Memory	128GB ECC DDR3-SDRAM DIMMs minimum 2 free slots for future expandable capability	
Memory Expandability	Minimum 256 GB	
Controllers	Integrated SAS Raid Controller with RAID 0,1	
Bays	Dual 2.5"SAS Hard Disk bays	
Hard Disk Drives	2 *300GB SAS Hard Disk Drive hot swappable system disk With integrated RAID1 on internal disks	
Ethernet Adapter	2 X 10G CNA ports per Blade Server. CNA port must be divided into NIC and FC ports	
Form factor	Blade	
System Management and Diagnostics	LCD/LED lights indicating failing component And on-board diagnostics (via on-board system management processor)	
Software	Server Management software with the device drivers	

| OS Compatibility | Microsoft Windows Server Enterprise/Standard Edition (32 bit and 64 bit) Red Hat Enterprise Linux SUSE LINUX Enterprise Server | |

10.9.2. Database Server

Features	Minimum Required Specifications	Specifications Proposed
Processor/CPU	No . of Quad Core processor, minimum 2.0 GHz clock speed or equivalent /subsequently better. The CPU should be of latest generation at the time of bidding i.e. Vendor should offer the highest clock speed and cache supported on the offered model with latest supported/ compatible server chipset.	
Architecture	x86 as per OEM architecture	
Operating System	Latest version of Linux/Windows	
System Software	Latest version (Preloaded)	
Main Memory	The system should be configured with minimum 256GB RAM (ECC), scalable up-to 512GB(ECC).Minimum 2 free slots for future expandable capability	
Hard Disk	1) 300 GB storage on SSD on Raid 10 2) 2*300 GB SSD Drives shall be hot plug drives. Server should have minimum 2HDD bays for future scalability.	
Industry Benchmark	Should have published benchmarks for TPC-cor SAP or SPEC available. If no published benchmark result for the offered server &processor is available then the performance offered by the server will be estimated by linear extrapolation of a published result on a higher server model or a lower server model (with the same processor).	

	If the OEM does not have particular benchmark on a specified server, the OEM can be Internal benchmark to build the correlation between a benchmark and the proposed Server. The same has to be given in the OEM's letter head and signed by an authorized person.
Clustering	Server should be configured to support for OS/Database level clustering.
Network Interface	Dual port10/100/1000 Mbps Ethernet Adapter, with no single point of failure.
HBA	2 No. dual ported 8 Gbps Fibre Channel Adapter with external fibre ports for redundant connectivity to external storage.
Removable drive	One DVD-RW/CD-RW Combo drive per server.
Power Supply	Dual Redundant Power Supply with cooling fans
Form Factor	Blade
RAID	Integrated RAID-0,1,5
Server Management	Firmware Update, Dynamic resource management & utilization capability, Real time System Monitoring, Remote Server management Capability.
Warranty	3 years On-Site Comprehensive warranty and Maintenance

10.9.3. Load Balancer

Minimum Required Specifications	Specifications Proposed
Server load balancer should have ASIC based architecture or CPU based Hardware & not PC based architecture	
Should have 8 x GbE + 2 x SFP ports	
Should support minimum 4 Million concurrent Sessions	
Should support minimum 1,00,000 connection per second	
Should support minimum 4 Gbps	
Should support logical interfaces	
Should support Port Aggregation IEEE 802.3ad	

Should support VLAN Trunk IEEE 802.1Q	
Should have 4 Gb RAM	
Should support following deployments	
Routing Mode : where client-side and server-side VLANs are on different subnets	
Bridge Mode: where client-side and server-side VLANs are on the same subnets.	
Load Balancing Features	
Should support minimum 200 real/virtual Servers for load balancing.	
Should support following load balancing algorithms	
Cyclic - Round Robin	
Hash	
Weighted Cyclic	
Least Connections	
Least number of users.	
Least Bandwidth	
Least Response time	
Server load balancing based on SNMP parameter like CPU load, Memory utilization etc	
Should support Client NAT & Server NAT	
In case of Server / Application failure device should detect it in not more than 30 seconds.	
Should support following content based Load balancing features	
It should be able to support global load balancing in future with the help of soft or internal/external hardware upgrade.	
HTTP Header based redirection	
URL-Based Redirection	

Browser Type Based Redirection	
Preferential Treatment (Cookie-Based)	
Server Management Features	
Should support Graceful shutdown of Servers	
Should support Graceful Activation of Servers	
Should able to redirect traffic based on Source IP, Destination IP & TCP PORT	
Virtualization	
Health Monitoring	
Should provide individual health checks for real servers & farms	
Should allow to monitor protocol like HTTP, SMTP, POP, FTP etc	
Should allow to configure Customize health probes based on TCP & UDP parameters	
Should provide GUI to configure Health Monitoring	
Optional Support for user defined / custom health checks as per the requirement.	
Redundancy	
Should support industry standard redundancy protocol like VRRP.	
Should support transparent failover between 2 devices	
Should Supports active-standby and active-active redundancy.	
Management	
Should support following Management Applications	
• Telnet	
• SSH	

• HTTP	
• HTTPS	
• Console	
• SNMP (V1, V2 and V3).	
Should support GUI for configuration & monitoring based redirection	

10.9.4. UPS 5 KVA

Feature	Specification (Minimum Required)	Specification Proposed
Technology	True On Line UPS with double conversion technology	
	Rectifier and inverter should be based on IGBT	
Power Rating Input	5000VA/ 4000W	
Voltage Range	160VAC–300VAC@100%Load,110VAC–300VAC@50% Load	
Frequency	40Hz~70Hz	
Power Factor	≥ 0.95	
Output		
Voltage	220/230/240VAC+/- 3%	
Voltage Distortion	≤3%(Linear Load) ≤6%(non Linear Load)	
Frequency	47.5~52.5Hz	
Power Factor	0.8	
Crest Factor	3:1	
Inverter Overload		
Transient Response	Less or equal to 3% for 100% non linear load (Battery mode)	
Battery		
Type	Sealed Maintenance Free, Valve Regulated Lead Acid	
Battery cell rating	Battery cell of 12V	

Rated Voltage	Minimum 180VDC	
Backup Time	60min 8000VAH;	
Protection	In built protection for surge suppression and EMI/RFI filter provided as well as the unit shall have Surge Current Capacity of min. 10kA with two mode of protection & < 0.5ns Response time. UPS shall be provided with only externally connected SPD as per IEEE Standard 1100-2005	
Environmental and Other		
Audible Noise	Less than 45dB at1 meter	
Operating temp &Humidity	20–90%RH @0–40°C (non condensing)	
LCD Display	UPS Status, Load level, Battery level, Input/ Output voltage, Discharge Timer & Fault conditions	
Management		
SMARTRS 232	Supports Windows, Novell, Linux and Free BSD	
SNMP	Power Management from SNMP manager and web browser option should be present	
Credentials	Manufacturer Should be ISO9001:2000 certified Manufacturer Should be ISO14001 certified	

10.9.5. Rack

Minimum Required Specifications	Specifications Proposed
Wall mount	
Minimum Powder quoted steel Body with front door of glass.	
Completely covered & have security locks.	
Proper ventilated with One Fan, One Cable Manager, Power Distribution Unit of 6 No. (5 and 5 Amp) Sockets with surge protection,	

Mounting Accessories	
Fitted with Copper Strip for earthing the equipment's.	

10.9.6. SAN

Minimum Required Specifications		Specifications Proposed
RAID Level	RAID Array supporting Raid Levels 0,1, 0+1,5,10 or equivalent.	
	The RAID Level should be Hardware based and should use dedicated Hardwarefor RAID Calculation.	
Availability & Required Cache	Cache should be mirrored between Active-Active controllers on dedicated, Redundant paths/links between the controllers. In case of power failure, the SAN array must be provided with cache protection mechanism to ensure no loss of data in cache by de-staging to disks, irrespective of duration of power outage, or for minimum 72hrs.The Proposed SAN Array should be configured with at least 8GB usable data cache.	
Reliability	The Proposed SAN Array should be configured with No Single Point of Failure Architecture with Dual Controllers for redundancy and should support hot plug and hot swap of components online (including controllers, disks, power supplies, cooling fans etc.). Should have continuous system monitoring and shall support remote diagnostics/error reporting feature. It should also allow the recovery of data in transit in the event to failure.	
Front End Connectivity	SAN Storage should be configured with at least 4 numbers of4Gbps Fibre channel (FC) front end ports per controller (i.e. a total of at least 8 x 4Gbps FC front end ports across Dual controllers) for front-end host connectivity.	
Back End Connectivity	SAN Storage should be configured with at least 4 numbers of 6 Gbps SAS back end ports per controller (i.e. a total of at least 8 x 6Gbps SAS back end ports across Dual controllers) for back-end disk-shelf connectivity.	

Disk Drives	The SAN Array should be able to support a minimum of 95 disks in the array supplied from Day One and should be expandable to 140 disks in future with data in place upgrade. The SAN Array should support intermixing of SAS / FC & NL-SAS / FATA/SATAII Disks of various capacities and speeds. It should support dual ported SAS disks of 146GB / / 300GB / 500GB / 1 TB or higher with speeds of 10K rpm & 15K rpm
Required Disk space	The Proposed SAN Array should be configured with minimum 15TB Usable Capacity. Is required on RAID10(Strip and Mirror Every where) with 300GB, 15K RPMSAS /FCHDD(min 4Gbps,Dual Ported Drives) and with 1 hot spare per disk tray.
Self-Tuning	The Storage System should provide ease of use capabilities – customer replaceable components, including on-disruptive replacement of disk drives, power supplies, fans and SFP optical transceivers.
Volume Expansion	The storage system should support dynamic online LUN/volume expansion and shrink through striping/concatenation Or any equivalent means / feature, which can achieve similar functionality with supporting white paper validation documents from third party agencies.
RAID Level Mixing	It should support amix and match of RAID levels (includingRAID0,1,1/0,5) with in the same storage array serviced by a pair of controllers.
	If any of the above features are not supported by the bidder/OEM, then kindly propose equivalent features, with supporting white paper validation documents from third party agencies.
Volume Expansion	The SAN Management software should preferably be array-based, easy to use with secure web-based GUI administration interface for configuration, storage management.
Sparing	Should have a pool of Global Hot Spare disks for the entire array, so that if a disk fails anywhere in the array, global hot spares can be invoked from the pool to reduce the risk of data loss.
OS support	Support for industry-leading Operating System platforms including but not limited to various flavours of LINUX/ Microsoft Windows/UNIX etc. As well as various High Availability cluster solutions. The detailed inter-operability matrix should be available on the public domain.

IOPS	I/O performance should be greater than or atleast equal to 150,000 IOPS from Cache or 30,000 disk IOPS and should have a sustained sequential throughput of minimum 2000MB/sec	
Snapshots/Full Copies	The array should provide for functionality for pointer based snapshot copies (which require a fraction of the space) as well as full physical copies. It should support Writeable space optimized snapshots.	
Performance Monitoring	The storage should be provided with storage performance monitoring software. The performance monitoring software should provide graphical view of the throughput, iops and other performance by host or by controllers	
Advance Functions	The storage should be provided with in provisioning feature quality of service And SSD caching ortiering software should be provided	

10.9.7. SAN switch

Minimum Required Specifications	Specifications Proposed
Minimum 16 Active ports (each with minimum port speed 8Gbps)	
Should have atleast 4 numbers of 1Gbps ports for SAN extension over WAN	
Switch shall support POST and online/offline diagnostics	
All cable and accessories for connecting Servers /Devices to SAN	
Should have capability of port trunking.	
Should have optical transceivers for shortwave/long wave	
Should have Fans and power supplies	
Should have GUI based management software for administration and configuration	
Should be possible to configure the switches based on threshold values for temperature fan status.	
Should support zoning configuration, virtual SAN/Virtual Fabric	
Should support fabric routing to enable cross fabric connectivity	
All other necessary fibre cables and racking accessory should be supplied	
Should support RADIUS authentication or SSH	

10.9.8. Tape Library

Features	Minimum Required specifications	Specifications Proposed
No of Drives	2 Expandable up-to 4 Drives within box or by adding expansion modules/Cascading	
Drive Technology	LTO5 with up to 140MB/s data transfer rate	
No. Of Slots	12slots and expandable upto 24 slots by adding modules or cascading	
Drive Interface	Fibre Channel, 8Gbps	
Capacity	5TB and expandable up-to10 TB by adding modules or cascading	
Performance	Native 500GB/hr per drive	
Consumables	6 nos of LTO5 cartridges and 2 nos of Cleaning cartridges	

10.9.9. Firewall with IPS

Features	Specifications	Specification Proposed
General	The Firewall should be Hardware based, Reliable, purpose-built security appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems	
Ports	The proposed appliance should have minimum 12 x 10/100/1000 Gigabit Ethernet interfaces,8 xGbESFP slots and 2x10GbESFP+ interfaces. The appliance should have additional 2x10/100/1000GE interfaces for Management.	
Memory	Minimum 2GB upgradable to 4GB	
Throughput	Firewall Throughput (1518/512/64byteUDPpackets) should be 20/20/20Gbps. Firewall should have 3DESIPSec throughput of 8Gbps Firewall Throughput(Packets Per Second) should be 31Mpps	
Connections	Firewall should support 10000 site-to-site VPN Tunnels. Firewall should support190,000 new sessions per second Firewall should support 7 Million concurrent sessions	

Latency	Firewall Latency (64byte UDP packets) should be 6µs	
Security & other Features	The administrator authentication to be facilitated by local database, PKI & remote services such as Radius, LDAP and TACAS+ with option of 2 fact or authentication. Shall be able to operate on either Transparent (bridge) mode to minimize interruption to existing network infrastructure or NAT/Route mode. Both modes can also be available concurrently using Virtual Contexts. The physical interface shall be capable of link aggregation, otherwise known as the IEEE 802.3ad standard, allows the grouping of interfaces into a larger bandwidth 'trunk'. It also allows for high availability (HA) by automatically redirecting traffic from a failed link in a trunk to the remaining links in that trunk. Shall be able to operate as a Protocol Independent Multicast (PIM) version 2 router.	
Certification	The firewall shall belong to product family which minimally attain Internet Computer Security Association (ICSA) Firewall Product Criteria 4.1 Certification/ EAL 4 Certified/ Approved Protection Profile for that product category at http://www.niap-ccevs.org	
Intrusion Prevention System	The Firewall Appliance should have integrated IPS functionality IPS throughput should be 6 Gbps. The IPS system shall have at least 6,000 signatures The IPS detection methodologies shall consist of Signature based detection using real time updated database & Anomaly based detection that is based on thresholds IPS should have option of automatic download of signatures not relying on any third party updates. IPS should perform state full packet inspection IPS should have inbuilt Fail-open hardware bypass for 2 pairs of 10/100/1000 interfaces IPS solution should have capability to protect against Denial of Service (DOS) and DDOS attacks. Should have flexibility to configure threshold values for each of the Anomaly. IPS signatures should have a configurable actions like terminate a TCP session by issuing TCP Reset packets to each end of the connection, or silently drop traffic in addition to sending an alert and logging the incident	

High Availability	Shall have built-in high availability (HA) features without extra cost/license or hardware component. The device shall support state full session maintenance in the event of a fail-over to a standby unit. High Availability feature must be supported for either NAT/Route or Transparent mode The proposed system shall support multiple heartbeat links High Availability Configurations should support Active/Active, Active/ Passive & Clustering
Reporting	Should provide logs, analysis, and reports and deliver increased knowledge of security events throughout the network for security event analysis, forensic research and reporting.

10.9.10. Layer 3 Switch

Minimum Specifications	Specification proposed
• Switch Architecture 19'' rack mountable 24 X 10/100/1000 port switch and 2 X 10 Gig ports Port mirroring capability. Multicast support (PIM, IGMP snooping, SM and DM)	
• Switch Throughput 88 Gbps or more forwarding bandwidth.	
• Protocol and standards support IPv6 support from day 1 Ethernet : IEEE 802.3, 10BASE-T Fast Ethernet : IEEE 802.3u, 100BASE-TX Gigabit Ethernet: IEEE 802.3z, 802.3ab IEEE 802.1D Spanning-Tree Protocol IEEE 802.1w rapid reconfiguration of spanning tree IEEE 802.1s multiple VLAN instances of spanning tree IEEE 802.1Q VLAN encapsulation IEEE 802.3ad IEEE 802.1x user authentication	
• QoS support	

• Manageability Built in Web based management support Built in Console port SNMP Should support auto-sensing and auto-negotiation on each non-GBIC ports. Network Timing Protocol (NTP).	
• Security Features supported TACACS+ and RADIUS support. MAC-based port-level security prevents unauthorized stations from accessing the switch. Private Vlan or equivalent feature	
• Switch Architecture: Switch should have internal/external redundant power supply Protocol and Standard Support: "Static routing, RIP, OSPF, RIPng, OSPFv3.	

10.10.   Form 2F : Manufacturer/Producers Authorization Form
(This form has to be provided by the OEMs of the products proposed)

No.   Date:

To:

Additional Secretary Finance cum Director Treasury and Accounts,
Room no. 10, 7th Floor, Punjab Civil Secretariat,
Chandigarh- 160001

OEM Authorization Letter

Dear Sir:

Ref: Your RFP Ref: [*] dated [*]

We who are established and reputable manufacturers / producers of _____ having factories / development facilities at (*address of factory / facility)* do hereby authorize M/s _____ *(Name and address of Agent)* to submit a Bid, and sign the contract with you against the above Bid Invitation.

We hereby extend our full guarantee and warranty for the Solution, Products and services offered by the above firm against this Bid Invitation.

We hereby declare that we are not insolvent, in receivership, bankrupt or being wound up, our affairs are not being administered by a court or a judicial officer, our business activities have not been suspended and we are not the subject of legal proceedings for any of the foregoing.

We also undertake to provide any or all of the following materials, notifications, and information pertaining to the Products manufactured or distributed by the Supplier:

  a. Such Products as the Bank may opt to purchase from the Supplier, provided, that this option shall not relieve the Supplier of any warranty obligations under the Contract; and
  b. in the event of termination of production of such Products:

    i.   advance notification to the Bank of the pending termination, in sufficient time to permit the Bank to procure needed requirements; and

    ii.   Following such termination, furnishing at no cost to the Bank, the blueprints, design documents, operations manuals, standards, source codes and specifications of the Products, if requested.

We duly authorize the said firm to act on our behalf in fulfilling all installations, Technical support and maintenance obligations required by the contract.

Yours faithfully,

(Name)

(Name of Producers)

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

10.11. Form 3: Commercial Bid Format-Summary of Costs

[To be submitted by the bidder as per the format given below in a separate sealed cover]

Bid Reference No. :

10.11.1. Final Commercial Bid

Sr. No	Particulars	Total Cost (INR)
1.	Hardware cost for Field Offices (As per Form 3 A) ……..A	
2.	Hardware Cost for Data centre (As per Form 3 B) …….B	
3.	Application Development Cost (As per Form 3C) C	
4.	Manpower Cost (As per Form 3 D) ……D	
5.	Operational &maintenance (O&M) cost(As per Form 3 E) …. .E	
6.	Other Costs (As per Form 3 F)……	
7.	Final Total Commercial Bid Value (in figures) [A + B + C+D+E+F]	
8.	Final Total Commercial Bid Value (in words):	

Note:

1. *Final evaluation shall be done on the basis of Final Total Commercial Bid Value.*
2. *Figures mentioned in financial proposal should match with the below mentioned details of financial bid i.e. sub-total under the detail of Financial bid in the below mentioned sections should be in agreement with the above financial Proposal summary.*

10.11.2. Form 3 A: Hardware cost at Field Offices

Sr. No.	Item	UOM	Quantity (Indicative)	Unit Rate	Taxes (Per Unit)	Total Cost
	A	B	C	D	E	F =(D+E)*C
1.	Desktop	Nos.	96			
2.	Scanners	Nos.	40			
3.	Network Laser Printer	Nos.	14			
4.	Line Matrix Printer	Nos.	1			
5.	Digital Signature Certificate (Type-lll) as per information Technology Act-2000 and from the Government of India approved CCAs only.	Nos.	7000			
6.	UPS (1 KVA)– Online	Nos.	13			
7.	UPS600VAforDesktops	Nos.	96			
8.	Rack(To accommodate Switch, Router, Modem & UPS with battery)–for the District/ Block offices	Nos.	13			
9.	LAN per point Connection	Nos.	96			
10.	Electrical Connection per workstation	Nos.	96			
11.	24PortSwitch	Nos.	13			
12.	Router	Nos.	13			

Sr. No.	Item	UOM	Quantity (Indicative)	Unit Rate	Taxes (Per Unit)	Total Cost
	A	B	C	D	E	F =(D+E)*C
13.	Computer Table	Nos.	96			
14.	Computer Chair	Nos.	96			
A	Total Value (INR)					
	Total Value (In Words):					

10.11.3. Form 3 B: Hardware cost at SDC

Sr. No.	Item	UOM	Quantity as per sizing (To be provided by Bidder)	Unit Rate	Taxes (Per Unit)	Total Cost
	A	B	C	D	E	F =(D+E)*C
1.	Web Servers	Nos.				
2.	Application Servers	Nos.				
3.	Database Servers	Nos.				
4.	Load Balancer	Nos.				
5.	Staging server	Nos.				
6.	Authentication server / Proxy Server / LDAP Server (with Redundancy)	Nos.				
7.	5KVA UPS	Nos.				
8.	Storage Area Network (SAN)	Nos.				
9.	SAN Switch	Nos.				
10.	Tape Library	Nos.				
11.	Firewall	Nos.				
12.	Layer 3 Switch	Nos.				
13.	Fireproof Safe for keeping minimum 100 backup tapes	Nos.				

Sr. No.	Item	UOM	Quantity as per sizing (To be provided by Bidder)	Unit Rate	Taxes (Per Unit)	Total Cost
	A	B	C	D	E	F =(D+E)*C
14.	Any Other	Nos.				
B	Total Value (INR)					
	Total Value (In Words)					

10.11.4. Form 3 C: Application Development Cost

Sr. No.	Item	UOM	Quantity (Indicative)	Unit Rate per UOM	Taxes per Unit	Total Rate Total Rate per annum
	A	B	C	D	E	F = {C*(D+E)}
1.	Application development cost	Per Module	28			
2.	Any Other					
C	Total Value (INR)					
	Total Value (In Words):					

10.11.5. Form 3 D: Manpower Cost

Sr. No.	Item	UOM	Quantity	Number of Man Months required in project (Indicative)	Man-Month rate	Taxes per unit	Total Cost
	A	B	C	D	E	F	G = (E+F)*D*C
1.	Project Manager	Nos.	1	8			
2.	Database Administrator	Nos.	1	68			
3.	System Administrator	Nos.	1	68			
4.	Associate Project Manager	Nos.	5	40			
5.	Field Staff	Nos.	22	286			
D	Manpower Cost Total Value (INR)						
	Total Value (In Words):						

10.11.6. Form 3 E: Operational & maintenance (O&M) cost

Sr. No	Item	Unit Rate Per Annum	Taxes per Unit	Total Cost
	A	B	C	D =(B+C)
1.	O&M Cost for Year 1			
2.	O&M Cost for Year 2			
3.	O&M Cost for Year 3			
4.	O&M Cost for Year 4			
5.	O&M Cost for Year 5			
E	Total Value (INR)			
	Total Value (In Words):			

10.11.7. Form 3 F: Other Costs

Sr. No.	Item	UOM	Quantity (Indicative)	Unit Rate per UOM	Taxes per Unit	Total Rate Total Rate per annum
	A	B	C	D	E	F = {C*(D+E)}
1.	Data Digitization	Per Record	300000			
2.	Training	Per User	21000			
3.	Application development cost (Blended person Cost)	Per Man-month	50			
4.	Document Management System	Nos	1			
5.	Any Other					
F	Total Value (INR)					
	Total Value (In Words):					

Note:-

1. *Total cost quoted above is an all-inclusive figure i.e. out-of pocket, Installation & commissioning, expenses, traveling, boarding, lodging and other operating cost etc.*
2. *No cost other than quoted above shall be claimed & paid separately.*
3. *Commercial evaluation shall be done on Final Total Commercial bid value*
4. *The rates of manpower shall also be referred for calculation of any contract extension or penalty imposition during contractual period, if needed. Quoted rates shall be used on pro-rata basis.*
5. *The Item(s) quantities mentioned above may be changed during the duration of contract. However, the payment shall be made on actual basis.*
6. *All cost should be in Indian National Rupees.*
7. *The **"Application development cost (Blended person Cost)"** shall not be considered in the Total Contract Value for the purpose of making milestone based payments.*

Signature

Full Name
In the capacity of
Duly authorised to sign Bid for and on behalf of

Date………………..   **Place…………………..**

[*: Strike off whichever is not applicable]

11.0 Annexure
11.1.   Annexure A :Indicative List of DDOs

Sr. No.	State/District Name	Number of DDO's
1.	Chandigarh	182
2.	Amritsar	393
3.	Bathinda	305
4.	Barnala	130
5.	Fatehgarh Sahib	166
6.	Faridkot	176
7.	Ferozepur	372
8.	Gurdaspur	441
9.	Hoshiarpur	415
10.	Jalandhar	479
11.	Kapurthala	231
12.	Ludhiana	570
13.	Mansa	178
14.	Moga	225
15.	Muktsar	217
16.	SAS Nagar	197
17.	SBS Nagar	166
18.	New Delhi	6
19.	Patiala	432
20.	Sangrur	333
21.	TarnTaran	224
22.	Rupnagar	210
Total		**6048**

These DDO'S along with 2 persons/employees each will have to be trained at District Level.

11.2. Annexure B: Performance Bank Guarantee

<Name>
<Designation>
<Address>
<Phone Nos.>
<Fax Nos.>
<Email id>

Whereas, <<name of the System Integrator and address>> (hereinafter called "the bidder") has undertaken, in pursuance of contract no. <<insert contract no.>> dated. <<insert date>> to provide implementation services for <<name of the assignment>> to <<Finance Department>> (hereinafter called "the beneficiary")

And whereas it has been stipulated by in the said contract that the applicant/System Integrator shall furnish you with a bank guarantee by a recognized bank for the sum specified therein as security for compliance with its obligations in accordance with the contract;

And whereas we, **<<Name of the Bank>>**a banking company incorporated and having its head /registered office at <<address of the registered office>> and having one of its office at <<address of the local office>> have agreed to give the System Integrator such a bank guarantee.

Now, therefore, we hereby affirm that we are guarantors and responsible to you, on behalf of the System Integrator, up to a total of **Rs. <<Insert Value>> (Rupees <<insert value in words>> only)** and we undertake to pay you, upon your first written demand declaring the System Integrator to be in default under the contract and without cavil or argument, any sum or sums within the limits of Rs**. <<Insert Value>>**(Rupees **<<insert value in words>>**only**)** as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the applicant/System Integrator before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the System Integrator shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.
This Guarantee shall be valid until <<*Insert Date*>>.

Notwithstanding anything contained herein:

I.   Our liability under this bank guarantee shall not exceed **Rs<<Insert Value>> (Rupees <<insert value in words>> only).**

II.   The bank guarantee shall be valid up to *<<insert expiry date>>.*

III.   It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this bank guarantee that we receive a valid written claim or demand for payment under this bank guarantee on or before *<<insert expiry date>>*failing which our liability under the guarantee will automatically cease. Place: ....

Name of the Authorized Person

Date: ....   **Signature with Seal**
(Signature in the Capacity of)
Duly authorized to sign bid for and on behalf of
(Name & Address of Bidder)

****

11.3.   Annexure C : Service Record Format

Office of

_____

_____

_____

_____

_____

_____

SERVICE RECORD BOOK

(160 Pages)

Shri

_____

_____

_____

_____

_____

_____

Suitable of Employees of

GOVERNMENT & SEMI GOVERNMENT OFFICES

COMMERCIAL & INDUSTRIAL ESTABLISHMENT

1. Name (in Full):-
2. Provident Fund Account No.:-
3. Postal Life Insurance Policy No.:-
4. Permanent Home Address (in full)
5. Father's Name (and also Husband's)

   Name in the case of a woman Govt. Employees and residence.
6. Nationality (if not a citizen of India)

   Number and date of the certificate of eligibility granted by the Government of

   India.
7. If a member of Scheduled cast Schedule Tripe Particular Cast/Tribes.
8. Date of Birth by Christian Era and Wherever possible in Saka Era (both to

   words and figures) as determined by the competent authority
9. Educational Qualifications
10. Additional educational qualifications

    Subsequently required.
11. Exact height by measurement (without shoes)
12. Personal mark of identifications.
13. Left hand thumb and figure impression of the Government Employee if he is

    not literate enough to sign his name in English, Hindi or other regional

    language.
14. Signature of the Government Employee:
    I. Little Finger
    II. Ring Finger
    III. Thumb
    IV. Middle Finger
    V. Fore Finger

15. Signature & designation of the head of the Office or other Attesting Officer.

   Note- The entries of this page should be renewed or re-attested last every five
   years and the signatures, against item 14 and 15 should be dated finger
   prints need not be taken after every five years.

1	2	3	4	5	6	7	8	9	10	11	12	13		14	15
Name of Post	Whether substantive or officiating and whether Permanent or Temporary	If officiating state or substantive appointment or (ii) whether service Counter for Pension Under Act. 371	Pay in substantive Post	Additional Pay for Officiating	Other Emoluments Falling under the Pay	Date of Appointment	Signature of Government Servant	Signature and designation of the head of the Office of other Attesting Officer in attestation of Columns 1	Date of termination of appointment	Reason of termination such as promotion transfer dismissal etc.	Signature of the head or other office or other Attesting Officer.	Name and duration of leave taken	Allocation of period of leave on average Pay up to four months for which leave salary is debitable to another Government	Signature of the head of the office or officer attesting officer	Reference of any recorded punishment or centre of reward of praise of the Government servant
													Period	Government to which debitable		

(For use in Police and other similar Departments)

RECORD OF POSTINGS

District and Post	No. of District Order	Date	District and Post	No. of District Order	Date

A.T.C.-2   LEAVE ACCOUNT OF __   Date of attaining the age 55/60 year…

Ordinary (Leave Rule Date of Contract, if any Leave Taken   Date of coming under Civil Leave Rules.
Date of Commencement of Service   (Balance on return from leave)

Duty	Leave Earned		Leave at Credit		Total Columns (6+7)	Leave on Average			Pay on half quarter average			Total column (10+11+12)	On leave equivalent to 1-11th of duty subsequent to coming under Fundamental Rule (Rule 31)(b)(ii) Column (6-10)	In leave equivalent to balance of 2-11th of cufy subsequent to coming under Fundamental Columns	Total Columns (8+15)	Remarks
	1-11th of duty subsequent to coming and Fundamental Rule (Rule 8) (b) (ii)	Balance of 2-11th of duty subsequent to coming under Fundamental Rule	1-11th of duty subsequent to coming under Fundamental Rule (Rule 18) (16+4)	Balance of 2-11th of duty subsequent to Coming under Fundamental Rule Column (17+6)		Date	Against entries in (column 6)	Against limit of one year of leave on medical certificate and leave spent	Dated	Actual Period	Actual Period converted into period in term of leave on average pay					
1	2	3	4	5	**6**	7	8	9	10	11	12	1 3	**14**	**15**	**16**	**17**

Form of Leave Account

Name ....   Received   Leave Rule 1933   A.T.C.-2

Domicile ....   As Modified M.O.F No. 2(1)   Estt. (Sbi.84) dated the 24.02.49   See Art 186, Anbit Cods

Date of commencement of….Father's Name ....   Date of Birth
...................................Date of Compulsory Retirement ....

								ON PRIVATE AFFAIRS AND ON MEDICAL CERTIFICATE											
EARNED LEAVE					HALF LEAVE				LEAVE TAKEN											
Date			Leave earned (in day)	Leave at credit in days column 9+4 subject to the appropriate	Leave Take			Balance on return from leave (Column 6+8)	Light of Service		Credit Leave		Leave on Private affairs or on Medical Certificate			Commuted leave on M.C. on full pay (limited to 180 days in entire service)			Commuted leave converted into half pay leave (twice of column 20)	Leave one due to M.C. (limited to 180 days in entre service)			Total half pay leave taken (cul). 17+21+24	Balance on return from leave column 14+25	Remarks
From	To	No. of Days			From	To	No. of days		From	To	No. of completed year service	Leave earned in days	Leave at credit columns (20+18)	From	To	No. of days	From	To	No. of days		From	To	No. of days			

11.4. Annexure D: Indicative State/District wise employees(As on 31st March 2011)

Sr. No.	Location/District name	Employee
1.	Chandigarh	14759
2.	Gurdaspur	33997
3.	Amritsar	27160
4.	Tarn Taran	7854
5.	Kapurthala	8293
6.	Jalandhar	25390
7.	S.B.S Nagar	6048
8.	Hoshiarpur	21145
9.	Rupnagar	11290
10.	S.A.S Nagar	9678
11.	Ludhiana	31909
12.	Firozpur	17707
13.	Faridkot	8474
14.	ShriMuktsar Sahib	8815
15.	Moga	10688
16.	Bathinda	14116
17.	Mansa	8217
18.	Sangrur	13388
19.	Barnala	5009
20.	Patiala	32168
21.	Fatehgarh Sahib	6502
Total		**322607**

11.5.   Annexure E: Indicative Department/Organization wise employees

Sr. No	Name of Department/Organization	Number of employees
1	Pb. VidhanSabha	313
2	Pb. Raj Bhawan	122
3	Legal Remembrance	67
4	Advocate General	304
5	Prosecution & Litigation	416
6	Justice	4408
7	Election	345
8	Language	217
9	Financial Commissioner	972
10	Revenue	9097
11	Excise & Taxation	2284
12	Punjab Public Service Commission	77
13	Civil Secretariat	1853
14	Police	59786
15	Home Guard	4989
16	Jails	2512
17	Treasury & Accounts	581
18	Local Fund Examiner	287
19	Controller Internal Audit	153
20	Institutional Finance & Banking	20
21	Printing & Stationary	526
22	Local Government	82

23	General Education	102518
24	Technical Education & Industrial Training	3613
25	Sports	602
26	Youth Services	50
27	Cultural Affaires Museum Archaeology & Archives	232
28	Health & Family Welfare	30767
29	Water Supply Public Health	8282
30	Town & Country Planning	393
31	Chief Architect	130
32	Information & Publicity	442
33	Social Welfare & Welfare of SCs & BCs	24340
34	Labour	271
35	Employment	293
36	Subordinate Services Selection Board	55
37	Sainik Welfare	199
38	Hospitality	363
39	Rehabilitation	42
40	Administrative General Official Trustee & Charitable Endowments	5
41	Information Technology	67
42	Agriculture	2595
43	Horticulture	779
44	Soil Conservation	1259

45	Animal Husbandry	5271
46	Dairy Development	250
47	Fisheries	346
48	Forest	1387
49	Cooperation	1941
50	Rural Dev. & Panchayats	2835
51	Consolidation	43
52	Colonization	35
53	Irrigation	22687
54	Chief Electrical Inspector	71
55	Industries	1217
56	Transport	7191
57	Civil Aviation	31
58	Public Works Deptt. B&R	9409
59	Tourism	27
60	ESO Punjab	449
61	Food Civil Supplies & Consumer Affairs	2527
62	Punjab State Planning Board	75
63	Lotteries & Small Savings	68
64	Lok Pal	26
65	Pensioners &welfare of pensioners	13
Total		**322607**

11.6.   Annexure F: Indicative Number of Employees of Board/Corporations

Sr. No	Name of Institutions	Number of employees
1	Boards / Corporations	67429
2	Municipal Corporations/Committees	26076
3	Improvement Trusts	759
4	ZilaParishads	3616
5	Market Committees	3399
6	PanchayatSamities	5118
Total		**106397**

11.7.   Annexure E: Brief Scope and technical details of IFMS

Brief about IFMS:

Government of Punjab aims to strengthen its Public Financial Management as a part of the Strengthening Public Expenditure Management in Government programmes. In line with this effort, GoP intends to implement an application for Integrated Financial Management System (IFMS).

This system has computerized most of the important Treasury functions in the areas of Payment, Receipt, Pension, LOC, Stamp, and Bank related processes.
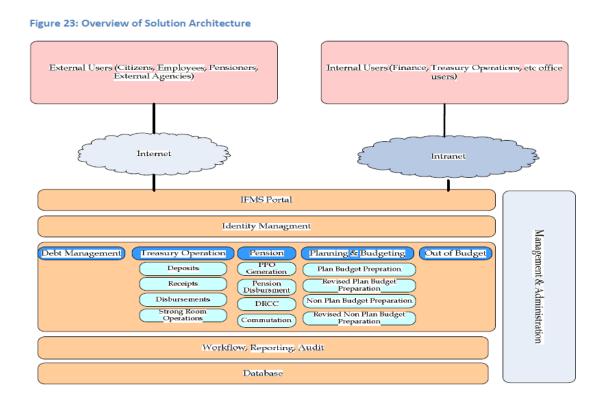
Overview of IFMS

The objective of IFMS is to align the focus of Government Policies/ Plans/ Programmes corresponding to the availability of resources to the economy. Realization of the system will involve enhancing existing processes for better efficiency and procedures for successful implementation of the system. IFMS offers following features and benefits:

- The system is a centralized Financial Management application which captures all important processes of the state financial system on an integrated platform.
- The system will automate all the workflows involved in each of these processes in the respective application modules thus minimizing physical file movements within the premises of the stakeholders as well as between them.
- The IFMS will be a state-of-art implementation of the latest IT technology available to help the state Government to facilitate speedy decision making, financial analysis and efficient management of financial assets of the state and monitor public expenditure.
- The remote users of the IFMS (like the District Treasuries and sub-Treasuries) will have the facility to connect to the centralized computing facility through the Punjab State WAN (PAWAN).
- The system will have all security features to ensure secure connectivity and intrusion prevention thus making it reliable.
- Access management features will ensure who is allowed to access what information in the system.
- There will be a disaster recovery facility which will ensure that the system remains up and running even during any unpredictable and unfortunate incident which may otherwise result in the disruption of normal business activities.

Technical details for the solution provided:

- Database-Oracle 11g
- Operating System-HPUX
- Web Server-Web logic/Apache

- The architecture is based on Java EE (Java Platform, Enterprise Edition) open standards with web based platform independent technologies.

Figure 23: Overview of Solution Architecture

+