Controller General of Defence Accounts

Ministry of Defence (Finance)

Government of India

Volume - 1

Request for Proposal

For Selection of Agency For

Development & Implementation of Comprehensive Pension Package and Data Center Setup

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1 Disclaimer

The information contained in this Request for Proposal document ("**RFP**") or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of Defence Accounts Department (DAD), or any of its employees or advisors, is provided to Bidders on the Terms and Conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor an invitation by DAD to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP.

This RFP may not be appropriate for all companies, and it is not possible for DAD, its employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each bidder should therefore conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depend upon interpretation of facts. The information given is not an exhaustive account of requirements and should not be regarded as a complete or authoritative statement of facts. The specifications laid out in this RFP are indicated as the minimum requirements whereas the bidders are expected to focus on the objectives of the project and formulate their solution offerings in a manner that enables achieving those objectives in letter as well as spirit.

DAD accepts no responsibility for the accuracy or otherwise for any interpretation or opinion expressed herein. DAD, its employees and advisers make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or

information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

DAD also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this RFP.

DAD may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RFP.

The issue of this RFP does not imply that DAD is bound to select a Bidder or to appoint the Selected Bidder, as the case may be. DAD reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by DAD or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and DAD shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

2 Definition & Abbreviations

1. **"Confidential Information"** means any information disclosed to or by any Party to this Contract and includes any information in relation to the parties, a third party or any information with regard to any taxpayer, or any other person who is covered within the ambit of any commercial taxes legislation including any such information that may come to the knowledge of the Parties hereto / bidder's Team by virtue of this Contract that:

    a. Is by its nature confidential or by the circumstances in which it is disclosed confidential OR

    b. Is designated by the disclosing party as confidential or identified in terms connoting its confidentiality; but does not include information which is or becomes public knowledge other than by a breach of this contract.

2. "**Contract"** means the Agreement entered into between "Defence Accounts Department (DAD)" and the "System Integrator (SI)" as recorded in the Contract form signed by "DAD" and the "SI" including all attachments and Annexes thereto, the Bid and all Annexes thereto and the agreed terms as set out in the bid, all documents incorporated by reference therein and amendments and modifications to the above from time to time: "DAD" shall mean Defence Accounts Department and shall include its legal representatives, successors and permitted assignees.

3. The **"System Integrator" (SI)** means the company with whom the order has been placed for providing services as specified in this tender/contract and shall be deemed to include the bidder's successors, representatives (approved by DAD), heirs, executors, administrators and permitted assignees as the case may be, unless excluded by the terms of the contract.

4. **"Parties"** means DAD and the shortlisted System Integrator and **"Party"** means either of the Parties.

5. **"Service"** means facilities/services to be provided as per the requirements specified in this Bid document and any other incidental services, such as installation, implementation, maintenance, and provision of technical assistance and other such obligations of the bidder covered under the contract.

6. **"Document"** means any embodiment of any text or image however recorded and includes any data, text, images, sound, voice, codes or and databases or scanned or computer generated archives.

7. **"Intellectual Property Rights"** means any patent, copyright, trademark, trade name, design, trade secret, permit, service marks, brands, propriety information, knowledge, technology, licenses, databases, computer programs, software, know how or other form of intellectual property right, title, benefits or interest whether arising before or after the execution of this Contract and the right to ownership and registration of these rights.

8. **"Site"** means DAD premises for the purposes of the contract wherein the operations/services/facilities as specified in the scope of work are to be provided/ carried out.

9. **"The Contract Price / Value"** means the price payable to the bidder under the Contract for the full and proper performance of its contractual obligations.

10. **"Bidder"** shall mean an Individual Company registered under the Companies Act 1956 or a Consortium of companies registered under the Companies Act 1956 consisting of not more than two companies as defined in this document which participates in the Bidding process.

11. **"Prime Bidder"** shall mean the company heading the Consortium which shall interface with the Government on behalf of Consortium, for the successful execution of the project for the entire agreement period.

12. **"Bill of Material"** or **"BoM"** means the bill of material provided by SI in its Proposal, stating the prices and the quantity of the materials to be procured by the SI (on behalf of DAD) in pursuant to the specifications more elaborately stated in RFP.

13. **"Data"** shall mean any record of any matter or thing tangible or intangible, factual, fictitious or imaginary, hypothetical or abstract, known or unknown, accurate or inaccurate provided by Stakeholders to SI and includes any thought, form or substance, or knowledge proposition or opinion supplied or recorded by man or machine and prepared, stored or transmitted in computer readable form and shall include information.

14. **"Equipment"** means the computer hardware, machinery and other tangible equipment used for the Project, pursuant to the Contract.

15. **"OEM"** or **"Original Equipment Manufacturer"** means the original manufacturer and owner of the Intellectual Property Rights of any Third Party Software or Equipment to be used in the Project and to which DAD has been granted unlimited license to use.

16. **"Updates"** means but is not limited to a minor change, Modification, Customization made to the Software by SI or OEM so as to incorporate 'bug fixes', or improve the existing technology, features or functionality.

17. **"Page"** means one side of a written or printed leaf of Pension Payment Order (PPO) Binder.

18. **Abbreviations**

Acronym	Full text
APT	Anti-Persistent Threat
CD	Compact Disk
CPDA	Central Pension Disbursement Agency
CPP	Comprehensive Pension Package
DAD	Defence Accounts Department
DC	Data Center
DLP	Data Loss Prevention
DMZ	Demilitarized Zone
DPDO	Defence Pension Disbursement Office
DR	Disaster Recovery
EMD	Earnest Money Deposit
FRS	Functional Requirement Specifications
GoI	Government Of India
GPR	Government Process Re-engineering
GREF	General Reserve Engineer Force
HIPS	Host Intrusion Prevention System
IDAS	Indian Defence Accounts Service
IPS	Intrusion Prevention System
IT	Information Technology
ITIL	Information Technology Infrastructure Library
JCDA	Joint Controller of Defence Accounts
JCO	Junior Commissioned Officer
KYC	Know Your Customer
LPC	Last Pay Certificate
MeitY	Ministry of Electronics & Information Technology
MSA	Master Service Agreement
MZ	Militarized Zone

Acronym	Full text
NDA	Non Discloser Agreement
NISG	National Institute for Smart Government
NPO	Naval Pay office
OEM	Original Equipment Manufacturer
OR	Other Rank
OS	Operating System
OTP	One Time Password
PAO	Pay Accounts Office
PBOR	Pensioners Below Officer Rank
PCDA (P)	Principal Controller Of Defence Accounts (Pension)
PDA	Pension Disbursement Agency
PKI	Public Key Infrastructure
PPO	Pension Payment Order
PSA	Pension Sanctioning Authority
QA	Quality Assurance
QC	Quality Control
RDBMS	Relational Database Management System
SAN	Storage Area Network
SDD	Solution Design Document
SI	System Integrator
SIEMS	Security Information And Event Management System
SLA	Service Level Agreement
SRS	Software Requirement Solution
SSl	Secure Sockets Layer
STQC	Standardization Testing And Quality Certification
UAT	User Acceptance Test
VPN	Virtual Private Network
WAN	Wide Area Network

3 RFP Issuing Authority

This RFP is issued by Defence Accounts Department on behalf of Ministry of Defence, Government of India.

Project Title
Development & Implementation of Comprehensive Pension Package and Data Center Setup
RFP Issuer
The Controller General of Defence Accounts Ulan Batar Road, Palam Delhi Cantt. – 110010
Contact Person
Dr. Sunish S, IDAS Sr. ACGDA (IT&S)
Phone No.: 011-25674826
Email: projectcpp.dad@hub.nic.in
Fax No.: 011-25675030

4 Important Dates

Event	Date
RFP Publication	16-June-2017
Sale of RFP document – Start Date	19-June-2017
Submission of written queries for clarifications on RFP document	26-June-2017
Pre-bid meeting	30-June-2017 10:00 AM
Extended Bid Queries	01-July-2017 05:00 PM
Publication of Response to Bid Queries & Issue of Corrigendum (if required)	07-July-17
Bid Submission Start	19-Jun-2017 10:00 AM
Bid Submission Closing	13-July-2017 12:00 PM
Pre-qualification Opening	13-July-2017 01:00 PM
Technical Bid Opening	19-July-2017 11:00 AM
Price Bid Opening	04-Aug-2017 11:00 AM

For any clarification please contact the issuing authority mentioned in the above section.

5 RFP Structure

This Request for Proposal (RFP) document for Project *Software Development & Implementation of Comprehensive Pension Package & Mini Data Center Setup* comprises of the following:

DAD through this Request for Proposal (RFP), seeks to select a System Integrator, with relevant experience and capabilities to design, procure/develop, supply, implement, operate and maintain Comprehensive Pension Package & Mini Data Center Setup, as described in this RFP. The content of this RFP has been documented as a set of three volumes explained below:

1. **Volume I: Scope of work**

   Volume I, along with its annexures, of this RFP includes the scope of work of the project including functional, technical and operational requirements of the Comprehensive Pension Package & Mini Data Center Setup solution.

2. **Volume II: General Instructions, Commercial and Bidding Terms**

   Volume II, along with its annexures, of this RFP includes the details on technical and commercial eligibility and evaluation criteria and their related forms, formats and guidelines.

3. **Volume III: Draft Agreement**

   Volume III, along with its annexures, of this RFP includes the draft Master Services Agreement (MSA), Service Level Agreement (SLA) and Non-Disclosure Agreement (NDA) to be signed between DAD and System Integrator.

This document is volume 1. The bidders are expected to examine all instructions, forms, terms, Project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

6 Fact Sheet

S. No.	Clause Reference	Description
1.	RFP Volume I – Section 4	**Tender Schedule:** Refer Section 4 of RFP Volume I.
2.	RFP Volume II – Section 2.2	**Procurement of Tender Document:** The tender document can be downloaded from any of the following websites: • http://www.cgda.nic.in • http://eprocure.gov.in • http://tcil-india-electronictender.com
3.	RFP Volume II – Section 2.2	**Tender Processing Fee:** Free of Cost
4.	RFP Volume II – Section 2.3	**Earnest Money Deposit:** EMD of Rs. 50 Lacs, in the form of an Account Payee Demand Draft OR Bank Guarantee issued by any nationalized bank. Validity: 180 days from Bid Submission Closing Date.
5.	RFP Volume I – Section 4	**Pre-Bid Meeting:** Date: As per the schedule provided in section 4 Venue: Srijan Hall, 2nd Floor, Office of Controller General of Defence Accounts, Ulan Batar Road, Palam, Delhi Cantt – 110010

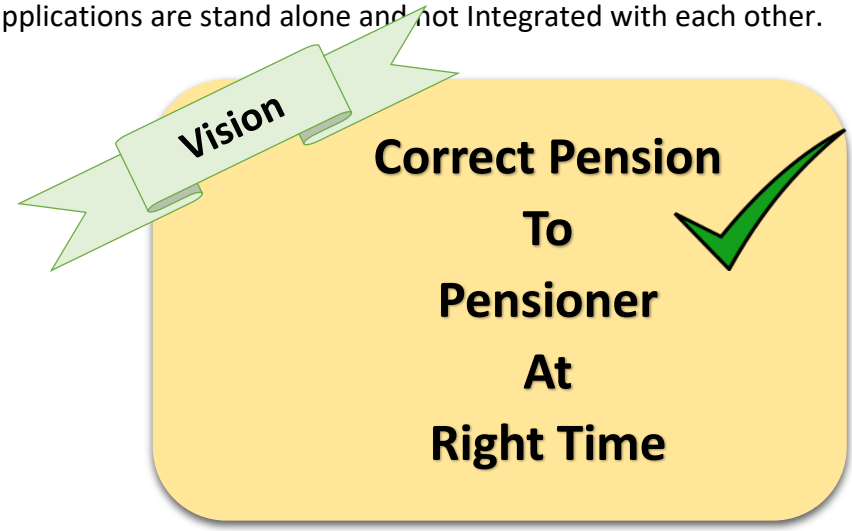
6.	RFP Volume II – Section 2.4	**Pre-Bid Queries:** Queries for clarifications on RFP document must reach to CGDA office in written form by/ before as per schedule provided above
7.	RFP Volume II – Section 3.1	**Pre-Qualification Criteria:** Refer section 3.1 of RFP Volume II.
8.	RFP Volume II – Section 2.11	**Proposal Language:** English
9.	RFP Volume II – Section 3.2 & 3.3	**Evaluation Process:** QCBS (70:30). For detailed process, refer the Section 3.2 and 3.3 of RFP Volume II.
10.	RFP Volume II – Section 3.3.1	**Taxes:** Taxes must be explicitly mentioned in the provide bid templates. Evaluation will be done on the Bid value excluding taxes.
11.	RFP Volume II – Section 2.10	**Bid Validity:** Bid must remain valid till 180 from the Bid Submission Closing date.
12.	RFP Volume II – Section 2.9	**Submission of Proposals:** Electronic responses shall be submitted on the e-tendering portal http://tcil-india-electronictender.com within the timeframe prescribed vide Section 4.
13.	RFP Volume I – Section 4	**Proposal Submission Closing** Proposals must be submitted on electronic platform on or before as per the schedule given in Section 4.

14.	RFP Volume I – Section 15	**Scope of Work** For Detailed Scope of Work, refer RFP Section 10 of RFP Volume I and the respective annexures.

1. Proposals, in its complete form in all respects as specified in the RFP, must be submitted on the portal within date & time as specified in the Section 4.
2. CGDA may, in exceptional circumstances and at its discretion, extend the deadline for submission of proposals by issuing an addendum, in which case all rights and obligations of CGDA and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

7 Project Context

At present Defence Accounts Department is using various in-house developed applications to manage Defence Pension Process needs. The system is in use for more than a decade. The modules/functionalities in Pension Software (Sanction, Disbursement, Portal, Mobile app, etc.) have been developed based on incremental improvement approach and on a need basis. These applications are stand alone and not Integrated with each other.



DAD now plans to implement an Integrated Comprehensive Pension Package (CPP) for all the Processes to offer additional benefits (over and above those provided by the current system) like-

a) Correct Pension payment to Pensioner

b) Individual Information dissemination to pensioner on Portal and mobile devices

c) Reduction in number of Grievances

d) Single source of truth

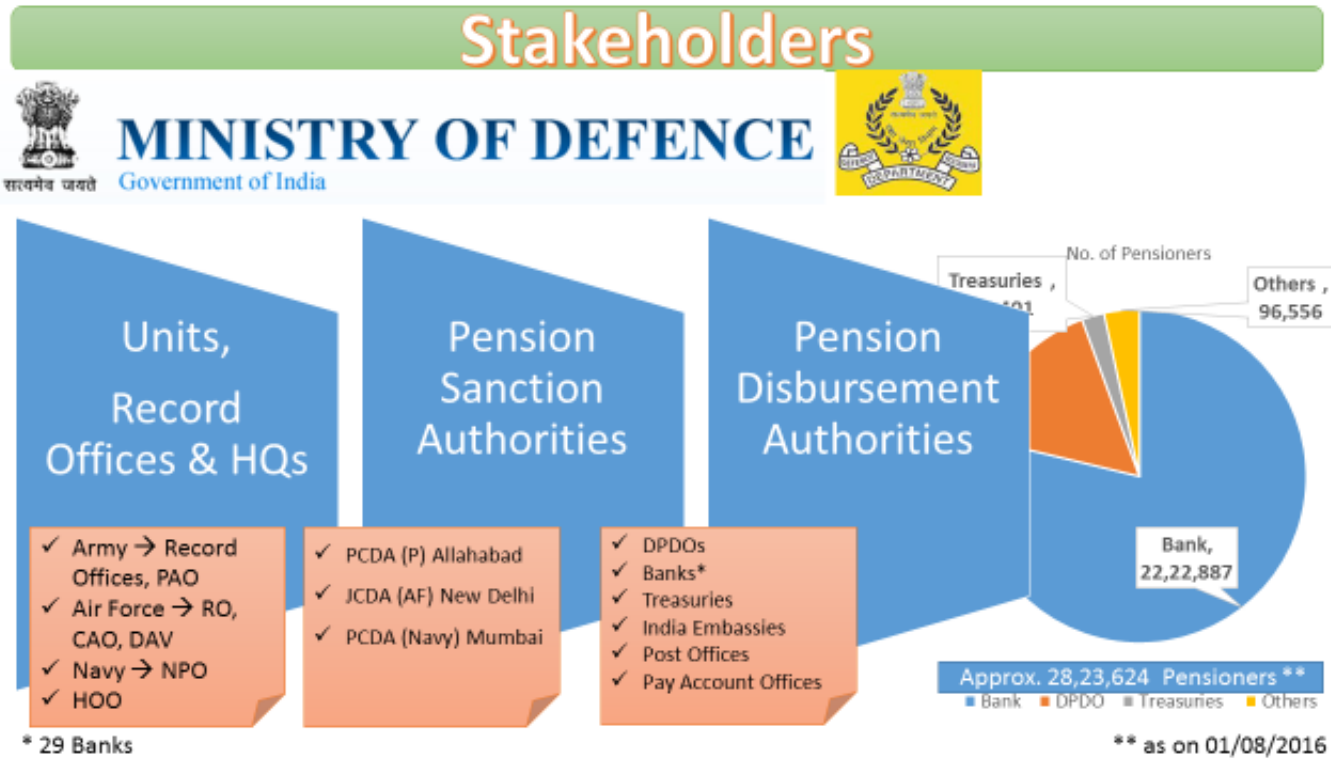
e) Correct accounting, etc.

DAD wants to set up two centralized in-house mini Mini Data Centers to provide Infrastructure services to its offices and sub-offices to access CPP and other DAD applications.

DAD also wants to create a document repository by scanning Pensioners records.

In this regard, sealed tenders are invited from eligible, reputed, qualified IT Firms with sound technical and financial capabilities. This invitation to bid is open to all the bidders meeting the minimum eligibility criteria as mentioned in **Section 3.1** of the Volume – II RFP Document.

8 Stakeholders



Note: Total number of Pensioners at the time of implementation could be within ± 5% of provided figures.

For detailed description, refer Annexure A.

9 Overview of the Existing System: As-Is

9.1 Existing Pension Process

Detailed As-Is processes related to Pension are provided in Annexure A.

9.2 Existing IT Systems

Defence Pension Software Applications: The following In-house Applications related to Pension process are being used by DAD.

S. No.	Application	Purpose	Technology	Hosting
1.	Pension Sanction System	This application has been developed in house to automate the Pension Sanction process at PCDA (P) and to keep soft repository of Pensioners sanction data. Its main output is PPO (pension payment order) and Corr. PPO. It is used by three PSAs: PCDA (P) Allahabad, PCDA (Navy) Mumbai, and JT CDA (AF) New Delhi for Pensioners who retired after Year 2006.	PHP, My Sql	LAN
2.	SANGAM	Facilitates issuance of corrigendum pension payment orders for Pensioners before year 2006. It addresses need to issue of individual corrigendum pension payment order consequent to implementation of recommendations of Sixth Central Pay Commission (6th CPC). Application was developed in-house and is being used by PCDA (P) Allahabad, PCDA (Navy) Mumbai, and JT CDA (AF) New Delhi.	PHP, MySQL	LAN
3.	e-PPO	As per the existing procedure sanction of pensionary benefit are being notified through Pension Payment Order. Under the e-PPO project digitally signed e-PPO in pdf file format and PPO data in xml file format is being sent directly to banks (since year 2016) through a Secured File Transfer Protocol (SFTP).	PHP, Mysql	LAN
4.	AASHRAYA	*Aashraya* application was conceptualized in May'2010 for complete computerization of	PHP, JavaScript,	Intranet

S. No.	Application	Purpose	Technology	Hosting
		Defence Pension Disbursement Offices (DPDOs) of the department. These offices are under the jurisdiction of 2 CDAs: CDA (PD), Meerut Cantt., CDA Chennai	MySQL on Linux and Windows	
5.	e-Scroll	It is a replacement of existing manual based classification & Accounting process followed in accounting section. It takes e-scrolls (debit & credit) from Banks as input in a specific format, classifies them under various accounting heads and reconcile with the RBI advice.	PHP, MySql	LAN
6.	Pensioner Portal www.dpdopensioners.org	Pensioner portal provides an interface to the Defence pensioners over internet where they login and view their details registered with DAD and the pension payment history.	PHP , MySql	Internet
7.	Suvigya	SUVIGYA is an in-house designed and developed Pension enquiry System in July, 2010 with a view to empower the pensioners to know what their correct entitlement of pension is from time to time. It is a web based system. The system requires very few basic inputs from the pensioner. Once data is entered, software calculates the pension. Pensioner can get a print out of inputs provided by him and of the outputs generated by the system. If a pensioner finds his/her pension actually paid or being paid is less than the results given by the system, he/she can take up the matter	PHP , MySql	Internet

S. No.	Application	Purpose	Technology	Hosting
		with the Pension Sanctioning Authority or Pension Disbursing Agencies for rectification.		
8.	Suvidha	SUVIDHA is used by call center at PCDA (P) to address pensioner grievances, it is an online pension enquiry helpline which provides singular view of limited pensioner database.	PHP, MySql	LAN
9.	Court Cases Monitoring System (CCMS)	CCMS is a web based application for monitoring of all the ongoing court cases for various departments and sub-departments. At a click of button complete case summary for a particular department or multiple departments is available and the details of particular like case history or current status, can further be viewed.	Dot Net, SQL Server	Intranet

Other DAD Applications: DAD also uses following Applications for non-Pension work areas. The details are provided so that bidder can have idea about these Applications, which shall be hosted at Mini DATA CENTER-2.

S. No.	Application	Purpose	Technology	Hosting
1.	Dolphin	Dolphin application was developed in-house and is operational in 45 DAD Pay Accounts Offices (referred to as PAO in this document) since 2009 in distributed environment. The primary responsibility of PAOs is to maintain the pay and accounts of JCO/ORs of Indian Army. It maintains the pay and allowances of all Entitlements / recoveries and AFPP Fund in respect of JCOs/ORs.	Java/J2EE, JBOSS, PostgreSQL	LAN

S. No.	Application	Purpose	Technology	Hosting
2.	Tulip	Tulip Office Automation system was on pilot run in CDA Secundrabad from 1st April 2015 and in CDA (R&D) Bangalore from 1st August 2015. The system is now stabilized in these offices and as such is now to be implemented in other Regional Controller offices and R&D offices in a time bound manner. Customization for other functional Controllers' offices is planned after the implementation is initiated in these offices, with PCDA (N) to be taken up first. This will bring uniformity of office automation system in the department.	JBoss Seam, PostgreSQL, Fedora	Intranet
3.	Tulip - PMS (Personal Management System)	Tulip Office Automation system was on pilot run in CDA Secunderabad from 1st April 2015 and in CDA (R&D) Bangalore from 1st August 2015. The system is now stabilised in these offices and as such is now planned to be implemented in other Regional Controller offices and R&D offices in a time bound manner. Customization for other functional Controllers' offices will be done after the implementation is initiated in these offices, with PCDA (N) to be taken up first. This will bring uniformity of office automation system in the department. The application is under implementation phase.	JBoss Seam, PostgreSQL, Fedora	Intranet
4.	New Compilation System	Compilation System is an in-house developed application of DAD, developed by DAD IT&S wing, which is being used for	PHP, MySQL	Intranet

S. No.	Application	Purpose	Technology	Hosting
		expense booking and MIS reports generation purpose. The application is centrally hosted at DAD, New Delhi. The application generates variety of reports for the purpose of Ministry, Accounts & Budget forecasting.		
5.	Vigilance Online Integrated Complaint & Enquiry (VOICE)	This application used by Vigilance Cells of DAD wherein the information related to status of all the disciplinary cases or enquiries is maintained.	Dot Net, SQL Server	Intranet
6.	Guest House Booking Management System	This application has been developed to provide information about Guest House/Transit accommodation/Holiday Homes and their booking. Through this website DAD welcomes online application registration for booking of Guest House/Transit accommodation/Holiday Homes	Dot Net, SQL Server	Intranet
7.	e-Ticketing (DTS - Defence Travel System)	With e-Ticketing Defence Account Department came up with the idea of replacing the existing system of manual railway ticketing on warrants/Form D / concession vouchers with an electronic web-based system not only to address issues related to accounting, audit & monitoring in manual system but also to meet the current requirement of Services in a digitally enabled environment. Availability of travel planning and on-line reservation system to Defence personnel in	Java, MySql	DAD HQs East Block –X

S. No.	Application	Purpose	Technology	Hosting
		remote and far flung areas of their posting is a widely acceptable benefit that has accrued from the project. It has also saved the time required to visit to PRS counters. The application was developed by DAD & TechTree and is being maintained by DAD & M/s Balmar & Lowrie. Note: This application and its hardware may be housed at Mini DATA CENTER-1.		

10 Scope of Work

The Comprehensive Pension Package (CPP) and Mini Data Center Project is to be implemented for all the stakeholders. The implementation of the Project will be completed in a period specified below commencing from the date of award to the SI and will be followed **by 5 years of Operation and Maintenance (O&M) phase**.

A. The Operation and maintenance (O&M) phase of the project may be extended for 2 more years depending upon terms and conditions mutually agreed between the SI and the department on the successful completion of 5 year O & M Phase.

B. Post successful completion of 5 + 2 years O & M Phase, the support for CPP Applications may be extended by 3 more years depending upon terms and conditions mutually agreed between the SI and the department.

SI needs to procure all the components of CPP in the name of DAD, MoD. The IPR of the solution shall comply with **Article 13 of Volume III of this RFP**. The scope of services will encompass the following:

10.1 Project A

a) Development & Implementation of Comprehensive Pension Package

b) Setting up and implementation of 2 Mini Data Centers at Delhi & Bengaluru

10.2 Project B

a) Scanning of Pensioner's documents and uploading to DMS (Document Management System) in 2 Phases.

Phase I:

I. 2 lakh Binders (each consisting of appx. 350 Pages) at three locations shall be targeted for the scanning and creating document repository by uploading scanned documents to DMS with meta data entry of 8-10 fields

II. Metadata entry (8-10 fields) of 11 Lakh already scanned records (average 20 Pages/ record) and uploading to DMS

Phase II:

After satisfactory completion of Phase-I, 1.2 Lakh Binders are required to be scanned at one location (Allahabad) by uploading scanned documents to DMS with meta data entry of 8-10 fields.

10.3 Support Phase:

a) Maintenance of Comprehensive Pension Package

b) Operation & Maintenance of two Mini Mini Data Centers

The support Phase can be extended for a period of two Years.

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

1. Project Planning and Management
2. System Study and Design
3. Recommendations for Business Process Reengineering for the CPP applications/ services
4. Development of CPP Application
5. Scanning of Pensioner records
6. Site Preparation
7. Hardware Procurement & Commissioning
8. STQC – BoM Audit & Certification
9. UAT & Go live for new Pensioners
10. UAT for legacy Pensioners
11. Data migration of legacy Pensioners & Go live
12. Capacity Building
13. Operation & Maintenance (O&M)

11 Project A – Comprehensive Pension Package

11.1 Comprehensive Pension Package

DAD has envisaged to develop and implement Comprehensive Pension Package, which shall completely automate the processes and functions of Defence Pension and its constituent stakeholders and internal departments as well as provide a strong base for IT infrastructure and service delivery framework.

The scope of services will encompass the following:

11.1.1 System requirements study and solution design

11.1.1.1 Project Plan and the Inception Report preparation

a) The system integrator (SI) shall prepare a Project Plan for the entire project

b) The SI needs to prepare and submit an Inception Report, which will serve as the foundation document for all activities related to the project. Additionally, the Inception Report must cover the risks the SI anticipates and the plans they propose towards Risk mitigation.

c) The acceptance of the Inception Report by DAD is necessary before proceeding to the next stage of the project.

11.1.1.2 SRS preparation

a) The indicative functional requirements specifications is provided in Annexure A of this RFP. SI has to perform actual requirement gathering. The functional requirement specifications provided in this RFP is for the purpose of reference only. The SI is required to capture all possible and required functional requirements.

b) The SI shall conduct an actual Requirements gathering and prepare an SRS document. SI may consult with DAD whenever necessary, to obtain more details on the requirements of the project

c) Activities conducted as part of this task will result in the “Software Requirement Specifications” (SRS) document for CPP, which shall detail the requirements of the complete solution up to the last detail. SRS document shall comply with the latest and most relevant IEEE standards.

d) The acceptance of the SRS by DAD is necessary before proceeding to the next stage of the project.

11.1.1.3 Solution Design Document preparation

The SI shall prepare a solution design document (SDD) containing:

a) Complete architecture of the proposed CPP solution.

b) Design of an audit trail capturing mechanism for all transactions (add, update and delete) using transaction log reports, so that errors in data, intentional or otherwise, can be traced and reversed, throughout the project duration.

c) The security aspects, measures etc. to be deployed for the solution

d) Access Controls measures - to ensure that the databases are not tampered or modified by the system operators or database administrator.

e) Implementation plan for data security- to allow for changes in technology and business needs.

f) Plans for various types of testing and audit as required by this RFP.

g) Any other section as required in the SSD document

The acceptance of the SSD by DAD is necessary before proceeding to the next stage of the project.

11.1.2 Mini DC, DR for CPP

More details about Mini DATA CENTER-1 are covered in section on Project B.

11.1.3 Application development

The SI shall carry out the following under application development-

11.1.3.1 Development and testing of CPP application

The system integrator will be responsible for development, integration, testing and deployment of the CPP application along with portals based on:

a) The functional requirements (FRS) given in the RFP Volume – I of Annexure – A.

b) SRS & SDD finalized by the SI in consultation with the DAD

c) Project implementation approach

d) Any other related documents

The CPP system should be browser independent.

The SI shall recommend bandwidth requirement (Internet and WAN) for both the Mini Data Centers, CGDA HQs and PCDA (P), Allahabad office to run CPP software smoothly while meeting the SLAs and other requirements of this RFP. The bandwidth which shall be provisioned by DAD.

The SI is required to design the solution in such a way, that it work smoothly on the recommended bandwidth.

11.1.3.2 E-mail solution for system generated content

The System Integrator is expected to procure, implement, commission and host an open source email solution for CPP Application. The email solution shall cater for required number of CPP System users. The CPP Application component at Internet zone shall hand over all system generated e-Mails to email server, which in turn shall forward to external stakeholders such as Pensioners. Incoming emails addressed to specified system email id (e.g. grievance_pension@cgda.nic.in) shall be handed over back to CPP Application component at Internet zone.

DAD shall have the right to use the email solution beyond the project period. In case, during the project period, DAD takes a decision to migrate to any other email solution, the SI shall provide support for migration of existing boxes to new solution at no additional cost. The system integrator shall be responsible for procurement, supply, installation, configuration and maintenance of email solution for the project period. Following shall be the indicative requirements which are to be followed

a) The email solution should support PKI base digital certificate for both web and client access

b) System Users should be able to change their password without intervention of systems staff.

c) The solution should be standards based providing integration and access through industry standard specifications.

d) The solution includes effective, usable anti-spam/anti-virus/anti-malware solution with features for deleting, filtering & quarantining. It should also provide the user to review of such filtered messages. This solution should provide for protection at the gateway and server level.

e) The solution provides the user a means of backing up data on local disk as well as to system administrators to back up the user mail boxes.

f) The solution should provide for archiving & journaling of emails. There should be an interface using which administrator or auditor can search emails of multiple users at the same time. There should be complete logging of such searches performed and should comply to IT Act 2000 and its subsequent amendments.

g) The solution should support role based access control (RBAC). Administrators are to be given only the permissions/access they need to perform their work and nothing extra.

11.1.3.3 SMS solution for system generated content

The SI will integrate the relevant modules, functions, etc. of CPP with Mobile Service Delivery Gateway (MSDG) of Government of India for SMS gateway functionalities.

11.1.3.4 Design, development, hosting and maintenance of Pensioner Portal

The SI will design, develop, host and maintain Pensioner portals. SI will also have to ensure that these portals are secure. There will be two type of portals, namely:

1. Internal portal for stakeholders connected over DAD WAN
2. External portal for stakeholders accessing e-Services through the internet

    a) The portal component of the solution must meet the W3C Specification.

    b) Where ever applicable the portal must be in line with standards published by Department of Information Technology (DIT), GoI. These can be accessed at http://egovstandards.gov.in

    c) The solution must comply with Guidelines for Indian Government Web Sites

(http://egovstandards.gov.in/guidelines/guidelines-for-indian-government-web-sites)

11.1.3.5 Aadhaar Authentication

Comprehensive Pension Application should be Aadhaar Authentication enabled. System Integrator will have to collect the UIDAI Authentication events and type of authentication during system requirement study phase. Indicative high level requirements are as below:

1. The application shall have e-KYC form to communicate with UIDAI. The bidder should refer UIDAI website for e-KYC details. The Aadhaar e-KYC API provides a convenient mechanism for agencies to offer an electronic, paper-less KYC experience to Aadhaar holders eliminating insecure and costly paper process that exists today.

2. The application shall be able to capture and detect best finger (as per BFD specifications recommended by UIDAI)

3. Fusion Finger Authentication should be included which will result in higher accept rate of Biometric Authentication

4. If the biometric capture quality is not good, then 3 attempts to be done and the best image to be sent for authentication.

11.1.3.6 Digital Signing

Comprehensive Pension Package should provide Digital Signing/Verification and Encryption/ Decryption mechanism wherever required in the functional process. The application will be able to support all CAs/Sub-CAs digital certificates and tokens available in the market.

Comprehensive Pension Application should also support automatic Document Signer functionality (DSC Issued by the Department, configured on the server). System generated documents like PPO, CORR PPO, etc. will be automatically digitally signed by the Document Signer.

SI will procure Digital Certificates required for application development, testing and UAT purpose. However, Digital Certificates to the users to work on Production Server will be provided by the DAD.

11.1.4 Security – CPP Application

1. Solution should comply with latest Information Technology Act including all amendments thereon.

2. The solution should comply with the latest IT security policies as published by the Government of India.

3. Some of the indicative lists of application security related requirements are as below:

   a) The system should allow users to change his/her password based on a given time frame as well as give the User the option to change his password at any time.

   b) The system should disable the User profile after three unsuccessful log-on attempts. The system should be able to log successful and failed attempts to the system.

   c) The System should allow Digital Signature based authentications, OTP based authentication, etc.

4. **The two level authentication** shall be implemented in following way:

   a) DAD user - Password + Digital Certificate

   b) Users accessing through Internet - Password + OTP

   c) OTP shall also be required for any first time registration being done by non-DAD users in any of the CPP module by the users accessing through Internet and also for Forgot Password functions.

5. **Secure sockets layer (SSL)**

   a) SSL is the most commonly supported protocol for communication between Web Server and browser.

   b) It authenticates the web server and optionally authenticates the user browser.

   c) Current implementations allow for client authentication support using the services provided by certificate authorities.

6. Use S/MIME for securing email communications

   a) S/MIME provides a consistent way to send and receive secure email including MIME data.

   b) S/MIME defines a protocol for encryption services and digital signatures.

   c) Email clients should be evaluated for support of the standard and for interoperability.

7. The security architecture should be designed to incorporate the security components/ aspects like firewall to monitor and restrict network traffic, anti-virus system, etc.

8. The security solution should also protect the CPP solution from unauthorized access, misuse, etc. from both external and internal users including unauthorized access from within the infrastructure of CPP.

9. Application/ Database security checks should be in place to cater to:

   a) User rights and privileges

   b) Application/Database logs enabled

   c) Input Controls

   d) Processing Controls

   e) Authorization Controls (Digital Signature)

   f) Data integrity controls

10. Network security should monitor and detect real time attacks, Anti-virus system will detect and removes virus and the Application/ Database security checks should aid better and safe control.

11. Directory based Authentication and Authorization to cater to user requests for access to CPP solution which shall be handled through a directory based solution providing access to various users, based on the privileges provided to each user. In addition, the authentication and authorization of various biometric machines connected to central

application through wireless connectivity like GPRS etc. or wireline connectivity's like Ethernet shall be done based on Machine ID, Location ID, password, etc. The solution shall provide password management and protection.

12. OTP Authentication to cater to:

    a) OTP Authentication takes a risk-based approach to enabling strong authentication.

    b) Protect against emerging threats in both web and mobile channels

13. Thus security components would ensure securing the network and servers from external as well as internal users and ensure that only authorized user are able to access to resources (network, servers, databases, etc.).

11.1.5 Data migration

Part-I: CPP shall start afresh for new Pensioners after Go-Live

Part-II: For legacy pensioners, data need to be migrated from various sources:-

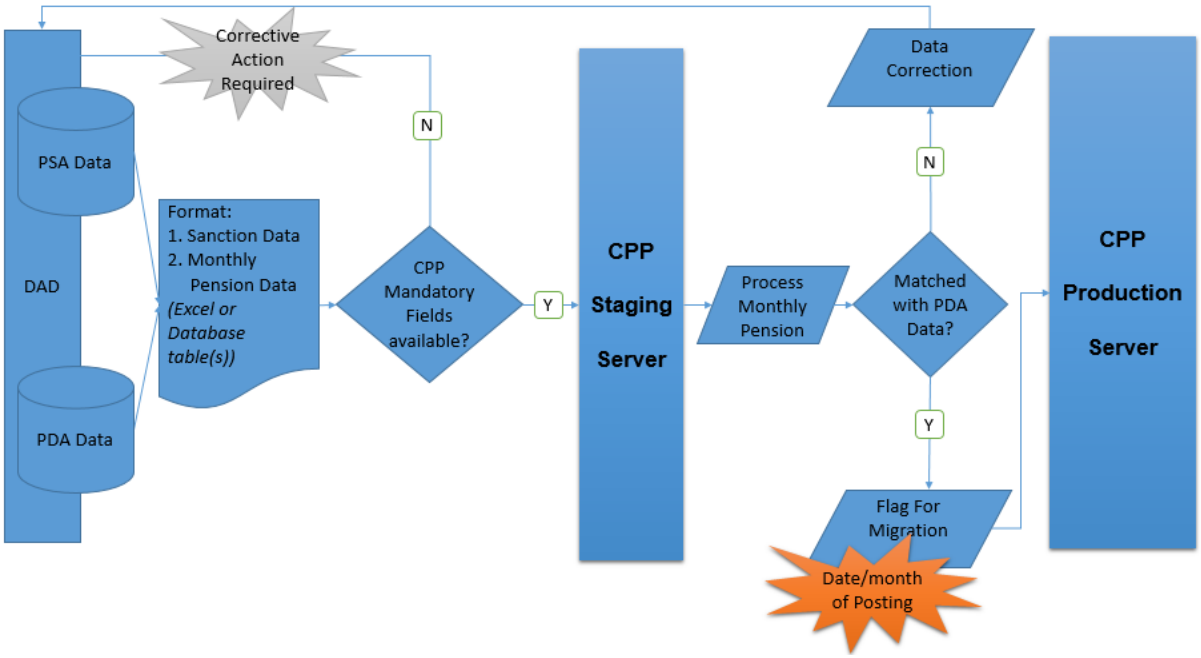
a) Sanction data from 3 PSAs

b) Pension entitlement data from PDA's database (total 30 PDA) in Phased manner

c) Court judgement data from Legal software

Data Migration is recommended to be planned in 3 phases. First phase at the time of CPP rollout and 2nd & 3rd Phase, after 6 months post rollout, when the CPP environment is fully established.

11.1.5.1 Indicative Migration methodology



In the current environment, most of the electronic data at PSAs & PDAs resides in silos – either in paper format or within a different local application. In order to collect the data from different nodal agencies the system integrator will provide the prescribed formats for the data collections. DAD would be responsible to collect the data from all the agencies and to provide to the System integrator in the given format.

SI will verify the availability of all CPP mandatory fields. If any omission is found the SI will notify the DAD to supply the mandatory fields and upload in staging server.

After uploading data on CPP staging server, the application will process monthly pension data. Now, the System integrator will validate the system generated pension rolls against the monthly pension data provided by DAD. In a case of matched instances, the system should flag the matched records. Contrary, in case of miss match cases, the pensioner record will supposed to be manually verified, corrected and processed again.

CPP Application will allow DAD user to Define Date or Month & Year to post the record on the production server automatically. Since, the defined day/month, CPP application will start processing and disbursement of that pensioner record.

Some of the key activities that need to be done for a successful data migration when moving to an integrated environment are:

Activity	Responsibility
1. Create Data Import Format (Excel / Table(s))	System Integrator
2. Collect Data From PSA & PDA	DAD
3. Load Data in the given format	DAD
4. Arrange Missing Mandatory Data	DAD
5. Completeness verification & Data Loading in Staging Server (CPP)	System Integrator
6. Process Monthly Pension Data	DAD, System Integrator
7. Generate Matched/Not-Matched report from backend	System Integrator
8. Report Verification	DAD
9. Corrective Action for Non-matched Data	DAD – Incorrect base data System Integrator – Wrong output
10. Flag for Migration	DAD
11. Automated posting of Data from Staging Server to Production Server	Comprehensive Pension Package

11.1.5.2 Key data migration (legacy Pensioners) requirements

The key data migration (legacy Pensioners) requirements include:

a) Design the data migration & acceptance methodology and plan

b) Risk identification and mitigation plan for data migration

c) Data mapping

d) Flag data cleansing requirement for incorrect/ incomplete data

e) Data migration

f) Corrections of the migrated data during data quality assessment and review

g) Obtain sign off on migrated data

h) On completion of the migration, all data from current applications shall be available in the CPP system

The SI shall provide structure/ template for downloading data from legacy systems. DAD shall hand over back filled data to SI for uploading to Database.

The following need to carry out as part of data migration:

a) The data migration to be performed by the SI shall be preceded by an appropriate data migration strategy and plan, prepared by SI and approved by DAD.

b) Though DAD is required to provide formal approval for the Data Migration Strategy, it is the ultimate responsibility of SI to ensure that all the data sets which are required for operationalization of the agreed user requirements are migrated.

c) The tool / utility for performing data migration must be designed by the SI after an adequate study of the data to be migrated.

d) Limited Data Cleansing and Transformation: It is the process of applying agreed criteria to source data to make it suitable for use in the new target system. The criteria may be applied automatically through some program or may be carried out manually. The key activities of the SI w.r.t. data cleansing shall include:

   i. Identify data cleansing needs and expectations

   ii. Format unstructured data in other systems

   iii. Run extracts and queries to determine data quality

e) Data Mapping and cleansing: Since there would be significant difference between existing database table structures and database table structures of new application, there must be mapping done between existing tables and proposed tables and data be made compatible for migration into new tables. A comprehensive data mapping exercise must be undertaken by SI before embarking

f) On data migration. A good data map will detail an in-depth cross-referencing of all mutual fields across the source system and the target system. It must include the following (but not limited to):

i. Names of applicable to and from fields

ii. Lengths and data types of these fields

iii. Mapping of relationships between entities

iv. Check on the constraints, unique fields and integrity checks

v. Any logic involved in mapping such as string truncations or validations against any business rules.

g) SI shall carry out validation of the data migrated into the CPP. Data quality in the target system is assessed and detailed metrics are prepared for the migrated data. Any exceptions, errors found are resolved and the migrated database is signed off.

h) In the event of any gaps in data migration, SI shall discuss the same with DAD, document the findings and get it signed-off from DAD.

i) In the event of any data that cannot be migrated due to various reasons, SI shall provide alternate strategy with concurrence from DAD.

j) SI shall develop the data conversion programs to convert DAD current data (residing in systems) to the new format as required by business.

k) SI shall run mock data migration tests to validate the conversion programs that have been written.

l) SI shall validate the data before uploading the same to the production environment.

m) SI shall support in conducting the acceptance testing and verifying the completeness and accuracy of the data migrated from the legacy systems to the proposed solution.

n) The data migration work shall be done at places designated by DAD only. The SI shall provide / establish the entire infrastructure necessary for carrying out the data migration at the selected place.

o) The SI shall migrate the data to the new system before the Go-live of phase 2.

p) After data migration by the SI is completed, it shall be verified and validated by the DAD.

q) In view of the data security / confidentiality, the SI shall take backup of the data entered at the end of the day on appropriate backup device / media. The backup data must be kept in the custody of DAD officials.

r) The SI must take responsibility for management of DAD reconciliation of the migrated data. It is clarified that the ownership of data shall at all times remain with the DAD and SI shall be responsible to maintain complete confidentiality of the same.

11.1.6 Testing Requirements

SI shall create the test strategy document that defines the requirements and goals of the configuration, determine the tools and methods used to check that the system responds correctly, determine how and when the test will be performed, etc.

The test strategy document shall guide the project team through the implementation to ensure that planning and conducting testing activities in the various phases of the implementation are proper. The various testing phases are as follows:

11.1.6.1 Unit testing

The SI will test all individual units/ modules under unit testing. The SI will submit a unit testing report along with test cases, tests results, etc. at the end of the unit testing exercise

11.1.6.2 Integration and system testing

The purpose of the Integration Test is to execute the integrated components, including simulation of live operations, and to analyse the results that are important for the functional verification of the production system.

Integration testing shall be accomplished through the execution of predefined business flows, or scenarios, that emulate how the system will run the processes of DAD. These business flows, using migrated data from the existing systems, shall be performed in a multifaceted computing environment comprising of developed application, third-party software, system interfaces and various hardware and software components. The integration tests shall build the necessary level of confidence that the solution is complete and will perform the business processes of DAD.

Integration testing shall be done in two iterations.

a) The first iteration (Integration Test) shall concentrate on testing all important business processes inside the system, starting with touch point scenarios and ending with end-to-end-scenarios. It will be done by SI's functional consultants. Authorizations and user roles would also be tested in the Integration Test.

b) System Testing, as a second iteration, shall focus on the most important cross-enterprise scenarios with touch points to external components, including testing of

conversions, interfaces, reports, and the necessary authorizations. It will be conducted in the presence of officials DAD or any other nominated agency of DAD.

SI should ensure that any closure of bugs, observations, etc. shall not lead to any adverse cascading effect on the overall solution

The SI will submit a testing report along with test cases, tests results, etc. at the end of the testing exercise

11.1.6.3 Performance testing

Once the system integration testing has been conducted successfully, Load, scalability and stress testing would be conducted prior to commissioning & Go-Live. SI should use suitable simulation tools in accordance with the agreed test procedures keeping in view the YoY growth in transactions. The SI will submit a testing report along with test cases, tests results, etc. at the end of the testing exercise

11.1.6.4 User acceptance testing

SI shall prepare test cases for User Acceptance Testing (UAT) in consultation with DAD. SI shall facilitate the team from DAD to conduct this test after successful completion of performance testing. SI will close all observations, bugs, etc. identified during the UAT. This process of UAT will continue in an iterative manner till zero defects are shown by the SI for the test cases developed**.** The SI also needs to ensure that errors/ defects detected in previous round of tests do not get repeated in successive tests.

The SI will submit a UAT report along with test cases, tests results, etc at the end of the testing exercise and get a sign-off on the UAT report from DAD.

12 Project A – Mini Data Center

DAD has envisaged to setup two Mini Data Centers at Delhi and Bengaluru. Mini Data Center -1 at Delhi shall host CPP Application. Mini Data Center-2 at Bengaluru shall host other DAD legacy applications. Detailed To-Be requirement has been provided at Volume – I of Annexure B.

Sizing of various components at Mini DATA CENTER-1 shall be done by SI; whereas for Mini DATA CENTER-2, BoM has been provided in later section of this Volume.

The scope of services will encompass the following:

12.1 Mini Data Center

The CPP shall be hosted at the Mini Data Center-1 located at New Delhi. DR mechanism shall be hosted at Mini DATA CENTER-2, which is located in Bengaluru. The following are available at two DC site:

a) Floor space

b) Power

c) Bandwidth

d) Civil infrastructure

e) Seating space for the SI personnel

System integrator shall provide staff, technical and supervisory, in sufficient numbers to operate and manage the functioning of the CPP setup with desired service levels.

12.2 Hardware and system software for Data Center including DR

12.2.1 Mini Data Center-1

The SI will have to procure, install, configure and commission dedicated servers and other hardware and system software components, including networking, security and any other required components at DC, and DR site, for hosting and operation of CPP solution.

DR should be minimum 50% of DC in terms of compute and 100% of DC in terms of storage. The bill of material given as part of this RFP is indicative and minimum requirement only. The

SI needs to assess and procure adequate hardware and software, etc. to meet the requirements of this RFP.

The brief scope of work regarding supply, installation and commissioning is as follows:

Scope	Key elements
Infrastructure Requirements Study & Finalization of BoM	SI shall perform a detailed assessment of CPP system requirements discussed in the RFP, users, and transactions and assess the Infrastructure requirements for operationalization of the CPP system and to provide the services in conformance with the SLA and growth in transactions during the project life cycle.
Procurement of IT Infrastructure	The SI shall procure & supply the IT Infrastructure for CPP system based on its needs assessment and Bill of Material quoted in the proposal. The SI shall ensure that all the equipment supplied to the DAD is brand new and is free of any defect of any sort. All items should be procured and delivered in the name of DAD, MoD. The IT infrastructure supplied by the SI may be subjected to a BoM audit to be carried out independently by DAD at their own cost. Any gaps found out in such audits or otherwise shall be addressed by SI at no additional cost.
IT Infrastructure installation and commissioning	The SI shall be responsible for installation and commissioning of the infrastructure at DC, DR site.
System software	The SI shall be responsible for installation and commissioning of all System software: Virtualisation, Virtualisation Manager, Site recovery, Operating system, EMS, Security software.
EMS, Security software	The SI shall be responsible for installation and commissioning of EMS and Security software.

All products should be supported by back to back support from OEM (for the products where SI is not the OEM) for the entire duration of the project.

Based on the current data, the envisaged number of transactions in the CPP solution is as follows:

Transaction details	
Indicative number of transactions	Pension Sanction: 80,000/ Year
	Pension disbursement: 15 Transaction/ Pensioner/ Year
Total pensioners for CPP	1st Year after Go-Live: 8-14 Lakh 2nd Year after Go-Live: Approximate 10-14 Lakh (*)

* Migration of legacy Pensioners to CPP for 2nd Year after Go-Live shall be known one year after Go-Live. **So SI need to size Compute (Servers) and associated System software licenses in two parts.** The delivery of Compute and associated System software licenses shall be done as per Project Timelines provided later in this document in following two Phases:-

a) **Phase-I:**

I. Delivery of 50% resources: Server, system/ other software licenses

II. Delivery of 100% resources: Storage, Security devices, Non IT Components and implementation

b) **Phase-II**:

Delivery of balanced 50% resources: Server, system/ other software licenses

12.2.2 Mini Data Center-2

The SI will have to procure, install, configure and commission dedicated servers and other hardware and system software components, including networking, security and any other required components at Mini Data Center-2 site, for hosting and operation of legacy DAD Applications.

The SI shall provide Items as per provided bill of material. DR components of Mini Data Center-2 (at Mini Data Center-1) should be 50% in terms of compute and 100% of DC in terms of storage.

The brief scope of work regarding supply, installation and commissioning is as follows:

Scope	Key elements
Infrastructure Requirements Study & Finalization of BoM	SI shall assess the Infrastructure requirements for operationalization of the legacy DAD Applications and to provide the services in conformance with the SLA and growth in transactions during the project life cycle. It may be noted that SLA shall be applicable only up to providing Server (Dedicated/ Virtual).
Procurement of IT Infrastructure	The SI shall procure & supply the IT Infrastructure for CPP system based on Bill of Material quoted in the proposal. The SI shall ensure that all the equipment supplied to the DAD is brand new and is free of any defect of any sort. All items should be procured and delivered in the name of DAD, MoD. The IT infrastructure supplied by the SI may be subjected to a BoM audit to be carried out independently by DAD at their own cost. Any gaps found out in such audits or otherwise shall be addressed by SI at no additional cost.
IT Infrastructure installation and commissioning	The SI shall be responsible for installation and commissioning of the infrastructure at DC, DR site.
System software	The SI shall be responsible for installation and configuration of the Virtualisation software for 5 Servers , Virtualisation Manager Software (Internet & Intranet Zone), Site Recovery Software, OS for Mgmt. Servers
Operating System for Application	The SI shall be responsible for installation of OS for DAD Applications. (Existing DAD licenses (where applicable) and media for RHEL Linux
EMS, Security software	The SI shall be responsible for installation, commissioning of EMS and Security software.

All products should be supported by back to back support from OEM (for the products where SI is not the OEM) for the entire duration of the project.

12.3 Security

Security would be one of the important requirements of Mini Data Centers. The security solution shall be implemented in the following layers of the architecture:

1. Perimeter
2. Web
3. Application
4. Database

The SI's responsibility would be to setup an on premise SOC and continuously manage a secure environment, monitor for malicious events, implement appropriate mitigating controls, integrate with the core IT environment and escalate appropriately in case of incidents or emergencies. The SI shall be responsible for 24/7 security monitoring of CPP applications and related infrastructure.

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

The SI's responsibility would be to continuously manage a secure environment, monitor for malicious events, implement appropriate mitigating controls, integrate with the core IT environment and escalate appropriately in case of incidents or emergencies. The SI shall be responsible for 24/7 security monitoring of CPP.

The BoM related to security under CPP is elaborated in later sections of this volume.

Level of Security

1. Network and Perimeter Level
    a) SSL VPN (for traffic coming through internet)
    b) MZ, DMZ creation
    c) IPS
    d) Firewall
    e) Antivirus Solution

f) HIPS

g) APT

h) DLP

i) SIEM

2. Web/Application Level

a) Authentication and Role based access to content and services.

b) Directory services for maintaining user profiles and roles.

c) PKI Certificates with PKI Infrastructure

d) Single Sign-on with various application modules

e) Password Management & Protection

f) Logging of Events with Reporting

3. Database Level

a) Authentication

I. Trusted context passed from application server

II. User Authentication using OS authentication.

b) Authorization

I. Different levels of permission to define access control.

II. Label Based Access Control can be defined to provide row level and column level control.

4. Protect database and backups

a) Internal encryption of user ID and password,

b) Column level encryption,

c) Support of external encryption over SSL

d) Database Masking

e) Integrating Controls

5. Auditing

Generate and maintain audit trail of database events to monitor any unwanted data access

6. Log Shipment

All App Server, Application & Database logs should be regularly shipped on another server in a secured zone

13 Common conditions

13.1 Audit

The primary goal of Audit and Certification is to ensure that the Project (including all the project components as discussed in the scope of work) meets the requirements, standards, specifications and performance in accordance with RFP.

13.1.1 Audit scope

Primarily, audit scope will comprise of the followings:

1. **Security Audit:** The System Integrator, will be required to submit Security Audit Certificate to ensure that all the components of Comprehensive Pension Package (Applications and Infrastructure) are in compliance with the latest Government of India IT Security Policies.

2. **SLA Audit:** The System Integrator also needs to get both, the Comprehensive Pension Package Applications and SLA Tools audited and certified against the SLA Methodology document that has to be prepared by System Integrator and approved by DAD.

3. **Bill of Material Audit**: The System Integrator needs to get the hardware and software components supplied audited and certified against Bill of Material submitted in the technical proposal. This audit shall be field based and the Bill of Material needs to be verified on ground.

4. **Electronic Data Audit**: The System Integrator needs to get the electronic data audited & certified. The purpose of electronic data audit is to ensure:

    a) The data that is being stored in the Application Database is same as the data that is being entered through different mechanisms such as e-forms, utility tools, data import, web interface, etc.

    b) The security and tangibility of the production data

    c) Various types of Log files generation and shipment in secured environment for any event that occurs in production database.

5. The System Integrator can opt STQC or any Cert-In empanelled agency for the above mentioned audits in consultation with DAD. DAD will not bear any cost related to audit exercise.

6. While Audit and Certification is the responsibility of System Integrator, however DAD shall provide administrative support, wherever required.

7. During the project, it is expected that several audits will be carried out to not only ensure the conformance of the solution provided by the System Integrator to the scope of work as detailed in this RFP but also to ensure that the solution is implemented in the best of ways to meet the requirements of DAD. The audits will be carried out by either Project Management Unit or a third party agency (e.g. STQC, OEMs) engaged by DAD. System Integrator shall provide support to such audits and comply with the suggestions as may be given by such a third party auditor.

13.1.2 Stages of Audit

As part of the overall solution, the SI will have to provide audit services at various stages of implementation. Some of the key stages are as follows:

a) Hardware deployment at DC, DR site
b) Pre -Go-Live of phase 1
c) Pre Go-Live of phase 2

13.1.3 Hardware deployment at DC, DR site

On deployment of the hardware and system software at the DC, DR site, the initial acceptance testing will be done by SI and a self-certification will be submitted by SI to DAD covering these parameters:

a) Physical verification of equipment as per the agreed BoM with SI.

b) Physical inspection of the equipment for any physical damage.

c) “Power on self-test” for all equipment to ascertain that no equipment is dead on arrival

d) Physical verification of software media and documentation for warranty support

e) All these testing would be done for hardware and software supplied for Development, Test and Production instances.

Note: Apart from the above, the SI needs to submit a detailed Installation Report clearly indicating the installation of hardware, software cluster configuration of servers, Network, O/S parameters Disks Layouts, RAID Configuration, Detailed Connectivity Diagram, details of all supplied software installation with key parameters etc. Without submission of detailed installation document, the installation shall be considered as incomplete.

13.1.4 Pre Go-Live of each phase

The SI will carry out an Information security audit on IT infrastructure in line with ISO-27001 guidelines by STQC or STQC/CERTIN empanelled agency and submit the audit report to DAD. SI will also close all observations of such an audit. This audit will be required to be carried out both pre Phase I and Phase II go-live.

DAD may carryout annual security audit on the solution at their own cost. The SI will need to close any observations of such audits at no additional cost to DAD.

13.2 Training

SI needs to conduct the training before Go-Live of each phase separately. The SI needs to carry out the following as part of the training exercise:

a) Developing the training content - SI shall ensure that the training content is relevant to the target trainees depending upon the role played by them.

b) The SI shall submit the training content to DAD for approval. It shall be submitted at least 20 days in advance before the conduct of the training. DAD will review and provide comments to SI on the training content within 7 days of the submission of draft training content. SI shall incorporate and implement changes suggested by the DAD in training delivery and content.

c) Prepare Training Schedule -A detailed training schedule will be prepared by SI after consultation and approval from the DAD. Any updation in the training schedule shall require approval by DAD at least 30 days before the conduction of training.

13.2.1 Training venue and other logistical arrangements

a) The indicative number of end users to be trained is provided at BoM. The firm number of end users and location wise distribution of these users will be shared by DAD with SI.

b) SI needs to submit training completion report at end of training of both phase 1 and phase 2 separately.

c) Training shall take place in DAD.

d) Cost of Travelling of participants for attending the training will be borne by DAD or the relevant departments. However, the cost of trainer provided by SI for conducting the training shall be borne by SI.

e) SI is required to arrange for all equipment, software, hardware, etc. required for the training, at no cost to DAD.

f) Providing Hard copies of training material to participants shall be responsibility of SI and the cost for the same must be included in the training costs as proposed by bidder in their proposal.

13.2.2 Identification of Training Participants

DAD shall be responsible for identifying the participants for the training based on the concerned modules going live during a particular phase.

13.2.3 Circulating pre-training material

SI shall make adequate provision for circulating pre-training material to all the participants at least seven (7) days before the conduction of the training. The pre-training material may be circulated in electronic form and hard copy form to DAD.

13.2.4 Language for delivery of training

The mode of training delivery shall be in English.

13.2.5 Types of training

13.2.5.1 Senior management training

This training will be for the senior management at DAD and other Departments. This training should be from a higher management perspective with focus on how to effectively use the dashboard features, reporting features, drill up and down features, etc.

13.2.5.2 End user training

This training will provide training to all DAD and other Department officials on usage of all modules of CPP.

The maximum number of participants in a batch should not exceed 50.

13.2.5.3 Annual training

This training will provide training to all new end user joinee's on usage of all modules of CPP.

This training will need to be provided at New Delhi, Allahabad/ at a location to be decided by DAD.

13.2.5.4 System administration training

This training will provide concerned IT staff of DAD on all Technologies used at Mini Data Center.

13.3 Onsite handholding support at various locations

As part of the scope of work, the SI needs to provide handholding services at various locations and for the time period.

The minimum qualification for the resources deployed for handholding is as follows

Name	Job description	Skill set
Handholding resource	Providing onsite handholding services	• Graduate in any discipline • At least three (3) years of experience in • Technical Support/Training/Handholding
		• Good knowledge of computer (MS Office, Word, Excel and Power Point) and Networking/LAN/Hardware functions
		• Knowledge of CPP solution

Name	Job description	Skill set
		• Good communication skills (oral as well as written)
		• Fluent with English and Hindi

13.4 SI's project team

The SI's project team should have the following key resources with the minimum skill set as provided in the table below (Note: the table below is only for key resources and SI needs to staff the team in sufficient number and skill set to meet the requirement of the RFP)

S. No.	Role	Responsibilities	Minimum Qualifications
1.	**Project Manager**	• Managing the entire set of functions and day-to-day operations of CPP • Monitoring performance & efficiency of various Teams and Resources at CPP • Reporting to DAD regarding operations of CPP on periodic basis	• Fluency in English and Hindi (Speaking, reading & writing) • Knowledge and at least 15 years of experience in managing operations (in Government / public sector/Private Sector) similar to envisaged CPP • Experience in at least 2 end to end implementation and operation of centralized information systems/ ERP • Minimum B.Tech/BE/ MCA • PMP/Prince 2 certified
2.	**Solution Architect**	• Leading team of Solution Architects, DBAs, Application	• Fluency in English and Hindi (Speaking, reading & writing)

S. No.	Role	Responsibilities	Minimum Qualifications
		Specialists and Hardware Specialists	• Knowledge and at least 10 years and minimum 5 projects experience in designing Solution (in Government / Public sector/ Private Sector) • Minimum B.Tech/BE/ MCA • Any leading IT architect certification in proposed technology
3.	**Test lead**	• Carrying out testing activities for CPP and managing a team of test engineers	• Min. 7 years of experience of testing IT applications • Experience of testing Government/ Public Sector applications • Excellent communication, analytical and problem solving skills • Minimum B.Tech/BE/ MCA • Any leading testing certification in the proposed tool
4.	**Database Lead**	• Database maintenance and support functions for CPP, Helpdesk, DC and NDC	• Minimum 5 years of professional experience in storage and management of electronic data software • Should have worked with database management

S. No.	Role	Responsibilities	Minimum Qualifications
			systems software, determining effective storage methods while managing tasks involved in database environment • Excellent problem solving abilities and detail orientation. • In depth knowledge in the proposed DB • Minimum B.Tech/BE/ MCA • DBA certification from the OEM of the proposed DB
5.	**Hardware and Network Lead**	• Hardware (Server & Storage) sizing, specifications, Deployment • Installing, supporting, and maintaining servers or other computer systems, and planning for and responding to service outages and other problems	• Min. 10 years of professional hardware system and network design experience • Experience in preparing Hardware (Server & Storage, Network) Sizing, specifications, Deployment • Experience in working with a team of hardware experts. • Should have excellent verbal and written communication skill • Hands-on experience in design, implementation and administration of types of network

S. No.	Role	Responsibilities	Minimum Qualifications
			• Minimum B.Tech/BE/ MCA • Should have valid leading networking certification
6.	**Security Lead**	• Designing and implementing of IT Security policy	• Min. 7 years of experience designing and implementing IT Security Policies for large applications • Experience of designing IT Security policy for Government / Public Sector • Excellent communication, analytical and problem solving skills • Minimum B.Tech/BE/ MCA • Should have valid certification like CISA/CISSP
7.	**Lead Trainer**	• Lead the training activities, design content and manage trainings and workshops	• Graduate in any discipline • Min. 7 years of experience designing and conducting trainings for IT applications • Experience of designing and conducting trainings for Government / Public Sector • Excellent communication, analytical and problem solving skills

13.5 Documentation of the Project

The SI must ensure that complete documentation of CPP is provided with comprehensive user manuals, and adhere to leading documentation practices/ guidelines. The following documents are the minimum requirements:

a) Systems Manual Detailing the data structure, table, forms and report structures.

b) Operations Manual providing instructions for installing the application, troubleshooting, interpreting message logs, and FAQs (Frequently Asked Questions).

c) User Manual providing detailed instructions on how to use the software. In addition, it shall describe how to access, submit inputs to, and interpret outputs from the application.

d) A data dictionary listing out all the data elements shall be prepared.

e) Detailed documentation on Database Management specific to the project and the applications deployed.

f) Manufacturer's technical documentation on all devices supplied by SI at DC and other locations including user manuals and their 'As installed' configuration shall be provided by the SI.

g) All documentation will be supplied both in Hardcopy and Softcopy format.

h) Each process document shall clearly define the roles and responsibilities, detailed steps for execution the defined task, detailed configuration steps, etc.

i) DAD expects the SI to document the operations and management processes as per the ISO 20000-1 standard.

j) The SI needs to submit the updated version of any of the documents/ reports mentioned in this RFP, as and when there is a change in the configuration, layout, etc.

13.6 Implementation of web-based SLA Monitoring Tool

The SI will customize a commercially available web-based SLA Monitoring Tool

a) SI shall implement the SLA Monitoring System to measure performance against each of the service levels listed under SLAs specified in volume III of the RFP. The SLA Monitoring System implemented by SI may be reviewed by DAD before usage.

b) SI shall ensure that proposed SLA monitoring system can calculate the eligible compensation to the SI on a quarterly basis, including the penalties as specified in the SLA.

c) The proposed tool should provide comprehensive and end-to-end management of all the components for each service including systems, application and Infrastructure.

d) The proposed SLA monitoring tool should automatically document problems and interruptions for CPP services and provide the consolidated violations as per the SLA

e) The proposed tool should allow changing the parameters of the measurement and should allow adding new SLAs on need basis.

f) SLA monitoring tool should enable DAD to have a unified view of the entire CPP including Mini Data Center-1 SLA and Mini Data Center-2 SLA.

g) The tool should provide an integrated performance view for all the managed systems and networks along with the various threshold violations alarms in them. It should be possible to drilldown into the performance view to execute context specific reports.

h) The proposed tool should be able to monitor various operating system parameters

i) The proposed tool should provide self-monitoring wherein it will track critical status such as

    1. CPU utilization

    2. Memory capacity

    3. File system space and other important data.

j) SI needs to submit a performance report as per the periodicity defined in the SLA of this RFP. This report should contain the following:

    1. Executive Summary

2. Actual versus target against each parameter defined in the service levels
3. Net EQI post deduction of penalties (if applicable)
4. Capacity Planning report which provides a view of under-and-over-utilized elements.

13.7 Others

The SI should ensure the following

a) The CPP design must be such as to require the minimal installation, if at all, at the user's end, besides the Internet Browser.

b) SI shall ensure users' involvement in this stage when they are finalizing all design components including the user interfaces, the mode of data entry, storage and retrieval, output reports, queries and the application design as a whole.

c) The SI has to develop and implement a data retention and archival policy in consultation with DAD.

13.8 Operation and Maintenance from the date of Go-Live

The SI should operate and maintain the entire CPP solution components as supplied under this RFP for a period of Five (5) years from the date of phase 1 Go-Live. However O&M of CPP solution can be extended by additional two years.

13.8.1 High-level Scope for Operations and Maintenance

As part of the operations and maintenance services, the SI shall provide support for the software, hardware, and other infrastructure that are in the scope of this RFP. SI shall provide comprehensive support that includes

a) Application Software maintenance and support

b) Warranty support for all the hardware procured as part of this RFP (including back to back support where OEM is offering the same)

c) Operations and maintenance services for the infrastructure supplied and commissioned by the SI for the solution at the two DC sites from the DAD premises

d) Central Helpdesk from the DAD premises

e) Periodic reporting

13.8.2 Application Software Maintenance and support services

As part of the software maintenance and support services SI shall provide:

a) The IT Application Maintenance and Support Services shall be provided for all components mentioned in this RFP and as part of Administrative orders / legal obligation.

b) The SI shall render on-site maintenance and support services (only at 2 DCs).

c) The SI shall be required to provide operational & maintenance services for Solution including, but not limited to, production monitoring, troubleshooting & addressing the functionality, availability & performance issues, implementing any system change requests, addressing the incidents/problems raised by the users (via IT Helpdesk) for problems/bugs in the application etc.

d) The SI shall keep the application software in good working order; meeting the requirements defined by the DAD from time to time based on functional, administrative or legislative priorities, perform any changes and upgrades to applications as requested by the DAD.

e) Tuning of application, databases, third party software's and any other components provided as part of the solution to optimize the performance

f) SI shall perform (at no extra cost) minor changes, bug fixes, different reports of DAD, error resolutions and minor enhancements that are incidental to proper and complete working of the application. The details of Change Control Process is in volume III of the RFP.

g) Release Management for the interim releases of the application

h) Centralized version and configuration control of the application

i) Routine functional changes

j) Any changes to the application code that may be required because of patches to licensed software being used (if any). The SI shall migrate all the current functionality to the new / enhanced version at no additional cost to DAD.

k) Updating and maintenance of all CPP project documents (including user manuals, trainings etc.)

l) Change request management based on feedback from the users or the initiative of the SI. All planned changes to the application, especially major enhancements and changes in functionality post go-live, shall be coordinated within established Change Control Processes.

m) The SI will define the Software Change Management and version control process and obtain approval for the same from DAD. For all proposed changes to the application, the SI will prepare detailed documentation including proposed changes, impact on the system in terms of functional outcomes/additional features added to the system, etc.

n) The SI shall address all the errors/bugs/gaps in the functionality offered by solution at no additional cost during the operations & maintenance period.

o) For performing of any functional changes to system that are deviating from the signed-off Functional Requirements/System Requirements, a separate Change Proposal Form shall be prepared by SI and the changes in the software shall be implemented accordingly at no additional cost to DAD. The time period for implementation of change shall be mutually decided between SI and DAD.

p) It is clarified that changes in software, hardware and other infrastructure required as a result of any legislative, administrative, policy changes in the DAD processes and workflow shall not constitute change of 'Scope of Work' and need to be undertaken by SI at no additional cost to DAD.

q) Any changes/upgrades to the software performed during the operations & maintenance phase shall be subjected to the integrated testing by the SI to ensure that the changes implemented in the system meets the desired and specified requirements of the department and doesn't impact any other function of the system. SI shall provide a staging environment for testing of changes/ updates/ patches before applying them on production environment

13.8.3 O & M for the licensed software

a) All supplied software should be supplied with applicable OEM warranties and support (including back to back) for the entire duration of the project. During warranty period vendor has to provide updates and patches.

b) SI must carry out any requisite adjustments / changes in the configuration for implementing different versions of Application Software.

c) **Updates/Upgrades/New releases/New versions:** The SI shall provide from time to time the Updates/Upgrades/New releases/New versions of the software and operating systems as required. The SI must provide free upgrades, updates & patches of the software and tools to DAD as and when released by OEM/SI. The SI will implement from time to time the Updates/Upgrades/New releases/New versions of the software and operating systems as required after necessary approvals from DAD about the same

d) SI shall provide and apply regular patches to the licensed software including the software, operating system, databases and other applications.

e) **Software License Management**: The SI shall provide for software license management and control. SI shall maintain data regarding entitlement for software upgrades, enhancements, refreshes, replacements, and maintenance. SI must perform periodic audits to measure license compliance against the number of valid End User software licenses consistent with the terms and conditions of site license agreements, volume purchase agreements, and other mutually agreed upon licensed software terms and conditions and report to DAD any exceptions to SI terms and conditions, to the extent such exceptions are discovered.

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

g) The SI shall undertake regular preventive maintenance of the licensed software. If the Operating System or additional copies of Operating System are required to be installed / reinstalled / uninstalled, the same shall be done as part of O&M.

13.8.4 Warranty support for the IT hardware

a) SI shall provide a comprehensive warranty and on-site free service warranty for all the hardware procured as part of this RFP

b) SI shall obtain the product warranty and onsite free service warranty on all licensed software, computer hardware and peripherals, networking equipment and other equipment from the OEMs for the entire duration of the project

c) SI shall provide the comprehensive manufacturer's warranty in respect of proper design, quality and workmanship of all hardware, equipment, accessories etc. covered by the RFP. SI must warrant all hardware, equipment, accessories, spare parts, software etc. procured and implemented as per this RFP against any manufacturing defects during the warranty period.

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

e) SI is responsible for sizing and procuring the necessary hardware and software licenses as per the performance requirements provided in the RFP.

f) During the warranty period, SI shall replace or augment or procure higher-level new equipment or additional licenses at no additional cost to DAD in case the procured hardware or software is not adequate to meet the service levels.

g) **Mean Time Between Failures (MTBF):** If during agreement period, If any equipment supplied by SI fails for more than 3 times in a quarter OR for a total of more than 8 business hours in a quarter, it shall be replaced by equivalent or higher-level new equipment by the SI at no cost to DAD. However, if the new equipment supplied is priced lower than the price at which the original item was supplied, the differential cost must be refunded to DAD. For any delay in making available the replacement and repaired equipment for inspection, delivery of equipment or for commissioning of the

systems or for acceptance tests / checks on per site basis, DAD reserves the right to charge a penalty. SI shall track and report observed Mean Time between Failure (MTBF) for Hardware.

h) During the warranty period SI shall maintain the systems and repair / replace at the installed site at no charge to either DAD all defective components that are brought to the SI's notice.

i) The SI shall as far as possible repair the equipment at site.

j) In case any hard disk drive of any server, SAN, or client machine is replaced during warranty / AMC the unserviceable HDD will be property of DAD and will not be returned to SI. In case of faulty storage media, the malfunctioning storage media will not be handed over to SI, this is applicable to all removable media.

k) Warranty shall not become void, if DAD, any other supplemental hardware from a third party and installs it within these machines under intimation to the SI. However, the warranty will not apply to such supplemental hardware items installed.

l) SI shall carry out Preventive Maintenance (PM), including cleaning of interior and exterior, of all hardware and testing for malware/malicious software, if any, and must maintain proper records at each site for such PM. Failure to carry out such PM will be a breach of warranty and the warranty period will be extended by the period of delay in PM. PM envisages all activities require to be undertaken for good upkeep of hardware.

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

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

o) SI shall have to stock and provide adequate onsite and offsite spare parts and spare component to ensure that the uptime commitment as per SLA is met.

p) Any component that is reported to be down on a given date must be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the requisite time frame to meet the Service Level Agreement (SLA).

q) SI shall develop and maintain an inventory database to include the registered hardware warranties.

13.8.5 O&M services for the IT infrastructure at the Data Cneters

a) The scope of the services for overall IT infrastructure management as per ITIL framework shall include 365x24x7 on site Monitoring, Maintenance and Management of the server and related infrastructure supplied and commissioned by the SI for the application at the DC site.

b) The SI shall provide the MIS reports for all the devices installed at DC site in the format and media as mutually agreed with the DAD on a monthly basis. Whenever required by DAD, SI must be able to provide additional reports in a pre-specified format.

c) The indicative services as part of this support are as below:

I. System Administration, Maintenance & Management Services

II. Application Performance Monitoring Services

III. Backend Services (Mail, messaging, etc.)

IV. Storage Administration and Management Services

V. Replication, Backup and Restore Services

VI. Security monitoring services

13.8.6 System Administration, Maintenance & Management Services

The objective of this service is to support and maintain all the Systems and Servers provided as a part of this project by SI, and shall include

a) 365x24x7 monitoring and management of the all the components in the DCs site.

b) Regular monitoring of all the applications hosted.

c) Operating System administration, including but not limited to management of users, processes, preventive maintenance and management of servers including updates, upgrades and patches to ensure that the system is properly updated.

d) Installation and Re-installation of the server and other hardware in the event of system crash/failures.

e) Regular analysis of events and logs generated in all the sub-systems including but not limited to servers, operating systems, security devices, etc. to identify vulnerabilities. Necessary Action shall be taken by the SI in accordance with the results of the log analysis. Suitable mechanism has to be maintained for security and forensic related logs or as per requirement IT Act and that of other government regulations issued from time to time.

f) Adoption of policies and procedure, compliances, guideline or international standard as defined by the DAD.

g) Provide integration and user support on all supported servers, data storage systems, etc.

h) Troubleshoot problems with web services, mail services, applications software, desktop/server relationship issues and overall aspects of a server environment.

i) Problems shall be logged in at the Help Desk and resolved as per the SLAs defined.

j) Manage and monitor server configuration, performance and activity of all servers. Performance optimization and reporting - Process and Memory Management, Monitoring CPU performance, Monitoring Memory performance, Monitoring Input / Output performance, Monitoring Ethernet Traffic, etc.

k) Prepare and keep up to date document containing configurations of all server, IT infrastructure etc.

l) Hardening servers in line with security policies

m) Carry out the DC and DR failure testing and half yearly BCP real drills.

n) Configuration of server parameters, operating systems administration and tuning

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

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

q) Perform Database Administration activities for Database. The SI agrees that all databases of the DAD will be administered as per standards and requirements. The service covers all the databases run on servers / SAN at DCs site including but not limited to:-

I. Start-up and shutdown of databases.

II. Daily / Weekly / Monthly backup of databases.

III. Database recovery when required. iv. Weekly database recovery checks.

IV. Required logs maintenance as per policies of the DAD.

V. Disaster recovery as per polices of the DAD.

VI. Documentation upkeep and records maintenance.

VII. User account management.

VIII. ix. Database problem resolution.

IX. Performance tuning.

X. Replication of Database from DC to DR

XI. Replication of Database from DC to DR site.

13.8.7 Application Performance Monitoring Services

The services to be provided by the SI for Application Monitoring which includes following but not limited to:

a) Web services

b) Application server

c) Database server

d) Middleware

e) Other components

13.8.8 Backend Services (Mail, etc.)

a) SI shall maintain and support all the backend services (mail, etc.) implemented.

b) The SI shall implement and effectively run the mailing service for the users including setting up of working e-mail accounts and mailing lists

c) Troubleshoot and rectify all email-related problems reported.

d) Monitoring performance and management of user account, mail boxes, post office and address book.

e) Management and monitoring mail queues, mail routing of incoming and outgoing Internet mail.

13.8.9 Storage Administration and Management Services

The services to be provided by the SI shall include:

a) Installation and configuration of the storage system.

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

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

d) Identify key resources in the Storage solution.

e) Identify interconnects between key resources in the Storage solution.

f) Identify the health of key resources in the Storage solution.

g) Identify the available performance of interconnects in the Storage solution.

h) Identify the zones being enforced in the Storage solution.

i) Create/delete and enable/disable zones in the Storage solution.

j) Identify the storage volumes in the Storage solution.

k) Create/delete/modify storage volumes in the Storage solution.

l) Identify the connectivity and access rights to Storage Volumes in the Storage solution.

m) Create/delete and enable/disable connectivity and access rights to Storage Volumes in the Storage solution.

n) To provide off- site storage of production data and CPP solution on appropriate media at regular intervals as required by DAD.

13.8.10Backup and Restore Services

The services to be provided by SI shall include:

a) Backup of storage as per the defined policies.

b) Monitoring and enhancing the performance of scheduled backups, schedule regular testing of backups and ensuring adherence to related retention policies as defined by DAD.

c) Prompt execution of on-demand backups of volumes and files whenever required or in case of upgrades and configuration changes to the system.

d) Real-time monitoring, log maintenance and reporting of backup status on a regular basis.

e) Media management tasks, including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fire proof cabinets (onsite and offsite).

f) SI shall provide the following data:

I. Data at the beginning of phase 1 go-live (post successful completion of data migration)

II. There after monthly incremental data of CPP to DAD in a suitable media.

g) 365x24x7 support for file and volume restoration requests.

13.8.11 User Profiles and Account Management

a) Routine functional changes that include user and access management, creating new report formats, and configuration of reports.

b) SI shall provide user support in case of technical difficulties in use of the software, answering procedural questions, providing recovery and backup information, and any other requirement that may be incidental/ancillary to the complete usage of the application.

c) The SI shall perform user ID and group management services. The user-id naming & protocol shall be designed and implemented for all the user ids. Such naming convention and protocol shall be signed-off with the DAD.

d) The SI shall maintain access controls to protect and limit access to the authorized end users of CPP.

e) The services shall include administrative support for user registration, creating and maintaining user profiles, granting user access and authorization, providing ongoing user password support, announcing and providing networking services for users and providing administrative support related to CPP solution.

f) System administration tasks such as managing the access control system, creating and managing users, etc.

g) Some of the above may need to be done before the beginning of the O&M phase.

13.8.12 Antivirus Solution Management

a) SI should ensure overall security of the system including installation and management of Antivirus solution for protection of all the infrastructure at DC site implemented for the project, application of updates/patches, etc. The antivirus patches have to be updated and applied from time to time, after appropriate testing of the patches in the staging area.

b) Guarding the systems against virus, malware, spyware and spam infections using the latest Anti-virus suites which include anti-malware, anti-spyware and anti-spam

solution for each Server Antivirus version and its upgrades. The Anti-virus suite and updates will have to be provided by the SI at regular intervals as and when the new signatures are released by the OEM (centralized updates for all connected client machines). The cost of the software suite shall also be mentioned in the commercial bid. The SI for the purpose of support on new upgrades & patches shall have a back to back arrangement with the OEM from whom the software suite is purchased. The copy of the same shall be submitted to DAD.

c) The SI shall have the back to back agreement with 24/7 premier support with antivirus OEM, which shall ensure that any critical issues w.r.t. virus/antivirus are addressed within the 24 hrs.

d) The copy of such agreement shall be provided by the SI to the DAD. Such agreement shall be valid throughout the agreement period.

e) SI should provide solution to virus alerts when they occur (within 24 hrs) or earlier in case of emergency. SI has to take corrective action in case systems get affected due to virus activity.

13.8.13Periodic reporting

The SI shall submit the following period reports (but not limited to) to DAD:

a) Updation of Documentation on successful completion of O&M operations for each quarter

I. Regular updation of all policies designed by SI for DAD

II. Updated system design documents, specifications

III. Latest source code, application deployment files, configuration files for entire solution Software change logs, etc.

b) Corrective Action report in response to the any audit findings/ other concerns as identified by DAD

c) Monthly report on the central helpdesk centre operations

d) SLA Monitoring Reports

13.8.14Centralized IT helpdesk

a) The system integrator shall establish and provide central IT helpdesk facility from DAD premises in New Delhi.

b) The System Integrator is expected to setup and operate the IT Helpdesk during the entire period of project post Go-Live of phase 1. It may be noted that SI needs to provide centralized IT helpdesk from phase 1 go-live itself, however no cost will be payable against centralized IT helpdesk services for the period between phase 1 go-live and phase 2 go-live.

c) The Helpdesk shall operate during the Prime Business Hours (PBH) as defined in the Volume III of this RFP.

d) The Helpdesk service will serve as a single point of contact for all Application, hardware, network and DC related incidents and service requests. All network related tickets should be forwarded by the helpdesk to DAD WAN team. The Helpdesk shall provide Troubleshooting Services include maintenance for overall system stabilization, defect resolution, solution maintenance, system administration, availability & performance issues, security administration, database administration, Mail/ Messaging administration, Data archival administration, User administration and end-user problem resolution. The operational support will have to be provided, through a suitable Helpdesk system, to ensure that the solution is functioning as intended and that all problems associated with operation are resolved satisfactorily.

e) The Helpdesk service is required in English language.

f) SI is required to provide necessary channels for reporting issues to the help desk. The incident reporting channels could be the following:

I. Specific E-Mail account

II. Two phone numbers, seating arrangement and electricity will be provided by DAD free of cost to SI. SI needs to provision for converting these two phone numbers into multiple lines as required and also provision for any other hardware / software required for the same.

III. Portal – A web based functionality for service desk tool for registering the calls

g) Implement a call logging system in line with the severity levels as per the SLAs.

h) Creation of knowledge base on frequently asked questions to assist user in resolving basic issues themselves.

i) Services in this area include, but are not limited to, the following:

I. Logging all the calls, classifying the calls and render first level support

II. Assigning the call for appropriate action, within the stipulated time.

III. Tracking the call till closure and ensure SLA adherence by service providers and vendors.

IV. Generate reports on a daily, weekly and monthly basis. Generate exception reports.

V. Provide the need-based ad-hoc reports.

VI. Interact with DAD

VII. Ensure adherence to escalation processes.

j) SI shall bring his services desk tool at no additional cost to DAD. Vendor will integrate this tool with Enterprise Management system for auto ticket generation, call logging from users and tracking till resolution. The service desk tool should track SLAs as mentioned in this RFP. The service desk tool shall be

I. Complies with ITIL compliant service delivery.

II. Service desk should track & record help desk jobs. (Monitor Helpdesk effectiveness in real-time)

III. Should have basic features for call management such as below,

- Update & close jobs / Tickets.
- Place jobs / tickets on “Hold”

IV. Ticket auditing facility should be provided by the "Service Desk tool". (Will give a history of the ticket)

V. Assign priorities to Jobs / Tickets. (This should assign as per the seniority & aggraded SLA model)

VI. Specify & track target job completion status based on various factors as, Dates, Priority, etc.

VII. Services desk tool should have capability to categories the jobs as per the structure of a problem ex: Server related problem should assign to hardware team.

VIII. Service desk should have a "SLA" mapping / monitoring & tracking feature. (When a ticket is raised, Target Helpdesk calculates the most relevant service level agreement according to the issue and any asset identified)

IX. Service desk should record time duration spent on each ticket.

X. Service desk tool should define unlimited number of end-users.

XI. Service desk should have a facility to restrict specific functionality to certain operators.

XII. Service desk tool has to have inbuilt "Escalation Matrix" which help for the notification purpose to operators & users about their tickets.

XIII. The proposed tool should maintain Asset information.

XIV. The proposed tool should have a facility to link files (error, log files) to help desk tickets.

XV. The monitoring tools employed by the bidder shall be able to generate automated trouble tickets in an event of faults or threshold violations and escalate the same to predefined set of people across the organization and third party vendor. The ticket needs to be automatically closed as soon as fault is resolved.

XVI. A unique Trouble Ticket Number should be created and assigned for any fault and using the same unique no. the history of call resolution and current status must be track-able.

k) SI need to provide the following minimum number of resources as Helpdesk agents

Number of resources	Duration
4 resources	Initial two years from the date of go-live
2 resources	3rd year onwards – for the remaining duration of the project

a) The SI will also submit an escalation matrix to DAD on the procedure for resolution of different types of issues/error/bugs and implement the same

b) The helpdesk agents deployed by the SI should have the following minimum criteria

Name	Job description	Skill set
Helpdesk Agents	Providing assistance to callers and assist in trouble shooting	• Graduate in any discipline • At least three (3) years of experience in Technical Support (software, hardware, network, etc.) , Training & Handholding
		• Good knowledge of computer (MS Office, Word, Excel and Power Point) and Networking/LAN/Hardware functions
		• Good communication skills (oral as well as written)
		• Good understanding of the components of CPP solution
		• Fluent with English and Hindi

13.8.15Dashboard and reporting

The cardinal objective of the proposed system is to provide summarized, timely and accurate information to the top management to aid them in their day to day decision making process as well as for their long term strategic planning. The different modules described above will have the necessary reports / outputs to meet the requirements of the transaction processes. In order to get a holistic view of the entire operation and management of DAD, the top management would be required to access data from different modules and view them in a meaningful way. Hence, on top of all the modules proposed to be developed, a module for the Information System - MIS – is proposed to be built which would present to the top management a summary view of the entire gamut of activities of DAD to enable the effective planning, monitoring, controlling and review of activities of DAD at different levels of the management hierarchy.

The proposed system shall provide extensive reporting options to address the needs of all the levels of management (operations, middle level as well as top management). The system shall provide drill down options and alert facilities for the various levels of management to effectively control, monitor and review DAD operations.

Note: any report which/whose data is residing in the CPP system / or can be arrived at by using some logic on the available data will not fall/ qualify as change request.

13.9 Change request

The change control process is detailed out in Vol III of this RFP.

1. Any configuration, performance tuning, mitigation of any observation during annual/ periodical audits, changes required to accommodate patches, upgrades etc. which are required for the operation of the project shall not qualify as change request.

2. The functional requirements given in Annexure A to Vol I are indicative only and not exhaustive in any manner and/or kind and/or form. The bidder by responding is deemed to have understood and agreed that the requirements are subject to change at sole discretion of DAD and will be finalized during Software Requirement Specification till Go-live. Failure to comply with may invite forfeiture of ‘Performance Bank Guarantee’ and any other terms and conditions of RFP.

3. After SRS Sign off, any changes till go-live & operations phase, (e.g. new functionalities, improvement in execution time, performance tuning, etc.) and which were not there in

base line will not qualify as change request. The bidder will implement such changes in the solution required at no additional cost to DAD. However such changes deemed necessary post sign-off of documents (SRS, design document) will be capped at 10% of the man month effort of CPP application.

4. The Change request process is defined in Section 20 of RFP Volume III.

All the development / customization/ configuration must meet the requirements for security, performance, ease of use for operations, administration and management.

13.10 Functional Requirement Specification

Refer Volume 1 - Annexure A.

14 Project B – Record Scanning & uploading to DMS

14.1 Overview

Pension Sanction Authorities are maintaining physical records of all the Defence Pensioners since 1948, which consists of pensioners claim forms, discharge roll, service records, medical records and the PPO and Corrigendum PPOs. These original documents are extremely valuable documents for the organization which are to be retained for 75 years as per the Government of India mandate.

Over a period of time with issue of subsequent Corr. PPOs, records of a pensioner are stored into multiple binders, which results in lot of effort in searching the original documents in case of legal requirements, etc. Also, a considerable effort, storage space and cost is being spent by the department on binding.

These pensioner records are being maintained in binders/individual files. More than 95% of the records are stored at PCDA (P), Allahabad.

To overcome all the above challenges, it is required to scan these documents and to store it in a Document Management System. Types of Documents to be scanned:

a) Pension Claim Documents

b) Sanction Documents – PPOs & CORR PPOs

c) Legal Documents

14.2 Scope of Work

The scanning of Pensioner document and at three locations is proposed to be carried out in 2 phases.

Phase I:

c) 2 lakh Binders (each consisting of appx. 350 Pages) at three locations shall be targeted for the scanning and creating document repository by uploading scanned documents to DMS with meta data entry of 8-10 fields

d) Metadata entry (8-10 fields) of 11 Lakh already scanned records (average 20 Pages/ record) and uploading to DMS

Phase II:

After successful completion of Phase-I, 1.2 Lakh Binders are required to be scanned at one location (Allahabad) by uploading scanned documents to DMS with meta data entry of 8-10 fields.

The records to be scanned for DAD are of A4 Size (90% of the records). The other records vary from sizes A4, A3 and Legal. System should be able to scan the documents without using joining or image stitching technology.

The number of documents at each location are as follows:-

a. Allahabad – 95% documents

b. Mumbai – 2% documents

c. New Delhi– 3% documents

In addition, the project also requires the successful bidder to set up and maintain the necessary IT & Non-IT infrastructure required for the scanning activity as indicated in **Annexure C to RFP Volume I.**

15 Project Timelines

Total duration of the project is 6 Years starting from the date of Signing Contract. The Project schedule comprises of Development & Implementation phase of 12 months and Operations and Maintenance Phase of 60 months.

	Project Development & Implementation Phase																												O & M Phase
Component	**M0**		**M1**	**M2**	**M3**			**M4**	**M5**	**M6**	**M7**	**M8**	**M9**			**M10**	**M11**	**M12**			**M13**	**M14**	**M15**			**5 Years**
Data Center																													
DC 1 Infra Procurement & Setup	**MS0 - Project KickOff & Resource Mobilization**					**MS1 - Requirement Sign Off**					**Phase 1 - 50% Setup of DC 1**			**MS2 - Acceptance & BOM Audit**	30%				**MS3 - User Acceptance**	50%	**Phase 2 - 50% Setup of DC 1**			**MS4 - CPP Rollout**	80%	**Operations & Maintenance Phase**
DC 1 System S/w Tools Installation & Configuration															30%					50%					80%	
DC 2 Infra Procurement & Setup											**100% Setup of DC 2**				90%					10%						
DC 2 System S/w Tools Installation & Configuration															90%					10%						
UAT																										
Certification																										
Comprehensive Pension Package																										
CPP SRS Submission							10%													50%						
CPP SRS SignOff																										
CPP Development																										
Data Preparation for UAT																										
CPP Installation & Configuration																										
UAT																										
Certification																										
Go Live																										

Project Plan consists of:

1. Development & Implementation
2. Operations & Maintenance Phase

16 Implementation approach

DAD intends to implement the functionalities of the Comprehensive Pension Package (CPP) in a phased manner. The project shall be functionally phased in two stages. Approach would be to harvest low hanging fruits in the first phase. The details of the two stages are as follows:-

	Stage I	Stage II
	CPP - New Pensioners	**CPP - Legacy Pensioners**
Functional Scope	• CPP application Development • Data Center 1 & 2 : Provision Compute and system Software • License for 10 Lakh Pensioners • Document Scanning - 7 Lakh Records	• CPP Legacy pensioners migration, • Data Center -1 : Provision Compute and System software license for additional 20 Lakh pensioners • Document Scanning- 4 Lakh Records
Indicative Implementation Timeline	• CPP application & Data Center setup -12 months • Document Scanning : 24 months	• CPP – Legacy Pensioner Migration : 12- 24 months (Post UAT) • Data center – 1 remaining components : 03 month post UAT • Document Scanning : 12 months
Indicative Stabilization Timeline	**3 months post Go - live**	**CPP – 3 months post each migration**
Key Deliverables	• SRS • SDD • Development,Customisation of Solution • UAT Report – Test Plan & Cases • SOP and Other manuals • Supply & Installation Report • Capacity Building Plan	• Training • Data scanning & Report on data mitigation • Policy & Procedures like – Security email, archival, etc. • O &M -Quarterly project progress Report, etc. • Helpdesk • Audit reports

Further details on phasing is provided in the respective Projects.

16.1 Project Go Live

The following tasks shall have to be completed for a phase to be deemed as Go Live-

Stage 1- Go Live
1. All documentation related to Stage 1 submitted by SI and accepted by DAD
2. All required functional points of Stage 1 modules deployed by SI
3. All hardware/ software, etc. commissioned at Data Center and other project locations by SI and accepted by DAD
4. Submission of training completion report for Stage 1 by SI and acceptance by DAD
5. Submission of Successful data migration report by SI and acceptance by DAD
6. Successful completion of UAT, including closure of observations, bugs, etc.
7. Availability of the system for usage in production environment by the Stage 1 module users.

Stage 1- Stabilization
1. Closure of user observations, bugs, etc. identified during first three months from Stage 1 Go live.
2. Incorporation of any functionalities in modules of Stage 1 as required by DAD.

Stage 2- Go Live
1. All documentation related to Stage 2 submitted by SI and accepted by DAD
2. All required functional points of Stage 2 modules deployed by SI
3. Submission of training completion report for Stage 2 by SI and acceptance by DAD.
4. Successful completion of UAT, including closure of observations, bugs, etc.
5. Availability of the system for usage in production environment by the CPP users.

Stage 2- Stabilization
1. Closure of user observations, bugs, etc. identified during first three months from Stage 2 Go live.
2. Incorporation of any functionalities in modules of Stage 1 & 2 as required

Note:

1. SI needs to close any bugs, observations, etc. during the entire currency of the project.

2. The Third Party Auditors (TPA)/ consultant shall examine the claim of each delivery made by the SI and recommend about the merit of such claim to DAD within 30 days of submission of such claim by the SI. In case of positive recommendation from the TPA, DAD shall take final decision on the positive recommendation. In case no decision is taken by DAD in next 60 days then the delivery shall be deemed to be accepted.

3. In case TPA makes an adverse recommendation on any delivery claim by SI, the same shall be communicated to the SI. SI can address the deficiency/ concern, etc. and resubmit the claim or SI can make a representation on such decision and DAD shall take a decision on the same within 30 days of the submission of representation.

17 Roles and responsibilities

Given below are the roles and responsibilities of the key stakeholders

17.1 Role and Responsibilities of System Integrator

S. No.	Roles and Responsibilities
1.	Preparation of Detailed Project Plan in line with the overall plan provided in the RFP. The same should be prepared in consultation with DAD.
2.	Procure, install, commission, operate and maintain: a) Requisite hardware & system software at Mini Data Center site and other locations as per the requirements mentioned in this RFP b) Meet the defined SLAs for the performance of the system
3.	Implementation of CPP solution (including 3rd party, emailed.) as per the requirements mentioned in this RFP document
4.	Ensure that the hardware and other infrastructure deployed at DC site and other end user locations meets the requirement as mentioned in RFP and is maintained properly to meet the SLAs as defined in RFP.
5.	Keep all system software i.e. OS, antivirus, etc. at Mini Data Center site and various locations, up to date by installing regular upgrades / patches.
6.	On-going maintenance support, upgrades and enhancements of the solution (including 3rd party components as applicable)
7.	Setting up and operations of centralized help desk as mentioned in this RFP document and provide necessary support for the resolution of bugs, patches & upgrades of the solution.
8.	Submit documents & deliverables as defined in the RFP
9.	Ensure availability of other infrastructure components for conducting training programs like desktops, projector, training material handouts, etc.
10.	Delivering training to CPP users and management as mentioned in this RFP document
11.	Periodic testing of readiness of DR center
12.	Recovery in case of failure of DC/DR

S. No.	Roles and Responsibilities
13.	Record Scanning as mentioned in this RFP document
14.	Data migration as mentioned in this RFP document
15.	During the maintenance phase the responsibility of overall system and version control will continue to be vested with SI only and should not be outsourced.
16.	Provide onsite handholding as mentioned in this RFP document
17.	Maintaining the SLA requirements as mentioned in RFP document
18.	Analyzing & managing system performance, network performance, call logs, etc., as well as providing the means of monitoring the SLA metrics.
19.	Regular backup of the solution data.
20.	Generation of MIS reports as per the requirements of DAD.
21.	Generation of the report for the monitoring of SLAs
22.	Procurement, installation and commissioning of necessary hardware and software and system integration for DC site as mentioned in this RFP document
23.	Providing Help features on the Application Modules that can be used by stakeholders such as Frequently Asked Questions (FAQ), email system, etc. Various tests and audits as mentioned in this RFP
24.	Others as mentioned in this RFP document

17.2 Role and Responsibilities of DAD

S. No.	Roles and Responsibilities
1.	Make necessary support and personnel available to facilitate smooth implementation.
2.	Facilitate interactions of SI with various stakeholders for understanding & capturing interface/integration requirements.
3.	Provide necessary paper documents and data required for system development and legacy data migration
4.	Provide support & personnel required for testing the system during implementation, acceptance, rollout and the O&M period.
5.	Provide necessary civil infrastructure i.e. conference room and refreshments only to conduct user training programs as mentioned in this RFP.
6.	Ensure timely signoffs related to any requirement of authorization towards delivery of normal scheduled services as required from SI as part of this project.
7.	Provide power requirements, general facility & infrastructure support, environmental support systems, fire safety appliances & control measures in all locations other than those explicitly stated as the SI's responsibility.
8.	Timely provision of physical space for setting up Mini Data Centers, utility room, shed for positioning DG Sets and UPS.
9.	Timely provision of physical space for setting up infrastructure by SI for Scanning Activity.
10.	Provide permission/authorization required to carry out project commissioning, O&M, data migration work, and etc. in DAD premises - before, during & after project implementation as may be required.
11.	Establish necessary processes and procedures for entry of all operating personnel and for working on 24x7 timeframe in all facilities that would demand such presence.
12.	Monitoring of overall timelines, SLAs and calculation of penalties accordingly.
13.	Ensuring the staff members and other stakeholders attend the training programs as per the schedule defined by the bidder and agreed upon by DAD.

S. No.	Roles and Responsibilities
14.	DAD shall depute dedicated Project Teams to support SI for: • CPP Application • Scanning activities • Data Migration

*-The references are indicative and the bidder should read the entire RFP document(s) for understanding of roles and responsibilities.

18 Project Governance structure

To facility a successful implementation of the CPP project, a three tier project governance structure has been proposed which will encompass the following groups and teams:

Description	Key Roles and responsibilities
Project Steering (PSC) Committee	• Owner of the Project • PSC would be responsible for taking all decisions related to overall vision and policy matters • PSC shall hold meetings at least once every month to review the progress made in relation to the CPP Project during the implementation period and once every three months during the operation period. • Resolve issues that might occur during implementation, which are relevant to PSC (if any) • Facilitate policy changes for effective implementation, if required. • Approve major changes to Project components
Project Implementation Committee	• Periodic monitoring of the project • First level of escalation

Description	Key Roles and responsibilities
Project Monitoring Unit (PMU)	• Day to day monitoring of the project • Time bound implementation of the Program and adherence to its objectives • Oversee and monitor the work performed by SI • Provide inputs to PSC members on Project status

19 Bill of Material

19.1 BoM MS-1

Bill of material for Milestone-1 (MS-1) is as follows:-

19.1.1 CPP Application development

S. No	Work item	Unit	Quantity
	CPP Application Development		
1.	Bespoke Software Development	Job (person-month)	
	Training		
2.	Change Management Training (1 Day, 10 batches)	Batch	10
3.	Train the master trainers (5 days, 5 batches, 25 per batch) for CGDA HQs, 3 PSAs, DPDO)	Batch	5
4.	System Administration & software support (by OEM)	Man-days	30

19.2 BoM MS-2

Bill of material for Milestone-2 (MS-2) is as follows:-

19.2.1 Training & CPP Application Tools

S. No	Work item	Unit	Quantity
	Training		
1.	Training on Bespoke application to Users	Job	
2.	Training on System Administration to DAD System administrators		Job
	CPP Application Tools		

S. No	Work item	Unit	Quantity
3.	BPM Software: Workflow, Business rules, Dashboards & Custom Pension UI	Core based	8*
4.	Software development Licenses for development Team including Application Server, Database, BPM, etc.	Licenses	As required
5.	System Software ATS (purchase year)	Years	
	COTS Modules		
6.	Document management system	Application	1
7.	System Software ATS (purchase year)	Years	
	Database, associated system software, OS and DR Software		
8.	Database - CPP	Core	8
9.	Database - External Zone	Core	4
10.	Database security - CPP	Core	8
11.	Database security - External Zone	Core	4
12.	Application server, Web server: CPP Internal Zone	Core based	4
13.	Application server, Web server: External Zone	Core based	8
14.	OS for Application, Database & Mgmt. Server	Lic/Support	8
15.	Disaster recovery Licenses - 50%	Lic/Support	
16.	ATS (purchase year)	Years	

Note (*): Sizing above is indicative and provided for understanding only. SI may choose for more components and changed quantity in order to meet the Solution requirement, SLA, gradual loading of Legacy Pensioners, etc. as specified earlier in this Volume.

19.2.2 Mini Data Center -1 for CPP application Hosting

S. No	Work item	Unit	Quantity
	System Software		
1.	Virtualisation software for 15 Servers (Hypervisors for Database, Application servers & Misc servers)	Lic/CPU	30*
2.	Virtualisation Manager Software (Internet & Intranet Zone)	Lic	2
3.	Site Recovery Software	Lic/ Server	2
4.	Implementation	Job	
5.	System Software Support/AMC (1st Year)		1
	Hardware Systems		
6.	Servers with 2X16 cores (Rack)/ Blade Servers with chasis **	No	18 (Rack)/ Equivalent Blade
7.	Server with 6 cores (Rack)	No	6
8.	KVM Switch	No	2
9.	SAN storage of 30 TB RAW	No	1
10.	SAN storage of 10 TB RAW	No	1
11.	Tape Library with 2 LTO-6 drives of 3.5 TB each (24 Cartridges capacity)	No	1
12.	Server Rack - 42U	No	8
13.	SAN Switch 24 Port - External Zone	No	2
14.	SAN Switch 48 Port - Internal Zone	No	2
15.	Access switch	No	4

S. No	Work item	Unit	Quantity
16.	Distribution switch 10G	No	4
	DC Non IT Components		
17.	Interior Works (raised Floor, ceiling, fire doors, site preparation, foundations) - 400 Sq. ft for Server Room and 300 Sq. ft for Utility Room	Job	1
18.	Structured Cabling within DC (Cat 6 A)	Job	As required
19.	Precision AC Unit (for 48 KW Rack Load and room cooling) - 8.5 TR x 3 No.s in N+1 Configuration	Job	3
20.	Fire and Security Works (Smoke/ Fire detection, Suppression, WLD, VESDA, RRS, IP Camera and ACS) - For Server and Utility Room	Job	1
21.	BMS System - Monitoring	License	1
22.	Electrical Works	Dual Distribution	1
23.	UPS System (for 8 No. of Racks average 6 kW Load/ Rack) - 60 kVA x 2 in N+N Configuration with 30 Minutes battery back up	Number	2
24.	DG Set - 125 kVA	Number	2
25.	Comfort AC for Utility Room -2 TR	Number	3
	EMS Software		
26.	IT Infrastructure Monitoring (device based - OS Instances: Server OS, Virtualisation, Firewall, IPS, Storage)	No	50
27.	Application Performance Monitoring (Real User Monitoring, Diagnostics) for Services: Pensioner, Service Centers	Lic/ Application	2
28.	Dashboard & Reporting (Events co-relation, NOC-SOC Integration, Centralized Reporting)	Lic	1

S. No	Work item	Unit	Quantity
29.	Service Desk (SLA monitoring, Incident Mgmt., Change Mgmt., Knowledge base)	Lic	1
30.	IT Operational Analytics (Log Correlation & Analysis, Predictive Analytics)	Lic	1
31.	Implementation	Job	
32.	Annual Support on Software License		
	Security Software		
33.	Firewall for Internet Zone with SSL VPN	No	2
34.	IPS for Internet Zone	No	2
35.	Firewall for Intranet Zone	No	2
36.	IPS for Intranet Zone	No	2
37.	Application Security for Internet Zone	Subscription/ Year	2
38.	Application Security for Intranet Zone	Subscription/ Year	2
39.	URL filtering	Subscription/ Year	2
40.	Anti APT Solution with sand-boxing for Internet Zone	Subscription/ Year	2
41.	Anti APT Solution with sand-boxing for Intranet Zone	Subscription/ Year	2
42.	Anti-Virus malware and Anti-Spam (for Server & System administration OS) - One time	License	50
43.	Anti-Virus malware and Anti-Spam (for Servers OS) - Recurring	Subscription/ Year	50

S. No	Work item	Unit	Quantity
44.	SIEM	Lic	1
45.	DLP (for External mail server, System administrators console)	Lic	20
46.	HIPS	Lic	40
47.	Patch management	Lic	100
48.	Privilege Mgmt. of System Administrator (VMs, Physical Servers, Storage)	Lic/ VM	40
49.	2 Factor Authentication (token) for RO, Accts office, Services/ Def orgn. HQs, Sainik Boards, ECHS, CSD	Lic	3,000
50.	Identity and Access Management (Internal users)	Core	2
51.	Implementation	Job	
52.	Annual Support on Software License		
53.	Annual subscription		1

Note (*): Sizing above is indicative and provided for understanding only. SI may choose for more components and changed quantity in order to meet the Solution requirement, SLA, gradual loading of Legacy Pensioners, etc. as specified earlier in this Volume.

** SI may choose cost effective Rack/ Blade server for External zone (Internet facing) and Internal facing (DAD WAN).

19.2.3 Mini Data Center -2

S. No	Work item	Unit	Quantity
	System Software		
1.	Virtualisation software for 5 Servers (Hypervisors for Database, Application servers & Misc servers equal to number of Processors)	Lic/CPU	10
2.	Virtualisation Manager Software (Internet & Intranet Zone)	Lic	2
3.	Site Recovery Software	Lic	1
4.	OS for Mgmt. Servers	Lic/Support	14
5.	Implementation	Job	
6.	System Software Support (1st Year)		1
	Hardware Systems		
7.	Servers with 2X16 cores (Rack)/ Blade Servers with chasis	No	**Rack Servers 24/ Equivalent Blade
8.	Server with 6 cores (Rack)	No	6
9.	KVM Switch	No	2
10.	SAN storage of 30 TB RAW	No	1
11.	SAN storage of 10 TB RAW	No	2
12.	Tape Library with 2 LTO-6 drives of 3.5 TB each (24 Cartridges capacity)	No	1
13.	Server Rack - 42U	No	8
14.	SAN Switch 24 Port - External Zone	No	2
15.	SAN Switch 48 Port - Internal Zone	No	2

S. No	Work item	Unit	Quantity
16.	Access switch	No	4
17.	Distribution switch 10G	No	4
	Security Software		
18.	Firewall for Internet Zone with SSL VPN	No	2
19.	IPS for Internet Zone	No	2
20.	Firewall for Intranet Zone	No	2
21.	IPS for Intranet Zone	No	2
22.	Application Security for Internet Zone	Subscription/ Year	2
23.	Application Security for Intranet Zone	Subscription/ Year	2
24.	URL filtering	Subscription/ Year	2
25.	Anti APT Solution with sand-boxing for Internet Zone	Subscription/ Year	2
26.	Anti APT Solution with sand-boxing for Intranet Zone	Subscription/ Year	2
27.	Anti-Virus malware and Anti-Spam (for Server & System administration OS) - One time	License	50
28.	Anti-Virus malware and Anti-Spam (for Servers OS) - Recurring	Subscription/ Year	50
29.	SIEM	Lick	1
30.	DLP (System administrators console)	Lic	20
31.	HIPS	Lic	40
32.	Patch management	Lic	100

S. No	Work item	Unit	Quantity
33.	Privilege Mgmt. of System Administrator (VMs, Physical Servers, Storage)	Lic/ VM	40
34.	Implementation	Job	
35.	Annual Support on Software License		
36.	Annual subscription (wherever applicable)		1
	EMS		
37.	IT Infrastructure Monitoring (device based - OS Instances: Server OS, Virtualisation, Firewall, IPS, Storage)	No	50
38.	Application Performance Monitoring (Real User Monitoring, Diagnostics) for Services: Pensioner, Service Centers	Lic/ Application	2
39.	Dashboard & Reporting (Events co-relation, NOC-SOC Integration, Centralized Reporting)	Lic	1
40.	Service Desk (SLA monitoring, Incident Mgmt., Change Mgmt., Knowledge base)	Lic	1
41.	IT Operational Analytics (Log Correlation & Analysis, Predictive Analytics)	Lic	1
42.	Implementation Cost	Job	
43.	Annual Support on Software License		
	DC Non IT Components		

S. No	Work item	Unit	Quantity
44.	Interior Works (raised Floor, ceiling, fire doors, site preparation, foundations) - 400 Sq. ft for Server Room and 300 Sq. ft for Utility Room	Job	1
45.	Structured Cabling within DC (Cat 6 A)	Job	1
46.	Precision AC Unit (for 48 KW Rack Load and room cooling) - 8.5 TR x 3 in N+1 Configuration	Job	3
47.	Fire and Security Works (Smoke/ Fire detection, Suppression, WLD, VESDA, RRS, IP Camera and ACS) - For Server and Utility Room	Job	1
48.	BMS System - Monitoring	License (as applicable)	1
49.	Electrical Works - Dual Distribution	Job	1
50.	UPS System (for 8 No. of Racks average 6 kW Load/ Rack) - 60 kVA x 2 No.s in N+N Configuration with 30 Minutes battery back up	Number	2
51.	DG Set – 125 kVA	Number	2
52.	Comfort AC for Utility Room - 2 TR	Number	3

Note: SI may choose for more components and changed quantity in order to meet the SLA.

19.3 BoM MS-3

Bill of material for Milestone-3 (MS-3) shall be in conjunction with BoM of MS-1 and MS-2. Refer Timelines for % implementation.

19.4 BoM MS-4

Bill of material for Milestone-4 (MS-4) shall be in conjunction with BoM of MS-2. Refer Timelines for % implementation.

19.5 BoM - Document Scanning and uploading to DMS

Bill of material for Document Scanning and uploading is as follows:-

S. No	Work item	Unit	Quantity
1.	Document Scanning & uploading to DMS (2 Lakh Binders. 350 Pages/ Binder)	Job (No of Pages)	7 Crores
2.	Tagging of already scanned documents and uploading to DMS	Job (No of Pensioners)	11 Lakh

19.6 BoM - Data entry

Bill of material for Data entry is as follows:-

S. No.	Work item	Unit	Quantity
1.	Data entry (Sanction - 2006-2017 Pensioners) - 20 Fields, Quality check for DPDO pensioners	Job (No of Pensioners)	4,50,000
2.	Data entry (Sanction) - 100 Fields, Quality check (Treasury Pensioners)	Job (No of Pensioners)	62,000
3.	Data entry (Court case judgement) - 100 Fields, Quality check	Job (No of Pensioners)	21,000

20 List of Annexures

1. Annexure A (Separate Document): CPP
    a. As-Is Process
    b. To-Be Processes
    c. List of Services
    d. Functional / Non-Functional Requirements
2. Annexure B (Separate Document): Mini Data Center
    a. As-Is and To-Be environment
    b. Bill of Material for Comprehensive Pension Package
    c. Bill of Material for Mini Data Center Setup
    d. Bill of Material for Scanning
    e. Bill of Material for National Contact Center
3. Annexure C (Separate Document): Scanning of Pensioner's record

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End of Volume 1