



REQUEST FOR PROPOSAL

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

Ref Number: MMRDA/MMRC/000346

Date: 3.11.2015

**Information Technology Cell
Mumbai Metro Rail Corporation Limited
1st Floor, Namttri Building, Behind MMRC
Near Jetwan, Bandra Kurla Complex, Plot No. R-13, E-Block
Bandra (East), Mumbai- 400-051
Email: itpmo.mmrc@gmail.com**

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Glossary

Terms	Definitions
MMRC	Mumbai Metro Rail Corporation limited
IT	Information Technology
RFP	Request for Proposal
EMD	Earnest Money Deposit
SLA	Service Level Agreement
PBG	Performance Bank Guarantee
GoM	Government of Maharashtra
GCC	General Condition of Contract
BKC	Bandra Kurla Complex
MML-3	Mumbai Metro Line- 3
NDA	Non-Disclosure Agreement
PM	Project Management
ERP	Enterprise Resource Planning
DMS	Document Management System
MIS	Management Information System
BI	Business Intelligence
DD	Demand Draft
SI/ SP	Bidder/ Service Provider
ICT	Information Communication Technology
ITB	Instructions to bidder
DC	Data Center
DR	Disaster Recovery
QGR	Quarterly Guaranteed Revenue

Section: 1

Invitation for Proposal

1 Invitation for Proposal

- 1.1 MMRC hereby invites Proposals from reputed, competent and professional Information Technology (IT) companies, who meet the Initial filteras specified in this bidding document for the **“RFP for Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support”** as detailed in Section 2.21 of this RFP document.
- 1.2 The complete bidding document shall be published on <https://etendermmrda.maharashtra.gov.in> for the purpose of downloading. The downloaded bidding document shall be considered valid for participation in the electronic bidding process (e-Procurement/ e-Tendering) subject to the submission of required tender/ bidding document fee and EMD through e-Tendering Online Payment Gateway mode only.
- 1.3 To participate in online bidding process, Bidders must procure a Digital Signature Certificate (Class - II) as per Information Technology Act-2000 using which they can digitally sign and encrypt their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCS, Safecrypt, Ncode, etc. Bidders who already have a valid Digital Signature Certificate (DSC) need not procure a new DSC.
- 1.4 Bidders are also advised to refer “Bidders Manual Kit” available at <https://etendermmrda.maharashtra.gov.in> for further details about the e-tendering process.
- 1.5 Bidder is advised to study this RFP document carefully before submitting their proposals in response to the RFP Notice. Submission of a proposal in response to this notice shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions and implications.
- 1.6 The RFP document is placed at MMRD’s website www.mmrda.maharashtra.gov.in . Bidder/ Agencies are advised to study this RFP document carefully before submitting their proposals in response to the RFP Notice. Submission of a proposal in response to this notice shall be deemed to have been done after careful study and examination of this document with full understanding of its terms, conditions and implications.
- 1.7 Prospective bidders are advised to check the minimum qualification criteria before participating in the bidding process. This RFP document is not transferable and the name of the bidder who purchases and submits the same bid shall be unchanged.

1.1 Key Events and Dates

The summary of various activities with regard to this invitation of bids are listed in the table below:-

S. No.	Particular	Details
1.	Advertising Date	03.11.2015
2.	Name of the project	“RFP For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

		and Licenses along with its implementation, integration and maintenance support”
3.	Start date/Expiry date of issuance / sale of RFP document download	03.11.2015 from 3 pm (IST) to 11.12.2015 till 5 pm (IST)
4.	Website for downloading Tender Document, Corrigendum's, Addendums etc.	https://etendermmrda.maharashtra.gov.in
5.	Last date for Submission of Queries	All the queries should be received on or before 19.11.2015 till 5 pm (IST), through email only with subject line as follows: “Pre-Bid queries - <Agency's Name>”. The queries should be submitted as per the format prescribed in Annexure 6.5. The Pre-Bid queries to be sent to the Email Id – itpmo.mmrc@gmail.com
6.	Pre-Bid Conference	20.11.2015 at 3 pm (IST) Address Conference Room, 2 nd Floor, MMRCL Building, BKC, Mumbai-400051
7.	Last date (deadline) for Submission of bids	11.12.2015 till 5 pm (IST)
8.	Online Control Transfer Of Bid	11.12.2015 from 6.01 pm to 12.12.2015 6.00 pm
9.	Date and time of opening of Initial filter bids	14.12.2015 after 11 am (IST)
10.	Date and time for opening of Commercial bids	Will be intimated later to the qualified bidders
11.	Detail of the contact person and Address at which sealed bids are to be submitted	Shri. R. K Sharma, Executive Director (Electrical) 4 th Floor, Namttri Building Bandra Kurla Complex Bandra (East) Mumbai—400-051 E-mail: itpmo.mmrc@gmail.com

1.2 Other Important Information Related to Bid

S. No.	Item	Description
1.	Earnest Money Deposit (EMD) via Online	Rs.3,00,000/- (Rupees ThreeLakhsOnly)
2.	RFP Document Fee to be paid via Online Payment Gateway mode only.	Rs. 5,000 (Rupees Five Thousand Only)
3.	Bid Validity Period	One Eighty (120) days from the date of submission of the bids

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

4.	Last date for furnishing Performance Security to MMRC (By successful bidder)	Within fourteen (14) working days of the date of notice of award of the contract or prior to signing of the contract whichever is earlier or as intimated in the work order issued by MMRC
5.	Performance Security value (Performance Bank Guarantee)	10% of contract value/ Bid value of successful bidder
6.	Performance Bank Guarantee (PBG) validity period	PBG should be valid till for 180 days from the end of contract
7.	Last date for signing contract	As intimated in work order of MMRC

Section: 2

Instructions to Bidders

2 Instructions to Bidders (ITB)

2.1 Introduction of MMRC

Mumbai Metro Rail Corporation Limited (MMRC) is a Joint Venture (50:50) Company of Government of India and Government of Maharashtra. MMRC is responsible for the implementation of Mumbai Metro Rail Line-3.

MMRC has envisioned the development of an integrated IT enabled e-governance system across the organization in order to ensure transparent, easy, efficient and accurate availability of information, and facilitation of transactions. With intent of providing a robust system, MMRC has decided to structure its current systems and core functions through e-governance solutions by leveraging Information and Communication Technology across various functions in the organization.

MMRC aims to implement Enterprise Resource planning (ERP) modules of Accounting, Finance and Human Resource (HR), which would enable MMRC to make effective and efficient planning, tracking and monitoring and facilitating decisions for laying down the Metro Rail network.

2.2 Purpose

MMRC seeks the services of a from reputed, competent and professional Information Technology (IT) companies, who meet the Initial filter as specified in this bidding document for the **“RFP For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support”**. This document provides information to enable the bidders to understand the broad requirements to submit their bids. The detailed scope of work is provided in Section 3 of this RFP document.

2.3 Cost of RFP

The qualified bidders are requested to deposit the Tender fee through online payment gateway through e-tendering portal. Bidders are advised to make online payment at least 3 days prior to submission timeline to avoid any banking transfer delays. The receipt of the same shall be uploaded during the online submission of bid document. Tender fee is non-refundable.

2.4 Transfer of RFP

The RFP Document is not transferable to any other bidder. The bidder who purchases the document and submits shall be the same.

2.5 Consortium and Sub-Contracting Conditions

The consortium, joint venture, subcontracting & outsourcing are not allowed.

2.6 Completeness of Response

2.6.1 Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of bid shall be deemed to

have been done after careful study and examination of the RFP document with full understanding of its implications.

- 2.6.2 The response to this RFP should be full and complete in all respects. Failure to furnish all information required by the RFP document or submission of a proposal not substantially responsive to the RFP document in every respect will be at the Bidder's risk and may result in rejection of its Proposal and forfeiture of the Bid EMD.

2.7 Proposal Preparation Costs

- 2.7.1 The bidder shall submit the bid at its cost and MMRC shall not be held responsible for any cost incurred by the bidder. Submission of a bid does not entitle the bidder to claim any cost and rights over MMRC and MMRC shall be at liberty to cancel any or all bids without giving any notice.

- 2.7.2 All materials submitted by the bidder shall be the absolute property of MMRC and no copyright /patent etc. shall be entertained by MMRC.

2.8 Bidder Inquiries

Bidder shall E-Mail their queries at above mentioned E-Mail address as prescribed in the **Section 6.5**. The response to the queries will be published on <https://etender.mmrda.maharashtra.gov.in>. No telephonic / queries will be entertained thereafter. This response of MMRC shall become integral part of RFP document. MMRC shall not make any warranty as to the accuracy and completeness of responses.

2.9 Amendment of RFP Document

- 2.9.1 All the amendments made in the document would be published on the e-Tendering Portal and shall be part of RFP.

- 2.9.2 The bidders are advised to visit the aforementioned websites / portal on regular basis to check for necessary updates. The MMRC also reserves the right to amend the dates mentioned in this RFP.

2.10 Supplementary Information to the RFP

If MMRC deems it appropriate to revise any part of this RFP or to issue additional data to clarify an interpretation of provisions of this RFP, it may issue supplements to this RFP. Any such corrigendum shall be deemed to be incorporated by this reference into this RFP.

2.11 MMRC's right to terminate the process

MMRC may terminate the RFP process at any time and without assigning any reason. MMRC reserves the right to amend/edit/add/delete any clause of this Bid Document. This will be informed to all and will become part of the bid /RFP and information for the same would be published on the e-Tendering portal.

2.12 Earnest Money Deposit (EMD)

2.12.1 Bidders shall submit, EMD of Rs. 3, 00, 000 (Rupees Three Lakhs only) through Online e-Tendering Payment Gateway mode only.

2.12.2 **EMD can be paid by using to Mode of Payment:**
a) Online payment gateway (i.e. Debit Card/Credit Card/Net-Banking.)
b) RTGS / NEFT mode using the System Generated Unique Challan (Account No for EMD transaction for this particular Tender is mentioned in the Challan)

Payment procedure for NEFT/RTGS

EMD Payment as mentioned above has to be made through RTGS / NEFT mode using the System Generated Challan. Bidders should ensure that the payment of the EMD is made at-least 5 working days prior to the last date of Bid Preparation and Submission of the Tender Schedule to have seamless submission.

Bidders need to upload scanned copy of EMD paid receipt during bid preparation.

Bidders failing to complete the payment of EMD using the above mentioned process of RTGS / NEFT or Online payment gateway after downloading the system generated challan will not be able to submit their bids.

EMD Refund:

Bidders should mention the beneficiary details for EMD refund in the Earnest Money Deposit Form for fields marked as details required for Refund. MMRDA or e-Tendering Service Provider will not be liable for delays caused in EMD refund due to incorrect beneficiary details.

The earnest money deposit of unsuccessful bidders will be refunded through RTGS, NEFT mode only after finalization of the tender for which the above refund details are required. Bidders should also upload scanned copy of cancelled cheque along with refund letter for refund of their EMD payment. In case of successful bidder, amount of the earnest money deposit may be transferred towards part of the security deposit to be paid after the award of the work, if he intends to do so in writing.

Bidders failing to complete the payment of EMD using the above mentioned process of RTGS / NEFT after downloading the system generated challans will not be able to submit their bids.

Note: Kindly note that transfer of funds to MMRDA's account through NEFT / RTGS mode, from the Bidders' ICICI accounts is currently not possible. In case of funds

transfer through NEFT / RTGS, Bidders are requested to transfer from any other bank (excluding ICICI Bank).

- EMD Refund Account should remain active until tender is awarded.
- EMD Refund will happen only after Awarding or Cancellation of tenders.

- 2.12.3 Unsuccessful bidder's EMD will be returned within 90 days from the date of opening of the financial bid. The Bid Security, for the amount mentioned above, of the successful bidder would be returned upon submission of Performance Bank Guarantee for an amount equal to 10% of Total Contract Value in the format provided in **Section 8** of the RFP.
- 2.12.4 No interest will be paid by MMRC on the EMD amount and EMD will be refunded to the all Bidders (including the successful Bidder) without any accrued interest on it
- 2.12.5 The Bid submitted without EMD, mentioned above, will be summarily rejected
- 2.12.6 The EMD may be forfeited:
- 2.12.6.1 If a Bidder withdraws his bid or increases his quoted prices during the period of bid validity or its extended period, if any.
- 2.12.6.2 In case of a successful bidder, if the Bidder fails to sign the contract in accordance with the terms and conditions.
- 2.12.6.3 If during the bid process, a bidder indulges in any such deliberate act as would jeopardise or unnecessarily delay the process of bid evaluation and finalisation.
- 2.12.6.4 If, during the bid process, any information is found false/fraudulent/mala fide, and then MMRC shall reject the bid and, if necessary, initiate action.
- 2.12.6.6 The decision of the MMRC regarding forfeiture of the EMD shall be final and binding upon bidders.

2.13 Authentication of Bid

- 2.13.1 The original copy (hard copy) purchased from MMRC by paying of Rs.5,000/- shall be signed, stamped and submitted along with the bid. Authorized person of the bidder who signs the bid shall obtain the authority letter from the bidder, which shall be submitted with the Bid. All pages of the bid and its annexures, etc. shall be signed and stamped by the person or persons signing the bid. In case of consortium, only the person from Lead Member is authorised to sign the bid documents and no other person is permitted.
- 2.13.2 Registered/ irrevocable Power of Attorney executed by the Bidder in favour of the duly authorised representative, certifying him as an authorised signatory for the purpose of this bid. In the case of the Board resolution authorizing a person as the person responsible for the bid, the Board resolution shall be submitted. The person accountable for the bid shall remain the full time employee of the bidder till the end of contract period.

2.14 Language of Bids

This bid should be submitted in English language only. If any supporting documents submitted are in any language other than English, then the translation of the same in English language is to be duly attested by the bidder and submitted with the bid, and English translation shall be validated at MMRC's discretion.

2.15 Patent Claim

In the event of any claim asserted by a third party of infringement of copyright, patent, trademark or industrial design rights arising from the use of the Goods or any part thereof, the bidder shall expeditiously extinguish such claim. If the bidder fails to comply and MMRC is required to pay compensation to a third party resulting from such infringement, the Bidder shall be responsible for such compensation, including all expenses, court costs and lawyer fees. MMRC shall give notice to the successful bidder of any such claim and recover it from the bidder if required. MMRC will have the Intellectual Property rights of the customization work which will be taken up during SRS Stage.

2.16 Bid Submission Format

The entire proposal shall be submitted strictly as per the format specified in this Request for Proposal. Bids with deviation from this format are liable for rejection.

2.17 Submission of Bids

2.17.1 Complete bidding process will be online (e-Tendering) in two envelope system. Submission of bids shall be in accordance to the instructions given in the Table below:

Particulars	Instructions
Envelope A: Initial filter Proposal	a) The Initial filter proposal shall be prepared in accordance with the requirements specified in Section 2.21 and Section 6 of the RFP . Each page of the Initial filter Proposal should be signed and stamped by the Authorized Signatory of the Bidder. Initial filter Proposal should be submitted through online bid submission process only.
Envelope B: Financial Proposal	The Financial Proposal shall be prepared in accordance with the requirements specified in this RFP and in the formats prescribed in Section 7 of the RFP . Each page of the Financial Proposal should be signed and stamped by the Authorized Signatory of the Bidder. Financial Proposal should be submitted through online bid submission process only.

Note: Bidder is requested to submit the ***One Hard Copy*** of the Initial filter on the date of Initial filter of proposal opening as schedule given in the Section 1.1 of the RFP.

2.17.2. The following points shall be kept in mind for submission of bids:

- 2.17.2.1 MMRC shall not accept delivery of proposal in any manner other than that specified in this RFP. Proposal delivered in any other manner shall be treated as defective, invalid and rejected.
- 2.17.2.2 The Bidder is expected to price all the items and services sought in the RFP and proposed in the proposal. The Bid should be comprehensive and inclusive of all the services to be provided by the Bidder as per the scope of his work and must cover the entire Contract Period.
- 2.17.2.3 MMRC may seek clarifications from the Bidder on the filter criteria. Any of the clarifications by the Bidder on the initial filter proposal should not have any commercial implications. The financial proposal submitted by the Bidder should be inclusive of all the items in the initial filter criteria and should incorporate all the clarifications provided by the Bidder on the initial filter proposal during the evaluation of the offer.
- 2.17.2.4 Financial Proposal shall not contain any technical information.
- 2.17.2.5 If any Bidder does not qualify the Initial filter stated in Section 2.21 of this RFP, the technical and financial proposals of the Bidder shall not be opened in the e-Tendering system. Similarly, if the Bidder does not meet the initial filter criteria, the financial proposal of the Bidder shall be unopened in the e-Tendering system.
- 2.17.2.6 It is required that the all the proposals submitted in response to this RFP should be unconditional in all respects, failing which MMRC reserves the right to reject the proposal.
- 2.17.2.7 Proposals sent by fax/ post/ courier shall be rejected.

2.18 Late Bids and Bid Validity Period

Proposals received after the due date and the specified time (including the extended period if any) for any reason whatsoever, shall not be entertained and shall not be opened in the e-Tendering system. The validity of the proposals submitted before deadline shall be till 120 days from the date of submission of the proposal.

2.19 Bid Opening

- 2.19.1 Total transparency shall be observed and ensured while opening the Proposals/Bids
- 2.19.2 MMRC reserves the rights at all times to postpone or cancel a scheduled Bid opening.
- 2.19.3 Bid opening shall be conducted in two stages.

- 2.19.4 In the first stage, Initial filter of proposals shall be opened and evaluated as per the criteria mentioned in **Section 2.21** of the RFP.
- 2.19.5 In the second stage, Financial Proposal of those Bidders, whose qualify initial filter, shall be opened. All Bids shall be opened in the presence of Bidders' representatives who choose to attend the Bid opening sessions on the specified date, time and address
- 2.19.6 The Bidders' representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for MMRC, the bids shall be opened at the same time and location on the next working day. In addition to that, if there representative of the Bidder remains absent, MMRC will continue process and open the bids of the all bidders
- 2.19.7 During Bid opening, preliminary scrutiny of the Bid documents shall be made to determine whether they are complete, whether required Bid Security has been furnished, whether the Documents have been properly signed, and whether the bids are generally in order. Bids not conforming to such preliminary requirements shall be prima facie rejected. MMRC has the right to reject the bid after due diligence is done.

2.20 Evaluation Process

- 2.20.1 The Tender Evaluation Committee constituted by the MMRC shall evaluate the bids.
- 2.20.2 The Tender Evaluation Committee shall review the Initial filter of proposal of the Bidders to determine whether the requirements as mentioned in Section 2.21 of the RFP are met. Incomplete or partial Proposals are liable for disqualification. All those Bidders, whose Initial filter of proposal meets the requirements shall be selected for opening of the financial proposal.
- 2.20.3 The Tender Evaluation Committee shall review the initial filter Proposal of the bidders are substantially responsive. Bids that are not substantially responsive shall be disqualified and the Tender Evaluation Committee reserves the right to seek clarification if required.
- 2.20.4 The Bidders who qualify initial filter criteria of the RFP shall qualify for the commercial evaluation stage.
- 2.20.5 The financial proposals of the qualified Bidders shall be opened and reviewed to determine whether the financial proposals are complete and as per requirements.
- 2.20.6 Evaluation and award of Contract shall be done as per provisions of Maharashtra State Government Rules.
- 2.20.7 Please note that the Tender Evaluation Committee may seek inputs from their professional, external experts in the Bid evaluation process.
- 2.20.8 In no way the bidder shall indicate its Financial Offer in any Envelope other than Envelope B. In case it is found, the Department may summarily reject the proposal of the said bidder.

2.20.9 The Department would evaluate the initial filterCriteriaand Financial Evaluation as detailed in subsequent sections. The department may seek clarification from the bidders during the evaluation process.

2.21 Initial filter

S No	Basic Requirements	Eligibility Criteria	Document to be submitted
PQ1	Legal Entity	The Bidder should be registered company in India under the Companies Act, 2013, and should be in existence in India for at least the last 3 years as on date of submission of the bid.	Certificate of Incorporation/ Registration
PQ2	Turnover from IT/ITeS	The bidder should have average turnover of INR 30 crore in last three financial years (FY 12-13, FY-13-14, FY-14-15) as on 31 st March 2015 from IT/ ITeS	Copy of the audited Profit & Loss Statement of the company duly certified by statutory auditor
PQ3	Net worth	The Bidder should have positive net worth (measured as paid-up capital plus free reserves) for each of the last three audited financial years(FY 12-13, FY-13-14, FY-14-15) as on 31 st March 2015	Certificate from the Statutory Auditorclearly stating the net worth
PQ4	Technical Capability	The Bidder should have experience of implementing in similar government organizationwith atleast one project of proposed ERPsolution with order value not less than 2.4 Cr. or should have experience of implementing in similar government organizationwith atleasttwo project of proposed ERPsolution with order value not less than 1.8 Cr. or should have experience of implementingin similar government organizationwithatleast three project of proposed ERPsolution with order value not less than 1.2Cr.	Copy of Work Order & Project CompletionCertificate should be attached
PQ5	Blacklisting	The Bidder should not be debarred/blacklisted by any Government / PSU in India as on date of submission of bid.	A self-certified letter signed by the Authorized Signatory of the Bidder.

PQ6	Certification	The Bidder providing the application development/customization, deployment and maintenance as described in of scope of work, should have an active SEI CMMI Level 3 or its higher version certification as on date of submission of Bid	Valid Copy of the Certificate
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2.22 Evaluation of Initial Proposals

- 2.22.1 Bidders, whose EMD and RFP Document Fees are found in order, shall be considered for Initial filter evaluation.
- 2.22.2 Bidder shall be evaluated as per Initial filter mentioned at 2.21. The bidders who fulfil all the Initial filter shall qualify for further financial evaluation.
- 2.22.3 The evaluation of the initial filter Proposals will be carried out in the following manner:
- 2.22.4 The Bidders are required to submit all required documentation in support of the evaluation criteria specified (e.g. Detailed Project citations and completion certificates, client contact information for verification, and all others) as required for initial filter evaluation.
- 2.22.5 At any time during the Bid evaluation process, the Tender Evaluation Committee may seek oral / written clarifications from the Bidders. The Committee may seek inputs from their professional and technical experts in the evaluation process.
- 2.22.6 MMRC reserves the right to do a reference check of the past experience stated by the Bidder. Any feedback received during the reference check shall be taken into account during the initial filter process.
- 2.22.7 MMRC reserve the right to accept or reject any or all bids without giving any reasons thereof
- MMRC shall inform to the shortlisted Bidders about the date and venue of the opening of the financial proposals

2.23 Financial Bid Evaluation

- 2.24.1 The financial proposal of only the qualified Bidders based on initial filter criteria shall be opened for the evaluation.
- 2.24.2 MMRC shall award the contract to the qualified bidder who has quoted the least. MMRC, however, reserves the right to accept or reject any or all bids without giving any reasons thereof.
- 2.24.3 If there is a discrepancy between words and figures, the amount in words shall prevail. For any other calculation/ summation error etc. the bid may be rejected.

2.24 Award of Contract

2.24.1 MMRC's Right to accept any Bid and to reject any or All Bids

MMRC reserves the right to accept or reject any Bid, and to annul the bidding process and reject any or all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for MMRC's action.

2.24.2 Letter of Acceptance

Prior to the expiration of the period of bid validity, MMRC will notify the successful bidder in writing or by fax or email, to be confirmed in writing by letter, that its bid has been accepted. The Letter of Acceptance will constitute the formation of the contract. Upon the Successful Bidder's furnishing of Performance Security, MMRC will promptly notify each unsuccessful Bidder.

2.24.3 Signing of Contract

MMRC shall notify the successful bidder that its bid has been accepted. The Successful Bidder shall enter into contract agreement with MMRC within the time frame mentioned in the Letter of acceptance to be issued to the successful bidder by MMRC.

2.24.4 Failure to agree with the Terms & Conditions of the RFP / Contract

Failure of the successful Bidder to agree with the Terms & Conditions of the RFP / Contract shall constitute sufficient grounds for the annulment of the award, in which event MMRC may invite the next best bidder for negotiations or may call for fresh RFP.

2.25 Non-Disclosure Agreement (NDA)

Successful bidder has to sign the Non- Disclosure Agreement (ANNEXURE 9) with MMRC.

Section: 3

Scope of Work

3 Scope of Work

MMRC requires a Bidder to implement an Enterprise Resource Planning at MMRC to manage and track the budget and cost of development.

The selected bidder shall perform the following is the brief scope of activities where

- 1) Procurement of license, Supply, Installation, Configuration and Customization, Implementation, Integration, commissioning, Training and support of Enterprise Resource planning (ERP) modules of Accounting, Finance and Human Resource (HR) and Payroll with necessary hardware
- 2) Manage application hosting
- 3) Training and Capacity building for all MMRC officials on the system(s) implemented
- 4) Operation and Maintenance of application after commissioning of applications, corresponding hardware with requisite support of manpower
- 5) Backup of operating system, database and application as per stipulated policies.
- 6) Bidder shall provision integration with Primavera (Project Management tool) and Document management and collaboration system through standard APIs.

MMRC reserves the right to amend/ add/ delete/ edit any of the following items of the scope of work at the cost of the bidder which shall be binding on the bidder.

3.1 Scope for Enterprise Resource planning

MMRC envisages to create robust and flexible solution which can cater to Finance Accounting & Controlling and Human Resource and Payroll at MMRC to increase efficiency, planning and operational aspects on daily basis at MMRC office. MMRC requires tight financial management, system driven compliance and proactive controls in place through envisaged systems.

The Proposed COTS ERP Solution should enable single Sign on and have Compliance to Indian laws, taxation requirements, legal requirements like Tax Deducted at Source (TDS), Service Tax, Value Added Tax (VAT) , and other taxation, accounting , payroll, GOF, Salary, TDS certificates.

The functionality requirement mentioned below is the representation of the overall ERP requirement at MMRC. Bidder may visit MMRC (On prior approval of MMRC) and understand these requirements in detail. Successful bidder shall undertake System Requirement Specification (SRS) to freeze the exact scope for the project for modules of finance and HR. ERP should have embedded workflow to facilitate level based approvals. ERP system shall support integration with Automatic Fare Collection Module as required by MMRC.

The ERP solution would address the following:

- a. Integration of financial and human resource business processes across departments onto a single system
- b. Enterprise-wide financial information systems
- c. Automation and integration of the core business operations of finance
- d. Increased operating efficiency
- e. Better day-to-day management for finance and HR

3.1.1 Scope of Work

The Scope of work Includes:

- 3.1.1.1 Supply and Implementation of ERP. (As per clause 3.1.5, 3.1.6)
- 3.1.1.2 Configuration and Implementation of software. (As per clause 3.1.5, 3.1.6)

3.1.2 No. of Licenses

Supply and Implementation of ERP. (As per clause 3.1.6.1)

3.1.3 Locations

The solution will be implemented for the following sites:

- 3.1.3.1 Mumbai Metro Rail Corporation Limited, Bandra East, BKC, Mumbai

The required infrastructures to run the application shall be appropriately configured by the Bidder.

If required, bidder shall be required to setup and configure at no additional cost in case MMRC moves to different location.

3.1.4 Warranty and Annual Maintenance Contract (AMC)

Scope of services to be provided under Warranty and AMC is as follows:

Support shall include technical and functional support and maintenance of ERP licenses, Databases and all other standard third party software which form the part of the proposed solution for AMC of 4 years.

3.1.5 Accounts & Finance at the MMRC

Accounts & finance module should include functions to allocate funds against the requisitions. Seek clarifications from any department in case of gap in between budgeted vs actual. Ensure that the funds are managed in lines with all the statutory requirements. The Finance system should be compliant to all rules and policies of MMRC.

The following are the IT enablement requirement of Finance and Accounting

- 3.1.5.1 Financial accounting and GL account posting, Budget execution and control and reporting
- 3.1.5.2 Define and create Workflows processes
- 3.1.5.3 System-driven compliance to Indian regulatory requirements(IGAAP, IFRS, GST)
- 3.1.5.4 Integrated management accounting and costing
- 3.1.5.5 Asset accounting and payable accounting
- 3.1.5.6 Tax handling and double entry accounting system
- 3.1.5.7 Out-of-the-box reporting with complete audit-trails of all the operations in the system
- 3.1.5.8 Accurate and complete accounting data
- 3.1.5.9 All business transaction records (primary postings, internal accounting settlements)
- 3.1.5.10 completely integrated with other operational areas
- 3.1.5.11 Account Payable General and Payment processing, reconciliation with single enterprise-wide G/L
- 3.1.5.12 Financial statement generation for regulatory compliance parallel-ledger, profit-center/ cost-center/ project accounting
- 3.1.5.13 Centralized financial planning and budgeting based on enterprise data
- 3.1.5.14 Built in integration for import and export with excel
- 3.1.5.15 Inherent dashboard and business intelligence capabilities
- 3.1.5.16 Built in reporting tool to create flexible formats for reports like income statement, balance sheet, trail balance, etc.
- 3.1.5.17 Following functions have to be met by the COTS solutions
- 3.1.5.17.1 Accounts & Finance

- 3.1.5.17.2 Budget – Financial Accounting
- Grant-in-aids receipts and expenditure (Plan, Non-Plan)
 - Generation of reports for submission to the Ministry in prescribed Formats Monthly Expenditure Statement for Plan and Non-Plan based on financial accounting
 - Storage of various documents/circulars for ready reference
- 3.1.5.17.3 The account module will have integration with all the departments for budget provisioning. The accounts module will also have the integration with the all revenue generation.
- 3.1.5.17.4 Masters
- Account Head Definition
 - Account Grouping and Sub-Grouping
 - Bank Account Details
 - Bidder Details
- 3.1.5.17.5 Departmental Process
- Budget Preparation, Distribution and Management System
 - Budget Classification
 - Department-wise estimated provision, revision for income and expenditure
 - Budget Appropriation between different budget heads through approval process
 - Administrative approval / dis-approval of works linked to budget availability
- 3.1.5.17.6 Standard Reports
- Cheque/ Cash Deposit Slips into Bank
 - Capture of Cheque Dis-honor cases, Remittance entry
 - Payment Management
 - Bill / Liability Entry
 - Payment Authorization
 - Payment Voucher (Full or Partial Amount)
 - Maintaining Check details, Check Printing
 - Recording of Check Issuance Details
 - Recording of Cheque Cancellation details
 - Security Deposit / Earnest Money Deposit Management
- 3.1.6.17.7 Advanced Reports
- Cost Centered Accounting Reports
 - Ratio Analysis, Trend Analysis
 - Department-wise, Cost Center-wise Income / Expenditure reports
 - Generation of Deposit Slips
 - Security Deposit Register
 - Investment Register
 - Advance Register
 - Bill Register
 - Payment Register
 - Outstanding Bill Register
 - Reports on Receivables
 - Cash Book (Detailed & Summary)
 - Function-wise Expense Subsidiary Ledger
 - Journal Book
 - Ledger Book
 - Cheque Issue Register
 - Trial Balance, Income & Expenditure Statement
 - Balance Sheet

- Bank Reconciliation Statement
- Cheque dis-honor Report
- Analysis on unspent amount of previous years

3.1.6 Human Resource

MMRC's Human Resource department will be covered under this initiative to automate the process and maintain data regarding the employee service book management and payroll processing should also be considered under this scope. The HR system should be compliant to all rules and policies of MMRC.

The following are the IT enablement requirement of Human Resources

- I. Automate core HR processes(e.g. staff administration, payroll, organization structure & Hierarchy)
- II. Workflow based processing (medical/ travel expense claims like vehicle booking, ticket booking, leaves management, training programs, approvals, etc.)
- III. Training and Development planning (based on skills required, profile of current employee pool and future man-power planning)
- IV. Automate HR transactions and payroll processing
- V. Recruitment Management
- VI. Employee/ Manager Self-service and record keeping
- VII. HR Budgeting

Broad level payroll scope will cover the following aspects

- I. Pay Slip generation
- II. Calculation of Gross Salary and Deductions
- III. Pay, Benefits and Allowance (Calculation Pay, Grade Pay, Special Pay/Personal Pay, Dearness, Allowance, Dearness Allowance Arrears, House Rent Allowance, Travelling Allowance, DA on TA and other allowances)
- IV. Deductions on account of Prof. Tax, Income Tax, GPF
- V. Calculation of TDS, Income Tax, Form 16 and its form generation
- VI. Generation of pay slips and various statements for payment of salary in the banks
- VII. Generation of bills / reports for various remittances for payments and other disbursements
- VIII. Consolidation of log generated out of biometric attendance machine (whenever available) with the COTS to calculate monthly attendance and calculate salary accordingly.
- IX. Maintaining the record and Generation of CPF slips.
- X. Various statements/reports generation e.g. list of employees on payroll, list of employees on the basis of dues/recovery etc.
- XI. Employees Service record keeping

3.1.7.1 Tentative Users base

3.1.7.1 Finance Accounting and Controlling - 25 Users

3.1.7.2 Human Resource Management – 200 Users (Self Serving users)
The users count may increase or decrease -20% to + 20%.

Bidder must specify the cost per user of the indicated modules which may be procured by MMRC as need arises.

3.1.7.2 The Key activities and services for ERP Implementation

The scope of activities and services to be provided by the Bidder as part of the Project are expected to be the following

3.1.7.2.1 Solution integration and implementation services

- 3.1.7.2.1.1 Seamless integration with MMRC's Project Management and Document Management/ Collaboration System based on MMRC's operations
- 3.1.7.2.1.1 Business design based on the assessment of the operations of MMRC and the current IT applications in use
- 3.1.7.2.1.2 Configuration / customization of the proposed COTS Solution
- 3.1.7.2.1.3 Data migration for each of the applications, functions into the proposed COTS solution.
- 3.1.7.2.1.4 Formulation of cut over strategy and go live
- 3.1.7.2.1.5 Consolidation with other applications as required.

3.1.7.2.2 Project Management services

- 3.1.7.2.2 Deployment of a competent team of experts in the area of the proposed COTS, specific functional areas and in project management
- 3.1.7.2.2 Scheduling the activities so as to complete the project and functional areas of MMRC within a span of two months of starting the project.
- 3.1.7.2.2 Deployment of resources to ensure that the project activities are carried out as per plan.
- 3.1.7.2.2 Deployment of a project structure for effective monitoring, review and risk mitigation

3.1.7.2.3 Project quality services

- 3.1.7.2.3.1 Deployment of experts with deep knowledge of the processes of the specific industries and the solution modules, for review
- 3.1.7.2.3.2 Deployment of templates and standard accepting mechanisms for the project deliverables
- 3.1.7.2.3.3 Use of natively integrated tool for managing project repository, and project activities i.e. integration with DMS

3.1.7.2.4 Feedback, monitoring and adoption

- 3.1.7.2.4.1 MMRC may use the services independent third party expertise to assess, review and quality control of the project artifacts and deliverables
- 3.1.7.2.4.2 The Bidder will institutionalize mechanisms to adopt the feedback and ensure quality of work, without affecting the project timelines
- 3.1.7.2.4.3 The Bidder will put together a structure and mechanism for ensuring that all the key functional areas, users of each of the enterprises are consulted, feedback adopted and key differences identified, so as to facilitate standardization as well as user adoption.

3.1.7.2.5 Training and documentation

- 3.1.7.2.5.1 Training all the users
- 3.1.7.2.5.1 Preparation of user manuals
- 3.1.7.2.5.1 Documentation of processes
- 3.1.7.2.5.1 Training the key executives for monitoring the performance and using the reports effectively

3.1.7.3 Support services

- 3.1.7.3.1 Facilitating user adoption
- 3.1.7.3.2 Continuous improvement and refinement of the processes, reports
- 3.1.7.3.3 Institutionalizing structures and processes for management of SLA, strategic control

3.1.7.4 Technical services

- 3.1.7.4.1 Sizing the hardware based on the configuration and usage requirements & suggesting the same in the initial filter proposal.
- 3.1.7.4.2 Provide support to the department to choose the right configuration & hosting of the same whether in house or at SDC.

3.1.7.5 Support Services

- 3.1.7.5.1 Help desk operations - Initial Response Immediate telephonic response and support for usage related and other minor problems. Dial-in support for handling, minor bug fix.
- 3.1.7.5.2 Onsite support - On-site support for hand holding the users, database recovery and data synchronization after crash, performance tuning, bug fix, update for all critical functions.
- 3.1.7.5.3 OEM support – Ensuring proposed COTS Solution OEM services for system performance, performance tuning, upgrades etc.
- 3.1.7.5.4 Documentation - upgrade the Documentation system on any new releases and provide any updates of technical and functional manuals

3.1.7.6 The Project Phases and Plans

The Bidder is required to deploy a comprehensive Methodology for implementation of the proposed COTS Solution at MMRC to ensure that the organization is able to achieve the objectives of the project and able to harness the capabilities of the COTS solution completely. The implementation methodology should aim for streamlining implementations and deliver faster results to all the stakeholders of the project. At the core of the project methodology is

- I. Proposed COTS solution implementation activities
- II. Post implementation support
- III. Implementation Approach and methodology
- IV. Project plan and structure

The Proposed Solution implementation activities

- 3.1.7.6.1 The Core implementation Activities: The methodology shall be well-defined and structured in approach. It should adhere to the globally accepted best practices of COTS implementation and should cover the following broad phases or work elements
1. Preparation of the project
 2. System Study/BusinessProcess Design
 3. Configuration/Customization
 4. Testing & Acceptance
 5. Data Migration
 6. User and Technical training
 7. Cut over and "Go Live"
 8. Post implementation support for 5 year at MMRC office
- 3.1.7.6.2 Preparation phase
The project preparation will focus on creating the project charter, interfacing mechanisms, the training, the day to day action plan till the completion of the next immediate stage, familiarization of the Bidder team with MMRC operations and the MMRC team with the action plan of Bidder etc.
- 3.1.7.6.3 Preparation of business and template design
After carrying out system study, detailed AS-IS & TO-BE documents shall be prepared during this stage .The analysis of AS-IS and TO-BE business processes, gaps in relation to best practices as per COTS system have to be identified. After carrying out analysis of the business processes, gaps in relation to best practices as per COTS system have to be identified.
- 3.1.7.6.4 Realization Phase
Based on the functionalities designed, Bidder shall be responsible for:
- I. Identification: Based on the approved business design Bidder will undertake the system configuration and customization. After completion of configuration / customization to the product, Bidder shall carry out a trial run with MMRC data. If the need arises and the result is not up to the expectation of MMRC management, further reconfiguration will be done by the Bidder in order to close any gap left in meeting the desired objective. Finally approved/accepted solution will be delivered as "System Configuration" document and the same should be implemented at locations that are identified within the scope of this project.
 - II. Configuration: In order to minimize upgrade costs, MMRC would like to use standard features of proposed COTS Solution and the implementer is expected to make the necessary "Configuration" entries in proposed COTS Solution to achieve the business needs. The configuration includes small routines using User-exits and developing screen variants as needed by the business by setting fields attributes - to hide, display and make them mandatory fields.
 - III. Customization:MMRC intends to implement standard COTS Solution functionality as far as practically possible and to adopt the business processes of the standard proposed COTS Solution and the leading practices available in the offered solution. However Bidder is required to undertake customization that may be needed in line with the changed, improved or specific business processes requirement prepared during Business design phase of the implementation.
 - IV. Development: In case the Bidder intends to develop any application as part of the application to suite the requirements of MMRC, such a development has to be restricted to minimum and has to be necessarily be on the same platform as that proposed for the COTS application.

- V. In cases where Bidder recommends that the Customization is needed through software development, MMRC reserves the option to get Expert help to resolve the Functionality gap. In case it is proved that the functionality gap can be taken care through "Configuration" without resorting to "Development Customization", then Configuration would be preferred option.

3.1.7.6.5 Testing & Acceptance

The Bidder shall provide standard functionality test suites for testing the modules. For software the Bidder shall prepare the test plan and shall get it approved by MMRC. Test Data for different scenario (Test Cases) will be prepared in consultation with the users concerned for testing the modules. The pre-commissioning tests shall be carried out to assess the following but not limited to:

- I. Conformance to the functional requirements,
- II. Performance of the system with reference to response time and accuracy,
- III. User friendliness.
- IV. Simultaneously, the documentation will also be reviewed by the user to ensure its accuracy and clarity.

3.1.7.6.6 System Testing

The Bidder is required to prepare procedures detailing the steps for conducting System Tests, which are accepted by MMRC. The Bidder shall after development and customization/configuration of the proposed COTS Solution, conduct tests to demonstrate that the system meets all the requirements (functional and technical) specifications as brought out in this RFP and would be in accordance with the procedures detailed in approved To-Be process document.

3.1.7.6.7 On the basis of these tests, a report would be submitted by the Bidder for review and approval by MMRC. The test results and response times should be demonstrated by the Bidder during the testing phases (System, integration & Stress and Load testing) at each MMRC location in an environment/infrastructure as mutually agreed upon by MMRC and the Bidder.

- I. Developing a Test Plan to support Function Testing and System/ Integration Testing and ensuring that the testing of the software is comprehensive and auditable and preparing test cases for User Acceptance Testing (UAT).
- II. Testing of the entire new system, as part of system integration testing. And testing of the data conversion and migration to the new system, as part of system integration testing. Integration testing shall be carried out to ensure cross function modules are integrated and transaction data is flowing across the modules accurately.
- III. Developing acceptance test procedures to ensure conformance to the required process operations response time, the integrity of the software after installation, and to eliminate any operational bugs. This will include:
 - (a) Fine tuning of the software, ensuring all required related component software are installed and any debugging required.
 - (b) At the satisfactory conclusion of these Acceptance Tests to the satisfaction of MMRC, the commissioning/ implementation of the software shall be considered to be complete for the respective location.

3.1.7.6.8 Data Migration

Migration of data in the new system is responsibility of Bidder from the cutoff date after the date of tender allocation. MMRC along with Bidder will jointly decide on what data will be migrated and MMRC will take the responsibility of collecting and making the data available in digitized form as per the format suggested by the bidder. A detailed plan for data migration is expected from system implementer

- 3.1.7.6.9 during the initial stages of the project, which will include data to be migrated, templates for upload of data and data collection/digitization/migration timelines. Most of the data migration required for starting the work from the cut of date decided after the award of tender will be from the existing systems. However wherever the data has to be captured from physical sources, that activity will be facilitated by the Bidder and the actual work of data entry will be executed by MMRC .
- 3.1.7.6.10 **End-User Training**
The purpose of end user training is to ensure that all end users are adequately prepared and able to perform their job functions at "usage ready". Training content will depend on the function performed by the end-user; therefore several user profiles will be established.
- 3.1.7.6.11 **Cut over Strategy**
The Bidder has to evolve & detail a comprehensive cut over strategy including initial data take on, sequence of data take on, set up of support helpdesk, helpdesk procedure to minimize business impact of cut over activities.
- 3.1.7.6.12 The Bidder is required to undertake the following to review readiness for "Go Live":
I. Facilitate in setting up central help desk for any queries
II. Review the health, usage and performance of the system till it stabilizes
III. Ensuring resolution / Documentation of all issues raised during implementation
IV. Final configuration/ integration, volume and stress testing
V. Switch over to production environment.
- 3.1.7.6.13 Declaration of "Go Live" – the system will be declared "Go Live" when the following tasks/activities are accomplished satisfactorily
I. Acceptance testing
II. Hardware recommendation
III. Data migration
IV. Training
V. User creation / role identification
VI. Help desk
- 3.1.7.6.14 **Acceptance of "Go live"**
The go live will be accepted only after successfully generating at least one balance sheet for the complete operations, for one financial quarter or successfully using the system for Two months after declaring go live, whichever is longer.
- 3.1.7.6.15 **User Adoption Support:** The Bidder shall provide User adoption support, by deputing technical and functional consultants at the client site after implementation of COTS Solution at that site for 1 months as stabilization period. During the Implementation period prior to "Go Live", the Bidder would support MMRC users in using the system.
- 3.1.7.7 Post implementation support**
After launching of the proposed COTS solution or making it "Go Live", the Bidder will provide user adoption and stabilization support for the implementation services for 1 months from the date of "Go Live" period. During this phase, the Bidder will take up task related to bug fixing (if any) in customization made in the system by the SI, maintain back-ups of the implemented system and coordinating with COTS Solution OEM for any base COTS solution related issues. Some of the other activities in this period will include but not limited to
I. Post "Go Live" Support Strategy

- II. Hand holding the users
- III. Post "Go Live" Monitoring
- IV. Post "Go Live" Review
- V. Monitoring and fine tuning system response

3.1.7.8 The Implementation Approach

3.1.7.8.1 Adoption of best practices & methodology

Process Improvement will be done to enable MMRC to adopt some of the best practices embedded in the proposed COTS Solution. The areas that can bring maximum benefits will be identified by Bidder in close coordination with MMRC process owners. Bidder will also bring in knowledge of the best practices adopted by other organization to the MMRC implementation. Since process improvement is a part of overall implementation plan, Bidder should recommend possible places of process improvement, detailed in the plan.

3.1.7.8.2 Bidder is required to capture all the processes in practice at all the locations of MMRC at the time of implementation of the proposed COTS. Wherever possible MMRC would like to adopt the best practices and standard processes available with the proposed COTS solution, including Reports and Forms to the extent possible.

3.1.7.8.3 The below list of objects developed or changes to standard objects shall be considered as "Configuration" and not as "Customization or development". The Bidder shall not expect or propose any additional charges for developing these objects. It is expected that such efforts are part of the normal effort for implementation of the proposed COTS solution

- I. Use of COTS solution provided Customer/ User Exits to achieve specific process requirements/ expectations
- II. Configuration of Field selection and Screen Layouts
- III. Definition and assignment of User Defined statuses for various objects
- IV. Definition of Authorization Controls and Assignment
- V. Configuration of standard Workflows
- VI. Seamless integration across all COTS solution modules and engines or any other third party solutions proposed to meet the requirements of MMRC
- VII. Reports developed in the different functional area using Report Writer/ Report painter
- VIII. Reports and Variants based on different solution modules/engines along with specific reports.
- IX. Change to COTS standard reports/ information systems to define and enable User Specific Variants
- X. Change to COTS standard forms to incorporate standard texts and MMRC logo and formatted to address the MMRC formats.
- XI. Conversion Programs developed for migrating Master Data and Open Data for "usage ready" from existing applications.

3.1.7.8.4 Plan for customization/development

The Bidder should plan for following developments as a part of the normal effort for implementing the COTS Solution.

3.1.7.8.5 Documentation

The Bidder shall ensure preparation of complete documentation of all configuration settings, customized applications, other activities, steps / stages involved in the

implementation including the source code for the customized product developed for MMRC. The Bidder shall prepare the business process document, end-user manual and training document.

3.1.7.8.6 Solution Documentation

The Bidder will provide detailed final system documentation for reference of MMRC. Bidder shall prepare the final user manual incorporating all details of all menus and functionality provided by the system.

3.1.7.8.7 Use of the native Project management tool

The Bidder will use their own native project management tool to record the entire activities of the project including but not limited to:-

- I. The business design documents with version control review comments
- II. The minutes of the meeting
- III. System documentation
- IV. Issue lists, resolutions
- V. Training materials

3.1.7.8 The Implementation Methodology

The methodology to be deployed by the Bidder to implement the COTS solution will have different work elements and activities. All these activities and the work elements should coherently focus on achieving the following key results

- I. Quality of the solution deployed
- II. Customer satisfaction while deploying and during usage
- III. Successful implementation in terms of completeness and timely accomplishment of the outcome

3.1.7.8.1 Critical activities of Implementation

While there are different techniques and tools available as a part of the methodology, the following are expected to be part of the implementation methodology to be adopted by the Bidder

- I. Workshops with different stake holders for capturing business requirements, creating awareness of best practices, communicating the changes, building consensus on process design, for signing off the deliverables etc. These need to be organized at different intervals and in different places throughout the duration of the projects as demanded by the context.
- II. Stake holder consultation other than workshops, with those stake holders who will be identified by MMRC, for the purpose of critical inputs, review, suggestions, process description etc.
- III. Review sessions with different stake holders for signing off the deliverables, walking through the deliverables for facilitating quick understanding
- IV. Documentation of proceeding – recording the developments, discussions, deliverables, using standard methodology and native tools available with the COTS solution
- V. Work standards/practices for documentation, configuration, testing, data migration etc.
- VI. Training the different stake holders, on a continuous basis

3.1.7.8.2 Project Deliverables

There will be multiple deliverables expected to be delivered by the Bidder during the course of the project. Bidder is free to propose any additional deliverable, based on their experience of delivering similar projects, which can enhance the quality of work. It is expected that the project will move from one phase to the next only when the deliverables of that phase are accepted. Some of the key deliverables which will signal the successful completion of each of the phases will be

- I. Project Preparation – project charter, project plan
- II. Business Template - Business and Template Design Report
- III. Realization – configuration, implementation, integration reports
- IV. Testing - Test Plan, Test Reports
- V. Data Migration – Plan, templates, completion report
- VI. Training – Training materials / documents
- VII. Go Live – Cut over strategy document

3.1.7.8.3 Deliverables acceptance criteria

- I. The acceptance criteria for each phase is the submission and acceptance of all deliverables specified for that phase. The formal acceptance by MMRC of the phase deliverables constitutes completion of the phase and approval to launch the next phase and invoice MMRC for payment.
- II. Acceptance criteria for each deliverable will be established in accordance with the process described in the following paragraph prior to the beginning of each phase.
- III. Bidder should provide templates of proposed deliverables. At the onset of each phase, Bidder will meet with MMRC Project Manager to review the applicable templates, tailored to accommodate the needs of the project, and agree on the scope, format, and content of each of the major deliverables for that phase.

3.1.7.8.4 Project Standards

Bidder to provide Project Standards for various activities/documentation. Following is a minimum list where standards have to be set by the SI:

- I. Test cases
- II. Test scenarios
- III. Business Process Design
- IV. Functional design specs,
- V. Technical design specs
- VI. Transporting objects
- VII. Change control
- VIII. Reporting defects

3.1.7.8.5 Project Success Criteria

The finished proposed COTS solution meets planned scope and specifications

- I. No issues pending at the end of support period
- II. "on-line" transactions of all implemented modules – No backlog / offline transaction data entry during the last month of support
- III. The project is completed on time & All Users adopt the software according to plan.

3.2 Integration

Bidder shall ensure seamless integration with MMRC's other applications like Project Management, Document Management/ Collaboration System, etc. based on MMRC's operations. Data from other systems/ applications should flow to and from ERP systems based on MMRC's operations. The bidder shall ensure integration of Payment and SMS gateway, and use of digital signature (class II sign and encryption) with its proposed COTS ERP Product. Also, ERP system shall be integrated with Automatic Fare Collection system.

3.3 Reports

In lieu of the ERP implementation, MMRC envisages reports over and above the standard reports which will enable MMRC Management to analyze, report and take suitable decisions. Advanced reports are required by MMRC where additional data can be sourced from different applications and create reports ad-hoc/ on the fly by MMRC which should be viewable and may be extracted in standard formats. The bidder may suggest, if any additional reporting tool may be required to create these ad-hoc reports apart from standard available reports. The reports should be accessed as per the roles and responsibilities of the respective functions.

3.4 Manpower Requirement

- I. The bidder shall be required to deploy a dedicated Project Team for Proposed solution.
- II. The Bidder should have minimum 50 fulltime resources with ERP implementation skills on its payroll.
- III. The Project Team would consist of Top Management and a Core Delivery Team.
- IV. The Project Manager would head the Project Team for the bidder. Bidder would be required to deploy a Functional Lead, Technical Lead and Subject Matter Expert to assist the Project.
- V. The bidder is required to deploy a Core Delivery Team with adequate manpower for Implementation and Operations & Management of the project.
- VI. The Core Delivery Team for Implementation Stage shall be responsible for the entire design, development and commissioning of the project till 1 month post Go-Live.
- VII. Bidder shall ensure team which would be stationed at MMRC premises is responsible for smooth implementation and operation of the project. The Dedicated On-Premise Manager would be a single point contact for MMRC during the period of the contract and should be present for discussions, important meetings and should act as one point contact for MMRC.
- VIII. The qualifications of key resources is detailed below.

Table: Manpower Qualifications

Manpower	Responsibility	Minimum Qualifications
Project Manager	<ul style="list-style-type: none"> • Manages the strategic aspects of the project • Understand all business and functional requirements 	<ul style="list-style-type: none"> • Minimum Education: MCA/ MBA & B.Tech / B.E. • Total Exp: At least 10 yrs. • Languages known (Read, Write and

Table: Manpower Qualifications

Manpower	Responsibility	Minimum Qualifications
	<ul style="list-style-type: none"> • Manage all aspects of project including planning, execution and financial management. • Monitor performance & efficiency of various Teams and Resources • Understand all business and functional requirements, and be a bridge between the client and the project execution team. • Develop and manage detailed project plan in discussion with the department, and ensure completion of all milestones as per timelines. • Secure acceptance and approval of deliverables from the Stakeholders. • Responsible for communication, including status reporting, risk management, escalation of issues that cannot be resolved in the team, and, in general, making sure the project is delivered in budget, on schedule, and within scope. 	<p>Speak): Hindi, English, Marathi</p> <ul style="list-style-type: none"> • Should have operating knowledge of computers and networking • Prior project management experience of at least 10 years of handling three (3) large and complex projects in Infrastructure • Excellent writing, communication, time management and multi-tasking skills • Project Experience of leading projects on ERP as mentioned in this RFP.
Functional Lead	<ul style="list-style-type: none"> • Responsible for overall functional requirements, functional design and deployment of the project 	<ul style="list-style-type: none"> • Minimum Education: MCA/ MBA &B.Tech / B.E. • Total Exp: At least 8 yrs. • Languages known (Read, Write and Speak): Hindi, English, Marathi • Should have operating knowledge of computers and networking • Should have experience in core implementation of ERP in infrastructure projects • Should have worked on all modules of ERP for Infrastructure projects • Should have experience in integration of ERP with other tools like Project Management, etc. • Excellent writing, communication, time management and multi-tasking skills
Technical Lead	<ul style="list-style-type: none"> • Responsible for overall ownership of the complete solution • Overall technical lead responsible for technical planning, design and deployment • Lead integration of initiatives and related services 	<ul style="list-style-type: none"> • Minimum Education: MCA/ MBA &B.Tech / B.E. • Total Exp: At least 12 yrs. • Languages known (Read, Write and Speak): Hindi, English, Marathi • Should have operating knowledge of computers and networking

Table: Manpower Qualifications

Manpower	Responsibility	Minimum Qualifications
		<ul style="list-style-type: none"> • Excellent writing, communication, time management and multi-tasking skills • Should have experience in core implementation of ERP • Should have experience in integration of ERP with other tools like Project Management, etc.
Project Support	<ul style="list-style-type: none"> ▪ System Analysis, Report writing, Preparing Specifications, User Testing, Product Evaluation, Documentation etc. 	<ul style="list-style-type: none"> ▪ Should be BE / B. Tech or higher with more than 5 years of work experience ▪ Proficient in MS office and PM Tools ▪ Should have experience in core implementation of ERP ▪ Effective verbal communication skills (English, Marathi and Hindi).

Instructions for Proposed Resource

- 3.4.1 The Bidder is required to provide the CVs for each of the positions specified. Only 1 CV must be provided for each profile mentioned. In case more than 1 CV is provided, the first one provided for the profile shall be used for the purpose of evaluation.
- 3.4.2 In case no CVs are proposed for any of the specified positions, the technical score would be adjusted proportionately. Though resource persons suggested for additional posts would be considered during evaluation, not proposing additional posts would not detract from the qualification of a Bidder
- 3.4.3 CVs of all resource persons proposed MUST be furnished in the format given at Section 6.7.1 (Max 3 pages per CV). Non-adherence to the format or missing information in the specified format would amount to rejection of the CV for evaluation, at the discretion of the MMRC Tender Evaluation Committee.
- 3.4.4 Only the relevant Projects of each resource person may be detailed in the CV.
- 3.4.5 Each profile shall be signed by the resource (of whom the profile is submitted) and the authorized Signatory of the Bidder. If the signature of the resource cannot be obtained, the Authorized Signatory, in each profile shall mention and certify that he has obtained the consent of the respective employee on the accuracy and completeness of qualifications, experience and other details specified in the profile.
- 3.4.6 The Tender Evaluation Committee may, at its discretion, request the Bidder to provide additional details with respect to any or all of the personnel proposed, if required in the evaluation process.
- 3.4.7 The Successful Bidder shall confirm the availability of the team members as proposed in the initial filter proposal. MMRC will not consider changes or substitutions during negotiations as the ranking of the Bidder is based on the evaluation of the proposed profiles, and any change therein may upset the ranking. Changes or substitutions, will, however be permitted if the proposed man power is not available for reasons of any incapacity due to health.

3.4.8 In case, replacement is required, the Selected Bidder shall notify MMRC in writing at least 15 (Fifteen) days in advance, for prior approval, stating: the reason for replacing the person(s), originally assigned to the project the names and signed curriculum vitae (CV) of the proposed replacement. MMRC may also request replacement with valid reason.

3.4.9 Changes or Substitutions of the Project Manager shall not be considered and may lead to disqualification of the Bidder or termination of the contract.

3.5 Training and Capacity Building

- I. The bidder is required to conduct training sessions for all relevant stakeholders before UAT and Go-Live of the Proposed solution
- II. The bidder should ensure that trainings are conducted before all major UATs
- III. The bidder is required to submit a detailed schedule for training for MMRCs approval
- IV. The bidder is required to follow Train the Trainer model for all training and capacity building activities.
- V. The bidder, should ensure, end user training as required by MMRC in group

3.6 Project Timelines

The rollout of ERP is maximum of Six(6) months and One (1) months of stabilization period.

S. No.	Project Activity	Deliverables	Timelines (from signing of contract)
1.	Project initiation & Solution Design	<ol style="list-style-type: none"> a. Capturing the requirements of the project for the development/ customization/ configuration of ERP solution for MMRC, b. Capturing re-engineered processes based on the Industry Standard Processes & incorporating all the requirements of MMRC, c. System Requirement Study and Solution Design & Analysis d. Documentation- Preparation of FRS. SRS and Design Documents e. Mapping report of COTS product with the FRS/ To-Be processes as defined in RFP f. Preparation of Hardware requirements report to meet the requirements of the project and Deployment plan for hardware. 	1 months

S. No.	Project Activity	Deliverables	Timelines (from signing of contract)
2.	Procurement, and deployment of the necessary Hardware at Data Center decided by MMRC	<ul style="list-style-type: none"> a. Procurement and deployment of hardware. b. Testing and User Acceptance of hardware. 	By 2 nd month
3.	Development/ customization/ configurations and implementation of the ERP solution to meet the requirements of MMRC	<ul style="list-style-type: none"> a. Development / customization/ configuration and implementation of the modules. b. Software testing, modification and deployment of the Software applications 	By 4 th month
4.	Data Entry, digitization, and conversion of the records available in the paper files and migration of the data available in the existing databases	<ul style="list-style-type: none"> a. Data migration and Acceptance methodology Plan b. Data Digitization Plan c. Data Conversion Plan d. Digitized and verified data for modules 	By 4 th month
5.	Acceptance UAT and Implementation	<ul style="list-style-type: none"> a. Quality Assurance Plan b. Testing Strategy including Test plans and Test cases c. Testing for modules including UAT and Implementation d. UAT Reports including various Test performed, Test results and Resolution reports for the issues identified during the testing 	By 5 th month
6.	Pilot Rollout	<ul style="list-style-type: none"> a. Initial Deployment of Modules selected by MMRC 	End of 6 th month
7.	Training to the staff members and stakeholders of the MMRC and necessary Change Management	<ul style="list-style-type: none"> a. Change Management & Capacity Building Plan b. Training Plan and Strategy c. Training Material/ Manual d. Satisfactory training sessions to the staff members of MMRC for the modules e. Training and Change Management Report (for each phase and consolidated) 	By 6 th month

S. No.	Project Activity	Deliverables	Timelines (from signing of contract)
8.	Operations and maintenance	a. Application support and Maintenance for modules b. Operational support for modules c. Maintenance support for modules	To be started from successful implementation of modules till a period of 4 years.

3.7 Payment Milestone

S No	Milestone	Payment	Remarks
1	SRS & FRS Sign off	10% of Total Project Cost	Only after quality inspection and verification by the MMRC's representative of the conformity of the Goods/ Products / Services / Solutions supplied as per the agreed specifications.
2	Hardware / License procurement and software installation	30% of Total Project Cost	
3	Completion of UAT	10% of Total project cost on completion of UAT and rectifying all UAT bugs/errors of the System	
4	Training and Go-Live	10% of Total project cost To be paid after successfully conducting the training program and Successfully Go-Live of the Project	Only after satisfactory certification by MMRC's representative
5	Operation & Maintenance	40% of Total project cost To be paid in 16 Equated Quarterly instalments (every three months) during O&M 4 year (48 months) of operation and maintenance period	Operation and maintenance period shall start from the date of successful implementation of required modules on MMRC servers as per the rate quoted in ANNEXURE 7.2

3.8 Payment Terms

3.6.1 No advance payment shall be made.

3.6.2 The Bidder's request(s) for payment shall be made to the MMRC in writing, accompanied by an invoice describing, as appropriate, the Goods/Products/Services/Solutions delivered and the Services performed, and upon fulfilment of other obligations stipulated in the contract.

- 3.6.3 Payment shall be made only after the positive satisfactory testing report by the MMRC's Official at every stage that is
- I. Pre-Dispatch testing of Goods/Products/Services/Solutions at the MMRC's premises
 - II. Conforming the Quality of delivered Data
 - III. User Acceptance Testing after successful Deployment & Commissioning
- 3.6.4 Payments shall be made promptly by the MMRC within thirty (30) days after submission of the invoice or claim by the Bidder, only after quality inspection and verification by the MMRC's Official of the conformity of the Goods/Products/Services/Solutions supplied as per the agreed specifications.
- 3.6.5 Payment shall be made in Indian Rupees by Cheque drawn on nationalized Bank in the name of bidder.
- 3.6.6 The price quoted by the Bidder shall be fixed during the Bidder's performance of the contract and shall not be subjected to variation on any account, including changes in taxes, duties, levies etc.
- 3.6.7 The penalty shall be calculated and deducted from the immediate payment due.
- 3.6.8 It is the responsibility of the bidders to quote for and provide all the H/w and S/w for meeting all the requirements of the RFP. In case during evaluation it is found that certain H/w or S/w which is critical for meeting the requirement of this RFP and has not been quoted as part of Bill of material (BoM), the bid can be rejected as non-responsive. Additionally, if after the award of contract, it is felt that additional Hardware and Software are required for meeting the RFP requirement and the same has not been quoted by the bidder, the bidder shall provide all such additional hardware/software at no additional cost.
- 3.6.9 The Bidder, in the event of MMRC deciding to discontinue with the services of the Bidder, either during or after the Maintenance Period will transfer the data to the server of the other Bidder or any other location chosen by MMRC and will provide all necessary help to both MMRC and the new Bidder in doing the same. The Bidder will erase the data after transferring the same.
- 3.6.10 Number of resources may vary based on project requirements by MMRC. Payment will be made on actual deployment of resources as per the quotations submitted by the bidder.

Section: 4

Service Level Agreement (SLA)

4 Service Level Agreement

4.1 The purpose of this section is to clearly define the service levels which shall be provided by the selected bidder to MMRC, for the duration of this contract i.e. 4 years from the date of Go-Live. The SLA are the measures of addressing the requirements needed to be met without expectations and benefits

MMRC in following ways:

- a. Increasing satisfaction of the services provided by the bidder
- b. Reducing the risk of not meeting business requirements
- c. Better communication and information flows between bidders IT staff and MMRC
- d. Standards and guidance for bidders staff
- e. Greater productivity and better use of skills and experience

4.2 The service levels to be established for the Services offered by the Successful Bidder to the MMRC. The Successful Bidder shall monitor and maintain the stated service levels to provide quality service to the MMRC.

4.3 The Post Implementation SLAs shall prevail from the start of the Operations and Maintenance Phase. However, SLAs shall be subject to being redefined, to the extent necessitated by field experience at the MMRC office and the developments of technology practices globally. The SLAs may be reviewed on quarterly basis as the MMRC decides after taking the advice of the Successful Bidder and other agencies. All the changes shall be made by the MMRC in consultation with the Successful Bidder.

4.4 For any delay in installation and commissioning of the Hardware, MMRC shall charge penalty @ 0.5% of the corresponding milestone value per week or part thereof, subject to a maximum of 10%.

4.5 **The rollout of ERP is maximum of 6 months and One (1) months of stabilization period.**

4.6 Standard Definition used in SLA

The definitions and terms as specified in this RFP with the following terms shall have the meaning as mentioned below:

- I. "Availability" shall mean the time for which the services and facilities are available for conducting operations from the equipment hosted at MMRC.
- II. "Downtime" shall mean the time period for which the specified services / components with specified technical and service standards are not available and excludes the scheduled outages planned in advance for the MMRC and the link failures that are service provider's responsibility.
- III. "Uptime" shall mean the time period for which the specified services / components with specified technical and service standards are available. Uptime, in percentage, of any component (Non IT & IT) can be calculated as:
$$\text{Uptime} = \{1 - [(\text{Downtime}) / (\text{Total Time} - \text{Scheduled Maintenance Time})]\} * 100$$
- IV. "Helpdesk Support" shall mean the 16x7 which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.
- V. "Incident" refers to any event / abnormalities in the functioning of the MMRC Equipment / Services that may lead to disruption in normal operations of the MMRC services.

- VI. "Service Window" shall mean the duration for which the facilities and services shall be available at the MMRC. Service window in this case shall be 16x7.
- VII. "Resolution Time" shall mean the time taken in resolving (diagnosing, troubleshooting and fixing) an incident after it has been reported at the helpdesk. The resolution time shall vary based on the severity of the incident reported at the help desk.

4.7 Criticality of Services

Criticality level-1:

This level shall cover any server related issues like hardware failure, OS failure etc. A critical problem, which affects large number of users / prioritized users / networks / servers e.g. Server UPS, Gateway Routers, Layer-3 and 2 core switches, networked printers, messaging servers, domain servers and other mission critical server, including their power supplies for servers, routers etc. affecting any segment of the LAN network or connectivity between any two segments including security breach. Denial of services/ Standard Compliance due to total breakdown/ failure of any one of the equipment/ component installed in MMRC. Apart from this hacking of website / data, Virus Attack (Malicious code) effecting Database system, System Software, data etc. leading to total system breakdown/ failure of any one of the equipment/ component installed in MMRC will also come under criticality level 1.

Criticality level-2:

A major problem, which affects the individual user, e.g. PCs, desktop printers, UPS, edge switches hubs etc. Denial of services/ Standard Compliance due to partial breakdown/ failure of any one of the equipment/ component installed in MMRC. However, if the partial denial of services is impacting critical users like Hon'ble CM, Hon. Ministers, Secretaries, Managing Director (MMRC) and other senior officials the incident will come under Criticality level 1. Apart from this Spamming will also come under severity level 2.

Criticality level-3:

Other problems not covered in criticality-1 and criticality-2 items.

4.8 Scheduled downtime

Scheduled downtime means any time when the MMRC services are unavailable because of urgent maintenance activities (viz. maintenance activities required by application or systems that cannot be postponed until the next available or convenient maintenance window, and may include but not limited to restarting applications, rebooting servers, applying patches or fixes, reconfiguring storage allocation, reloading data and making DNS & firewall changes to close security holes) and any other scheduled maintenance or update activities that may or may not be periodic, and that may be notified to MMRC minimum 24 hrs.in advance.

The bidders have to note that:

- I. For redundant power supplies, if any of the power supply fails and a redundant power supply is available and equipment's are providing services, the down time at the criticality level-3 will be calculated instead of criticality level-1&2.
- II. In case, an equipment remains non-functional for more than allowed minutes of the criticality level, the criticality level will go up for the device to the next

higher level (i.e. If an equipment of criticality level-3 is non-functional for more than 480 minutes the 481th minute onwards the criticality level for the equipment will be calculated based on the Criticality level-2) and will keep on escalating to further level if it still remains non-functional

- III. In case, maximum response time is violated after problem is reported to the selected bidder, then criticality level of the reported call would change to next higher criticality level and downtime would be factored accordingly to the new criticality level. (E.g. if problem reported under criticality level 3 is not responded within its defined maximum response time, criticality level would change to 2 and downtime would be factored according to level 2. Further, if the call is still not responded within maximum response time of criticality level 2, call would get escalated to criticality level 1 and the SLA shall be impacted accordingly)

4.9 Working Hours windows

RWH (Regular Working Hours): 9 AM to 6 PM (Monday to Saturday [1st, 3rd and 5th Saturday for GoM are working days])

EWB (Extended Working Hours): 6 PM to 9 AM (Monday to Saturday [2nd and 4th Saturday for GoM are holidays), Sunday and all Government of Maharashtra Holidays.

4.10 SLA tracking and the categories defined

This section provides for minimum level of services required as per contractual obligations based on performance indicators and measurements thereof. The bidder shall ensure provisioning of all required services while monitoring the performance of the same to effectively comply with the performance levels. The services provided by the bidder shall be reviewed by the MMRC that shall:

Regularly check performance of the bidder against this SLA.

Discuss escalated problems, new issues and matters still outstanding for resolution.

Review of statistics related to rectification of outstanding faults and agreed changes.

Obtain suggestions for changes to improve the service levels.

For the ease of monitoring, the SLA has been logically segregated in the following categories:

SLA 1: Application monitoring service levels

SLA 2: Patch management service levels

SLA 3: Project Management

SLA 4: Performance Management

The following measurements and targets shall be used to track and report performance on a regular basis. The selected bidder shall not be responsible to any kind of desktop support, however has to support the workstations/ laptops used in the NOC room. Based on SLA performance, QGR would be released on Quarterly basis against performance and subject to verification and clearance from the MMRC's. The penalty is shown in the following table and the maximum cap of total deduction is 10% of QGR. Two consecutive quarterly deductions of more than or equal to 20%

of the applicable fee on account of any reasons will be deemed to an event of default & termination on part of the selected bidder.

SLA 1: Application Monitoring service levels

SI No.	Measurement	Target	Severity	Penalty
1	Application monitoring system should alert the system administrator of any application outage within 10 min	< 11 min	Critical	Nil
		11 - 30 min		0.5% of QGR
		> 30 min		1% of QGR
2	If a part of the application is nonfunctional or a service is not running, the system should monitor and alert within 1 hr	< 1 Hr	Medium	Nil
		1 Hr - 4 Hr		0.1 % of QGR
		> 4 Hr		0.5 % of QGR

SLA 2: Patch management service levels

SI No.	Measurement	Target	Severity	Penalty
1	Patch Management	Critical Patches to be implemented within 10 days of patch release	Medium	0.05% of the QGR
		Non Critical Patches to be implemented within 15 days of patch release	Low	0.01% of the QGR

SLA 3: Project Management

Parameter	Description	Target	Penalty	Validation tools / method
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For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

Project setup time	Bidder is expected to mobilize the team for commencement of work	Within 15 calendar days from the date of award of contract	Purchaser reserves the right to terminate the contract	Team available as indicated in the proposal, Project kick-off meeting, Project management office setup
Installation, delivery, training and Implementation	Office-wise delivery, installation, training, integration, testing of all components/ equipment required for the system to the satisfaction of the purchaser. The delivery schedule for these equipment will be based on the project plan. 1. System Requirement Study (SRS) 2. ERPSetup 3. ERP 4. Report configuration 5. Refine & Improve ERP 6. Validation – ERP	Approved project plan	Penalty covered under Clause 14.4	<ul style="list-style-type: none"> • Post delivery inspection report (signed by MMRC authority and SI) • Implementation completion report duly signed by authorized officer of MMRC • Training completion certificate, along with attendance sheets
Project implementation timeline for Integrated solution	Bidder expected to complete the enterprise rollout within months	100% adherence to the timelines given in the project plan. No variation in deadlines.	Subject to Clause 14.4 and 5.13, Bidder bears all costs related to project Implementation till the completion of rollout.	<ul style="list-style-type: none"> • Project plan and schedule • Actual Deliverables • User acceptance completion • Implementation completion report

SLA 4: Performance Management

S. No.	User Activity	Maximum permissible time	
		LAN	WAN
1.	Menu Navigation - To display the menu as per the defined user role and profile	<1 sec	<3 sec
2.	Screen Opening - To display the selected data entry screen from the menu chosen	<1 sec	<2 sec
3.	Field Navigation - To navigate between the data entry fields in the screen	<1 sec	<2 sec
4.	Look-up response time - To display items from list of values	<1 sec	<2 sec
5.	Look-up response time - To display items from table	<5 sec	<8 sec
6.	Screen navigation - Time taken to navigate from one screen (tab page) to another which does not involve processing in	<1 sec	<2 sec

	earlier screen		
7.	Transaction commit - Response time taken to commit a simple transaction like Store Issue Indent, Stores Receipt Indent etc.	<2 sec	<3 sec
8.	Query Retrieval Response Time - Simple query	<5 sec	<10 sec
9.	Query Retrieval Response Time - medium complexity query	<8 sec	<12 sec
10.	Query Retrieval Response Time - High complexity query	<15 sec	<20 sec
11.	Reports Generation Response Time - Simple report	<5 sec	<10 sec
12.	Reports Generation Response Time - Medium complexity report	<30 sec	<50 sec
13.	Reports Generation Response Time - High complexity report	<1 min	<3 min

SLA Review Process and Penalty

- a. Either MMRC or bidder may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- b. A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- c. The MMRC and the bidder shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The bidder will then communicate the resolution to all interested parties.
- d. In case the issue is still unresolved, the arbitration procedures described in the Terms &
- e. Conditions section will be applicable.
- f. The total deduction should not exceed 10% of the QGR.
- g. Three consecutive quarterly deductions of more than 10% of the applicable fee on account of any reasons will be deemed to be an event of default and termination.
- h. The certifications would be obtained by the bidder latest by end of third Quarter of the Operations phase failing which the subsequent QGRs will deferred till the certifications is obtained.

N.B. QGR – Quarterly Guaranteed Revenue

Section: 5

General Conditions of Contract (GCC)

5 General Conditions of Contract (GCC)

5.1 Governing Law

The Contract shall be governed by and interpreted in accordance with the laws of the India.

5.2 Settlement of Disputes

5.2.1 Performance of the contract is governed by the terms and conditions of the contract, in case disputes arise between the parties regarding any matter under the contract, either Party of the contract may send a written Notice of Dispute to the other party. The Party receiving the Notice of Dispute will consider the Notice and respond to it in writing within 30 days after receipt. If that party fails to respond within 30 days, or the dispute cannot be amicably settled within 60 days following the response of that party, clause GCC 4.8 (2) shall become applicable.

5.2.2 Arbitration:

5.2.2.1 In the case of dispute arising, upon or in relation to, or in connection with the contract between MMRC and the Successful bidder, which has not been settled amicably, any party can refer the dispute for Arbitration under (Indian) Arbitration and Conciliation Act, 1996. Such disputes shall be referred to an Arbitral Tribunal consisting of three arbitrators, one each to be appointed by the MMRC and the successful bidder, the third arbitrator shall be chosen by the two arbitrators so appointed by the parties and shall act as Presiding Arbitrator. In case of failure of the two arbitrators, appointed by the parties to reach a consensus regarding the appointment of the third arbitrator within a period of 30 days from the date of appointment of the two arbitrators, the Presiding arbitrator shall be appointed by the MD, MMRC. The Arbitration and Conciliation Act, 1996 and any statutory modification or re-enactment thereof, shall apply to these arbitration proceedings.

5.2.2.2 Arbitration proceedings shall be held in Mumbai, India and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.

5.2.2.3 The decision of the majority of arbitrators shall be final and binding upon both parties. The expenses of the arbitrators as determined by the arbitrators shall be shared equally by MMRC and the successful bidder. However, the expenses incurred by each party in connection to the preparation, presentation shall be borne by the party itself. All arbitration awards shall be in writing and shall state the reasons for the award.

5.3 Taxes and Duties

The successful bidder shall be entirely responsible for all taxes (excluding service tax), stamp duties, license fees, and other such levies imposed etc.

5.4 Performance Bank Guarantee

- 5.4.1 The Successful Bidder shall at his own expense deposit with MMRC within fifteen (15) days of the date of letter of acceptance or prior to signing of the contract whichever is earlier, an unconditional and irrevocable Performance Bank Guarantee (PBG) from a Nationalized or Scheduled Bank, payable on demand, for the due performance and fulfilment of the contract by the bidder.
- 5.4.2 The performance guarantee shall be denominated in the currency of the contract and shall be in the form of bank guarantee.
- 5.4.3 This performance bank guarantee will be for an amount equivalent to 10% of the total contract value. All charges whatsoever such as premium; commission etc. with respect to the Performance Bank Guarantee shall be borne by the bidder.
- 5.4.4 The performance Bank Guarantee shall be valid until the end of six months after the completion of the contract with successful bidder. Subject to the terms and condition in the Performance Bank Guarantee, six months after the contract completion, the performance Bank Guarantee will lapse automatically.
- 5.4.5 The Performance Bank Guarantee may be discharged/ returned by MMRC upon being satisfied that there has been due performance of the obligations of the Bidder under the contract. However, no interest shall be payable on the Performance Bank Guarantee. The Format for Performance Bank Guarantee is provided in ANNEXURE 8.
- 5.4.6 In the event of the Bidder being unable to service the contract for whatever reason MMRC would invoke the PBG. Notwithstanding and without prejudice to any rights whatsoever of MMRC under the contract in the matter, the proceeds of the PBG shall be payable to MMRC as compensation for any loss resulting from the bidder's failure to complete its obligations under the Contract. MMRC shall notify the Bidder in writing of the exercise of its right to receive such compensation within 14 days, indicating the contractual obligation(s) for which the Bidder is in default.
- 5.4.7 MMRC shall also be entitled to make recoveries from the bidder's bills, performance bank guarantee, or from any other amount due to him, the equivalent value of any payment made to him due to inadvertence, error, collusion, misconstruction or misstatement.

5.5 Confidential Information

- 5.5.1 MMRC and the successful bidder shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract.
- 5.5.2 The Successful Bidder shall not use the documents, data, and other information received from MMRC for any purpose other than the services required for the performance of the Contract.

5.6 Software Rights

Bidder hereby grants MMRC license to access and use the Software, including all inventions, designs, and marks embodied in the Software.

Such license to access and use the Software shall be:

- I. Nonexclusive.

- II. Perpetual, fully paid up and irrevocable.
- III. Valid throughout India.

5.7 Hardware Warranty

All the supplied goods under this RFP scope shall be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

The supplied goods under this RFP shall be free from defects arising from any act or omission of the successful bidder or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.

The warranty from OEM shall remain valid for five years for active components and 20 years for passive component after the goods, or any portion thereof as the case may be, have been delivered, installed, tested and accepted by MMRC.

5.8 Change in Laws and Regulations

Unless otherwise specified in the Contract, if after the date of the Invitation for Bids, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the successful Bidder has thereby been affected in the performance of any of its obligations under the Contract.

5.9 Force Majeure

- 5.9.1 The successful bidder shall not be liable for termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 5.9.2 For purposes of this Clause, Force Majeure means an event or situation beyond the control of the successful bidder that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the successful bidder. Such events may include, but not be limited to, acts of MMRC in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 5.9.3 If a Force Majeure situation arises, the successful Bidder shall promptly notify MMRC in writing of such condition and the cause thereof. Unless otherwise directed by MMRC in writing, the successful Bidder shall continue to perform its obligations under the Contract as far as it is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

5.10 Change Orders and Contract Amendments

- 5.10.1 MMRC may at any time order the successful bidder to make changes within the general scope of the contract,
- 5.10.2 If any such change causes major deviation in the cost of, or the time required for, the successful bidder's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery and Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the successful bidder for adjustment under this Clause must be asserted

within 30 days from the date of the successful bidder's receipt of MMRC's change order.

- 5.10.3 Prices to be charged by the successful bidder for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties, and shall not exceed the prevailing rates charged to other parties by the successful Bidder for similar services.

5.11 Extensions of Time

- 5.11.1 If at any time during performance of the Contract, the successful bidder should encounter conditions impeding timely delivery of the Services, the successful bidder shall promptly notify MMRC in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the successful bidder's notice, MMRC shall evaluate the situation and may at its discretion extend the successful bidder's time for performance in writing.

- 5.11.2 Delay by the successful Bidder in the performance of its Delivery and Completion obligations shall render the Bidder liable for disqualification for any further bids in MMRC, unless an extension of time is agreed mutually.

5.12 Termination

5.12.1 Termination by MMRC

- 5.12.1.1 MMRC may, without prejudice to any other remedy for breach of Contract, terminate this Contract in case of the occurrence of any of the events specified in paragraphs (1) through (11) of this GCC Clause 5.12.1. In such an occurrence, MMRC shall give a not less than 30 days' written notice of termination to the successful bidder.
- 5.12.1.2 If the successful bidder does not remedy a failure in the performance of its obligations under the Contract, within thirty (30) days after being notified or within any further period as MMRC may have subsequently approved in writing.
- 5.12.1.3 If the successful bidder becomes insolvent or goes into liquidation, or receivership whether compulsory or voluntary.
- 5.12.1.4 If the successful bidder, in the judgment of MMRC has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- 5.12.1.5 If, as the result of Force Majeure, the successful bidder is unable to perform a material portion of the Services for a period of not less than 60 days.
- 5.12.1.6 If the successful bidder submits to the MMRC a false statement which has a material effect on the rights, obligations or interests of MMRC.
- 5.12.1.7 If the successful bidder places itself in a position of conflict of interest or fails to disclose promptly any conflict of interest to MMRC.
- 5.12.1.8 If the successful bidder fails to provide the quality services as envisaged under this Contract, MMRC may make judgment regarding the poor quality of services, the reasons for which shall be recorded in writing. MMRC may decide to give one chance to the successful Bidder to improve the quality of the services.
- 5.12.1.9 If the successful bidder fails to comply with any final decision reached as a result of arbitration proceedings.

- 5.12.1.10 If MMRC, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.
- 5.12.1.11 In the event MMRC terminates the Contract in whole or in part, pursuant to GCC Clause 5.12.1, MMRC may procure, upon such terms and in such manner as it deems appropriate, services similar to those undelivered or not performed, and the successful bidder shall be liable to MMRC for any additional costs for such similar services. However, the successful bidder shall continue performance of the Contract to the extent not terminated.

5.12.2 Termination by Bidder

The successful bidder may terminate this Contract, by not less than 30 days' written notice to MMRC, such notice to be given after the occurrence of any of the events specified in paragraphs (1) through (4) of this GCC Clause 5.12.2:

- 5.12.2.1 If MMRC fails to pay any money due to the Successful bidder pursuant to this Contract and not subject to dispute pursuant to GCC Clause 4.8 hereof, within 30 days after receiving written notice from the successful bidder that such payment is overdue.
- 5.12.2.2 If, as the result of Force Majeure, the successful bidder is unable to perform a material portion of the Services for a period of not less than 60 days.
- 5.12.2.3 If MMRC fails to comply with any final decision reached as a result of arbitration pursuant to GCC Clause 4.8 hereof.
- 5.12.2.4 If MMRC is in material breach of its obligations pursuant to this Contract and has not remedied the same within 30days (or such longer period as the successful bidder may have subsequently approved in writing) following the receipt by MMRC of the Successful bidder's notice specifying such breach.

5.13 Payment upon Termination

- 5.13.1 Upon termination of this Contract pursuant to GCC Clauses 5.12.1 or 5.12.2, the MMRC shall make the following payments to the Successful bidder:
- 5.13.2 If the Contract is terminated pursuant to GCC Clause 5.12.1 (10) or 5.12.2, remuneration for Services satisfactorily performed prior to the effective date of termination.
- 5.13.3 If the agreement is terminated pursuant of GCC Clause 5.12.1. (1) to (3), (4), (5), (6), (7), (8) and (9). The successful bidder shall not be entitled to receive any agreed payments upon termination of the contract. However, the MMRC may consider making a payment for the part satisfactorily performed on the basis of Quantum Merit as assessed by it, if such part is of economic utility to the MMRC. Applicable under such circumstances, upon termination, the MMRC may also impose liquidated damages. The successful bidder will be required to pay any such liquidated damages to MMRC within 30 days of termination date.

5.14 Assignment

If successful bidder fails to render services in stipulated timeframe and as per schedule, MMRC, at its discretion and without any prior notice to successful bidder, may discontinue or minimize scope of

work or procure/board any other similar agency to render similar services to complete project in stipulated timeframe.

Section: 6

Guidelines for Initial filter

6 Guidelines for Initial filter Bid

6.1 Initial filter Bid Cover Letter

(To be submitted on the Letterhead of the responding firm)

Date: dd/mm/yyyy

To

Executive Director (Electrical)
MMRC,
Bandra - Kurla Complex
Bandra (East)
Mumbai—400051

Sub: Selection of Bidder for the Project “For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support”

Ref: RFP Notification number

Dear Sir,

Having examined the RFP, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to provide the professional services as required and outlined in the RFP for **“Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support ”**

We attach hereto the technical response as required by the RFP, which constitutes our proposal. We undertake, if our proposal is accepted, to adhere to the implementation plan (Project schedule) for providing Professional Services in **“For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support”**, put forward in RFP or such adjusted plan as may subsequently be mutually agreed between us and MMRC or its appointed representatives.

If our proposal is accepted, we will obtain a Performance Bank Guarantee issued by a nationalized bank in India, for a sum of equivalent to 10% of the contract value for the due performance of the contract.

We agree for unconditional acceptance of all the terms and conditions set out in the RFP document and also agree to abide by this tender response for a period of 120 days from the date of submission of Bid and it shall remain binding upon us with full force and virtue, until within this period a formal contract is prepared and executed, this tender response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and MMRC.

We confirm that the information contained in this proposal or any part thereof, including its exhibits, schedules, and other documents and instruments delivered or to be delivered to MMRC is true, accurate, and complete. This proposal includes all information necessary to ensure that the statements therein do not in whole or in part mislead MMRC as to any material fact.

We agree that you are not bound to accept any tender response you may receive. We also agree that you reserve the right in absolute sense to reject all or any of the products/ services specified in the tender response.

It is hereby confirmed that I/We are entitled to act on behalf of our company/ corporation/ firm/ organization and empowered to sign this document as well as such other documents, which may be required in this connection.

Date:

(Signature)

(Name)

(In the capacity of)

[Seal / Stamp of bidder]

Witness Signature:

Witness Name:

Witness Address:

CERTIFICATE AS TO AUTHORISED SIGNATORIES

I _____, the Company Secretary of _____, certify that _____ who signed the above Bid is authorized to do so and bind the company by authority of its board/ governing body.

Date:

Signature:

(Company Seal) (Name)

6.2 Check-list for the documents to be included in the Initial filterEnvelope

S No.	List of Documents	Submitted (Y / N)	Documentary Proof (Page No.)
1.	Bid Covering Letter		
2.	Scanned copy of EMD of Rs. 3,00,000 (Rupees Three Lakhs Only) & Online payment of Document Fee receipt of Rs. 5,000 (Rupees Five Thousand Only)		
3.	Power of Attorney in favor of Authorized signatory		
4.	Declaration that the bidder should not be debarred/blacklisted by any Government / PSU in India as on date of submission of bid.		
5.	Copy of Certificate of Incorporation		
6.	Work orders and Customer Satisfactory Certificate to support that the Bidder should have experience of implementing in similar government organization with at least one project of proposed ERP solution with order value not less than 2.4 Cr. or should have experience of implementing in similar government organization with at least two project of proposed ERP solution with order value not less than 1.8 Cr. or should have experience of implementing in similar government organization with at least three project of proposed ERP solution with order value not less than 1.2 Cr..		
7.	A self-certified letter signed by the Authorized Signatory of the Bidder to show bidder should have minimum 50 fulltime resources with ERP implementation skills on its payroll.		
8.	Copy of the audited Profit & Loss Statement of the company duly certified by statutory auditor to support that the bidder should have average turnover of INR 30 crore in last three financial years (FY 12-13, FY-13-14, FY-14-15) as on 31 st March 2015 from IT/ ITeS;		
9.	Copy of the audited balance sheet of the company to support the Bidder should have positive net worth (measured as paid-up capital plus free reserves) for each of the last three audited financial years (FY 12-13, FY-13-14, FY-14-15) as on 31 st March 2015		
10.	Valid documentary proof of Sales Tax / Service Tax / VAT registration number and the details of income tax registration (PAN)		
11.	Copy of Valid and an active SEI CMMI Level 3 or its higher version certification as on date of submission of Bid By the Bidder		

6.3 Format to share Bidder's and Bidding Firms Particulars

The Table below provides the format in which general information about the bidder must be furnished.

S No	Information	Details
1.	Name of Bidding firm:	
2.	Address and contact details of Bidding firm:	
3.	Firm Registration Number and Year of Registration	
4.	Web Site Address	
5.	Status of Company (Public Ltd., Pvt. Ltd., etc.)	
6.	Company's Service Tax Registration No.	
7.	Company's Permanent Account Number (PAN)	
8.	Company's Revenue for the last 3 years (Year wise)	
9.	Name, Designation and Address of the contact person to whom all references shall be made regarding this RFP:	
10.	Telephone number of contact person:	
11.	Mobile number of contact person:	
12.	Fax number of contact person:	
13.	E-mail address of contact person:	

Please submit the relevant proofs for all the details mentioned above along with your Bid response

Authorized Signatory

Name

Seal

6.4 Format for Declaration by the bidder for not being Blacklisted / Debarred

(To be submitted on the Letterhead of the responding company)

Date: dd/mm/yyyy

To

Executive Director (Electrical)
MMRC,
Bandra - Kurla Complex
Bandra (East)
Mumbai—400051

Sub: Declaration for not being debarred / black-listed by Central / any State Government department in India as on the date of submission of the bid

Ref: RFP Notification number

Dear Sir,

I, authorized representative of _____, hereby solemnly confirm that the Company _____ is not banned by the Government of Maharashtra/ Any other state government/ Government of India which includes any Government Department, Public Sector Undertakings of the Government, Statutory Boards formed by the Government, Local Bodies in the State, Co-operative Institutions in the State, Universities and Societies formed by the Government for any reason as on last date of submission of the Bid. In the event of any deviation from the factual information/ declaration, MMRC, Government of Maharashtra reserves the right to reject the Bid or terminate the Contract without any compensation to the Company.

Thanking you,

Yours faithfully,

Signature of Authorized Signatory (with official seal)

Date:

Name:

Designation:

Address:

Telephone &Fax:

E-mail address:

6.5 Format of sending pre-bid queries

Ref:RFP Notification number

Bidder's Request For Clarification				
Name and complete official address of Organization submitting query / request for clarification			Telephone, Fax and E-mail of the organization Tel: Fax: Email:	
Sr. No.	Clause No.	Page No.	Content of RFP Requiring Clarification	Change Requested/ Clarification required
1				
2				

Signature:

Name of the Authorized signatory:

Company seal:

Date and Stamped

6.6 Format to Project Citation

SNo	Item	Details	Attachment Ref. Number
1	Name of the Project		
2	Date of Work Order		
3	Client Details		
4	Scope of Work		
5	Contract Value		
6	Completion Date		

Note: The Bidder is required to use above formats for all the projects referenced by the bidder for the Initial filterand technical bid evaluation.

6.7 Details of Manpower Resources Proposed

S No	Proposed Position	Name of the Resource	Proposed Role	Highest Qualification	Total Experience (in years)	Total Relevant Experience for the proposed position (in years)
1	Project Manager					
2	Functional Manager					
3	Technical Lead					
4	Project Support					

6.7.1 Format for CV's of Proposed Manpower

A detailed profile of the key staff proposed for the MMRC project, is to be enclosed along with the Initial filter Proposal, in the format given below:

Item	Description
Name	
Designation / Role	
Academic Qualifications	
Relevant Certification	
Total years of relevant experience	
Total number of similar project executed in the proposed role with brief details of each project	
Certifications	
I, the undersigned certify that:	
To the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience.	
I understand that my willful misstatement described herein may lead to my disqualification or dismissal, if engaged.	
Name & Signature (Personnel)	Name & Signature (Authorized Representative)
	Date of signing

6.8 Project Implementation Methodology

The Bidder is required to submit the proposed technical solution in detail. Following should be captured in the explanation:

- a) The Overall approach to the Project
- b) Details of Proposed Enterprise Resource Planning Solution
- c) Implementation Methodology and Deployment Architecture
- d) Strength of the Bidder to provide services including examples or case-studies of similar work (Supply and Implementation of ERP)
- e) Project Organization and Management Plan
- f) Extent of compliance with the specifications mentioned in the scope of work in the section 3.0 and Section 6.9 of the RFP
- g) Project Monitoring and Communication Plan– Bidder's approach to project monitoring and communications among stakeholders.
- h) Change management methodology
- i) The performance benchmark for the offered solution & services
- j) The constraints, essentials and necessities if any for installation & commissioning of system
- k) Implementation plan– Bidder's approach to implement the project
- l) Risk Management Plan– Bidder's approach to identify, respond / manage and mitigate risks
- m) Quality Control plan - Bidder's approach to ensure quality of work and deliverables
- n) Escalation matrix during contract period
- o) Disaster Recovery Plan

Note:

- a. All the pages (documentary proofs and other documents that may be attached) should contain page numbers and would have to be uniquely serially numbered.
- b. Inadequate information shall lead to disqualification of the bid.

6.9 Functional Requirements compliance

Compliance requirements of ERP Solution

The proposed system should be compliant to the following requirements.

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.1	Organization Structure & General		
FC.1.1	Should allow the definition of offices in the Organization hierarchy		
FC.1.2	Should allow the definition of regions, sub-regions to meet legal requirements such as Central taxes/ duties, state taxes and local corporation taxes & duties.		
FC.1.3	Should have the flexibility to define fiscal year including start month and end month		
FC.1.4	Should enable definition of 12 periods / month within fiscal year		
FC.1.5	Should have provision for separate logical periods for the purpose of annual closing activities		
FC.1.6	Should allow closing of fiscal periods to restrict transaction posting.		
FC.1.7	Should enable keep multiple periods open across financial years or within financial year		
FC.1.8	Should have the ability to reopen closed period, subject to valid authorization.		
FC.1.9	Should have the ability to define exchange rates within multiple currencies vis-à-vis base currency.		
FC.1.10	Should have the ability to process transaction entered in foreign currency based on the exchange rates definition, in an online mode.		
FC.1.11	Should allow tracking of all foreign currency transaction in both transaction currencies as well as base currency.		
FC.1.12	Should have the ability to draw complete set of books of accounts - cash book, Bank book etc.		
FC.1.13	Should have the availability of various document types for different financial transaction		
FC.1.14	Should have the availability of system generated numbering for the documents		
FC.1.15	Should have the availability of option of manual numbering for certain documents		
FC.1.16	Should have numbering sequence for all documents is reset per fiscal year.		
FC.1.17	Should support legal requirements such as TDS, sales tax, VAT, excise duty, service tax and works contract tax fully.		
FC.1.18	Should have the ability to define applicable excise or VAT or any other indirect tax rates and flexibility to change the rates in case of change in statute		
FC.1.19	Supports capturing of various indirect tax like VAT etc. codes		
FC.1.20	Should support real Time Posting from Sub Ledgers to General Ledger and without the process of schedule		
FC.1.21	Should have flexibility to control posting to specific ledger		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	accounts with specific documents		
FC.1.22	Should have flexibility of date formats, number formats per user.		
FC.1.23	Should be able to record and tracking of audit objections and corrective actions taken		
FC.1.24	Should enable reconciliation of all units		
FC.1.25	Should have powerful search engines and queries.		
FC.2	Audit Trail		
FC.2.1	Should enable tracking of user, date and time for each transaction		
FC.2.2	Should enable tracking of changes made to any document		
FC.2.3	Should enable tracking of creation and changes to any master data in the system		
FC.2.4	Should enable tracking of creation and changes to any set up data in the system		
FC.2.5	Should enable tracing of changes to authorization profile/ approval profile		
FC.3	Planning and Budget Preparation		
FC.3.1	Should have the ability to collect Budget inputs from various Units in user defined formats		
FC.3.2	Should be able to provide flexible budget hierarchy to define budgeting level		
FC.3.3	Should have the facility for direct manual entry of amounts for individual budget items apart from formula builder and percentage revaluations		
FC.3.4	Should have the ability to collect Budget inputs from Departments within Units in user defined formats		
FC.3.5	Should have the ability to collect Budget Project wise and account head wise from various departments		
FC.3.6	Should have the ability to provide approvals and changes to budgets by Project heads or department heads		
FC.3.7	Should have the ability to consolidate Budgets at department level / Project Head level - Bottom up approach		
FC.3.8	Should have the ability to make amendments in the Budgets prepared at the lower level hierarchy by the departmental heads or Project heads		
FC.3.9	Should have the ability to make simulations to identify the Projects costs and Benefits using Simulation techniques and Trends analysis		
FC.3.10	Should have the ability to consolidate Budgets at Headquarters for various Units / departments / Projects - Bottom up approach		
FC.3.11	Should have the ability to provide approvals and changes to budgets in Head quarters		
FC.3.12	Should enable setting up Authorization controls for Creating the Budgets, Changing the budgets, approving the budgets and consolidating them.		
FC.3.13	Should have the ability to consolidate the plans / budget values in the HQ and approve the Budgets		
FC.3.14	Should be able to reallocate the budget values and distribute them to various Units, Departments and		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	Projects within Units account head wise.		
FC.3.15	Should enable preparation of consolidated Budget Book for the MML-3 and various levels with detailed break-ups.		
FC.3.16	Should have the ability to do revised Budget estimates during the year and change the budget values with necessary approvals		
FC.3.17	Should have the ability to transfer Budget from one account head to another		
FC.3.18	Should have the ability to transfer this budget for expenditure tracking and control		
FC.4	Budget control Management		
FC.4.1	Should be able to provides budget vis-à-vis actual comparison on an on-line basis as well as periodic intervals		
FC.4.2	Should have the ability to support user-defined budget availability controls to specify which accounts do not allow actual exceed budget or otherwise		
FC.4.3	Should support the monitoring of various budget types such as original budget, supplementary budget, budget carry-forward (unutilized budget amounts carried forward from previous years), budget transfers.		
FC.4.4	Should enable online tracking of expenditures vis-à-vis budget at any level.		
FC.4.5	Should enable online enquiry of budget availability for a department / expense head / Project		
FC.4.6	Should enable option to send an e-mail to the concerned department requesting the expenditure if the cumulative expenditure exceeds the budget		
FC.4.7	Should have the flexibility to report against different versions like budget estimate, revised estimate, etc. for the year		
FC.4.8	Should have the ability to export the budget data into text or excel format that can be used by the publisher for publishing		
FC.4.9	Should be able to generate budget versus actual expenditure report for all or a selected set of Units and expenditure heads for the current year as well as the previous ones		
FC.4.10	Should have the ability to carry forward Budget and commitments to next fiscal year as per the decisions		
FC.5	Account Payable		
FC.5.1	Account Payable – General		
FC.5.2	Should allow creation of Bidders in the system and Bidder codes can be		
FC.5.3	Numeric		
FC.5.4	Alphanumeric		
FC.5.5	Bidder numbers can be generated by the system		
FC.5.6	If required Bidder codes can be manually assigned		
FC.5.7	Should allow to capture critical Bidder information such as		
FC.5.8	Name and address, key person at Bidder company		
FC.5.9	Captures state where Bidder is located		
FC.5.10	Captures email ID of Bidder		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.5.11	TAN No, PAN No, ST, VAT and WCT Regn. No.		
FC.5.12	Bank account details		
FC.5.13	Payment terms, discount terms, payment methods		
FC.5.14	TDS related information		
FC.5.15	Legal status of the Bidder such as corporate, non-corporate etc.		
FC.5.16	Should have the ability to define payment terms in following scenarios:		
FC.5.17	Standard payment term of payment due after specific no. of days		
FC.5.18	Payment term where discount is offered as interest component for early payments		
FC.5.19	Payment term which allows retention money		
FC.5.20	Should allow blocking of specific Bidders so that transactions with such Bidders cannot be entered		
FC.5.21	Should allow linking of many Bidders to capture group exposure/transaction volume		
FC.5.22	Should enable a unique Bidder code can be used for all the Units based on the requirement		
FC.5.23	Should have the ability to define various TDS rates, works contract tax rates in the system and attach relevant rates to Bidders based on the applicability		
FC.5.24	Should allow clearing of Bidder transactions by matching two or more open debit and credit items		
FC.5.25	Should allow to segregate and track Bidder transactions into:		
FC.5.25.1	Should allow normal invoices and payments		
FC.5.25.2	Should allow advance payments to Bidders		
FC.5.25.3	Should allow guarantees		
FC.5.25.4	Should allow security deposits with Bidders		
FC.5.25.5	Should allow bank guarantee, letter of credit to Bidders		
FC.6	Accounting and Bidder credit processes		
FC.6.1	Should allow invoice processing		
FC.6.1.1	With respect to a Goods Receipt Note (GRN) in the system		
FC.6.1.2	With respect to capital job note in case of capital asset receipt		
FC.6.1.3	With respect to service entry note in case of a service Bidder		
FC.6.1.4	with Expense voucher where Bidder is credited without PO/GRN in the system		
FC.6.2	Should supports typical 3 way match (PO, GRN, Bidder invoice) bill passing process		
FC.6.3	Should consider quantitative details from GRN and price details from PO during the 3 way match		
FC.6.4	Should enable that the bills are processed based on PO, GRN even if invoice does not match with value arrived at using these two documents		
FC.6.5	Should have the ability to prompt/automatically deduct all deductible charges such as TDS, works contract tax, surcharge on these taxes at the time of Bidder bill processing		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.6.6	Should have the ability to automatically account for all these deductions based on pre-determined criteria		
FC.6.7	Should enable defaults master data information of Bidder during invoice processing		
FC.6.8	Should allow defining parameters to determine whether default master data information can be changed during processing and changes are allowed only based on this. The same can be done only based on authorization.		
FC.6.9	Should allow entry of transaction in Bidder account:		
FC.6.9.1	In online mode		
FC.6.9.2	In a batch mode		
FC.6.10	Should have the ability to evaluate amount of pending GRN for invoice processing to arrive at provision figures		
FC.6.11	Should triggers commitment and updates budget on issue of purchase orders for goods/services		
FC.6.12	Should have the ability to track duplicate invoice based on Bidder code and invoice number		
FC.6.13	Should have the ability to post debit notes and credit notes as well as print these for sending across to Bidders		
FC.6.14	Should have the ability to calculate overdue interest for Bidders based on individual transaction due dates in following scenario:		
FC.6.15	Interest is accrued at each period end for all outstanding line items beyond due date		
FC.7	Audit of Invoices and Bills		
FC.7.1	Should have the ability to list the invoices for submission from Audit before being paid		
FC.7.2	Should have the ability to approve the invoices submitted for Audit		
FC.8	Payment Processing		
FC.8.1	Should have the ability to process Bidder payment in:		
FC.8.1.1	Manual payment mode		
FC.8.1.2	Automatic payment processing based on predefined parameters		
FC.8.2	Allows payment for following scenarios:		
FC.8.2.1	Advance payment adhoc		
FC.8.2.2	Advance payment only against purchase orders		
FC.8.2.3	Payment against one or multiple invoices- matching amount		
FC.8.2.4	Payment against one or multiple invoices- partial amount		
FC.8.2.5	Payment against one or multiple invoices- adhoc amount		
FC.8.3	Should have the ability to block certain Bidders invoices so that they cannot be paid unless appropriately approved		
FC.8.4	Should have the ability to process one or more Bidder invoices, debit notes, credit notes and ability to make net payment		
FC.8.5	System should for the purpose of automatic payment processing system enables:		
FC.8.5.1	Should have the ability to run payment program for future date		
FC.8.5.2	Should have the ability to process multiple payment programs runs for different dates, same date – different		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	criteria		
FC.8.5.3	Should enable identification invoices due by a particular date		
FC.8.5.4	Should have the ability to select/deselect certain invoices for payment processing		
FC.8.6	Should enable for the purpose of payment processing, Ability to pay on one single day		
FC.8.7	Should have the flexibility to process payment of all invoices at one go, however, strictly on due date basis		
FC.8.8	Should take cognizance of TDS requirements and deducts TDS whenever necessary		
FC.8.9	Should be able to clear Bidder items wherever clearing is possible		
FC.8.10	Should enable that during payment (automatic or manual) system automatically calculates discount if any and proposes net amount for payment processing		
FC.8.11	Should have the ability to generate accounting entry after considering discount figures and posting of entry based on pre-determined account mapping		
FC.8.12	Should allow maintenance of cheque stationery and tracking of Cheque based on available stationery and usage		
FC.8.13	Should allow printing of cheque for various banks		
FC.8.14	Should have the option of sending payment details to banks in a soft copy format so that payment processing can be carried out by a bank		
FC.8.15	Should have the option of cheque printing by banks on transfer of payment instruction and updation of Cheque nos. back in the system		
FC.8.16	Should allow printing of payment advice along with Cheque which may be sent across to Bidders along with their payment		
FC.8.17	Should ensures updating of cheque register on printing of Cheque as well as updates the payment voucher with details of Cheque no.		
FC.8.18	Should have the flexibility to update cheque register in case cheques are issued manually, cheques are destroyed, damaged etc.		
9	Reports		
FC.9.1	Should be able to generate statement of account for the purpose of sending it across to Bidders for balance and transaction confirmation, with an option to define format of confirmation letter		
FC.9.2	Should be able to perform due date wise analysis of Bidder accounts		
FC.9.3	Should be able to perform ageing analysis of Bidder line items		
FC.9.4	Should be able to perform Bidder account trial balance		
FC.9.5	Should be able to show Bidder account line item details		
FC.9.6	Should be able to perform Bidder account details segregated into:		
FC.9.6.1	Invoices and payments		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.9.6.2	Advances paid to Bidders		
FC.9.7	Bidder account balances and transactions per Bidder control account		
FC.9.8	Should allow regrouping of Bidder balances based on debit/credit balances		
FC.9.9	Should have the ability to view/print all the above Bidder account and line item reports per branch, division, location etc.		
FC.9.10	Should have the ability to capture separate ageing analysis for specific category like 'small scale industry; (SSI) Bidder		
FC.9.11	Should have the ability to extract details of purchase orders, GRNs invoices documents of individual Bidders		
FC.9.12	Should be able to generate TDS certificates from the system		
FC.9.13	Should be able to generate TDS Returns from the system		
FC.9.14	Should have the ability to provide details of payments segregated into onetime payment, early payment and delayed payment		
FC.9.15	Should have the ability to report on total volume of business generated, discounts earned from Bidders		
FC.10	Employees reimbursements and Claims		
FC.10.1	Should enable employees to raise various Travel and other claims through the system		
FC.10.2	System should be enable the user to check the eligibility as per HR records and enable the Claims		
FC.10.3	Should enable claims should be en-routed through the pre-designated workflow route according to the HR structure and admin rules		
FC.10.4	Should help so that the Claims should be approved and processed in the system		
FC.10.5	Should help so that the Claims should be track the submission date, approval date and payment date		
FC.10.6	Should have the ability to re-route the claim workflows on the absence of the managers or define alternate approvers		
FC.11	Cash & Bank receipts and payments accounting and Reconciliation		
FC.11.1	Should be able to record cash transactions and post entries for those transactions		
FC.11.2	Should be able to post entries for Cash receipts in cash journal		
FC.11.3	Should be able to post entries for Cash payments to Bidders in cash journal		
FC.11.4	Should be able to maintain separate cash accounts for each cash office		
FC.11.5	Should be able to record accounting entries for business transactions posted by the cashier		
FC.11.6	Should be able to restrict post direct entries into cash account		
FC.11.7	Should be able to create master record for Bank and different accounts maintained with the Bank		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.11.8	Should be able to post entries for cheque receipts from Tax payers		
FC.11.9	Should be able to post entries for cheque payments to Bidders		
FC.11.10	Should be able to do Bank Reconciliation by manual posting of statements		
FC.11.11	Should be able to do Electronic Bank Reconciliation by automatic upload of Bank statements		
FC.11.12	Should have the ability to update Cash and Bank Book		
FC.11.13			
FC.11.14	Should have the ability to report cash and bank transactions for a given period		
FC.11.15	Should have the ability to approve the cash and bank transactions before they are paid or received		
FC.11.16	Should have the ability to set maximum limits per payment per Bidder for cash transactions		
FC.11.17	Should have the ability to defined opening balances as per carried forward closing balances		
FC.12	Asset Management		
FC.12.1	Should have centralized definition of fixed asset categories, description, multiple depreciation rates, predefined residual values etc.		
FC.12.2	Should enable centralized definition of content of the Fixed Asset Register to support requirements		
FC.12.3	Should enable centralized/ decentralized definition of location data structure		
FC.12.4	Should have the ability to maintain parent -child relationship across asset classes		
FC.12.5	Should be able to maintain FA register locally at units with custodian wise identification.		
FC.12.6	Should automatically consolidate FA Register at units into FA Register for the organization		
FC.12.7	Should be able to prevent units from entering/updating data in any FA Register other than their own FA Register		
FC.12.8	Should be able to categorize assets based on multiple types like moveable-immovable etc.		
FC.12.9	Should be able to maintain parent - child asset relationships		
FC.12.10	Should have the ability to differentiate between new asset and value adjustment / upgradation like capacity expansion		
FC.12.11	Should be able to merge one asset into multiple fixed assets and vice versa into one fixed asset		
FC.12.12	Should have the provision to rectify errors in recording fixed assets		
FC.12.13	Should be able to record number of units against each fixed assets		
FC.12.14	Should be able to generate Fixed Assets schedule in accordance with the statutory requirement		
FC.12.15	Should be able to retire entire or part of an existing fixed asset		
FC.12.16	Should be able to record salvage value, sale proceeds, cost of removal etc.		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.12.17	Should be able to automatically calculate gain/loss on retirement		
FC.12.18	Should be able to record reason for retirement		
FC.12.19	Should be able to record mode of retirement e.g. sold, scrapped, donated etc.		
FC.12.20	Should have the ability to identify assets awaiting disposal		
FC.12.21	Should have the option to assign each fixed asset to custodian		
FC.12.22	Should be able to record the physical location of each fixed assets		
FC.12.23	Should be able to generate reports on fixed assets at specific location		
FC.12.24	Should be able to record transfer of fixed assets from unit to unit, one location to another or from one employee to another etc.		
FC.12.25	Should be able to record insurance details against each fixed assets		
FC.12.26	Should be able to revalue an existing fixed asset or a group of fixed assets or all fixed assets belonging to a category or all fixed assets in the fixed assets register		
FC.12.27	Should have provision to record manufacturer's serial number		
FC.12.28	Should have provision to facilitate physical verification of fixed assets by printing fixed assets reports location-wise, employee-wise, category-wise etc.		
FC.12.29	Should have provision to enter/ electronically upload fixed assets physical verification data for the system to list out or alert missing fixed assets or not at recorded location or not with recorded employee		
FC.12.30	Should have the ability to capture fixed assets addition, re-categorization, revaluation, retirement, transfer etc.		
FC.12.31	Should support change of useful life and effective rate of depreciation		
FC.13	Accounting		
FC.13.1	Should have the ability to define chart of account as per MML-3 requirements		
FC.13.2	Should allow grouping of Accounts for the purpose of account management		
FC.13.3	Should allow creating Accounts in online mode		
FC.13.4	Should be help to block. / delete Accounts if posting are to be blocked		
FC.13.5	Should be possible to map Account codes to specific business transaction in other modules		
FC.13.6	Should allow creation and posting of journal entries online or in batches		
FC.13.7	Should allow cash accounting with multiple cash points for a single or multiple cash GL accounts		
FC.13.8	Should have the ability to define banks, bank accounts within the system		
FC.13.9	Should allow upload of bank statements into the system		
FC.13.10	Should allow the manual entry of bank statements into the system		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
FC.13.11	Should allow defining the criteria for bank reconciliation and carries out bank reconciliation		
FC.13.12	Should allow entry to incoming cheques for current as well as future period and segregation based on dates possible.		
FC.13.13	Should have the ability to view and print cheque deposit statement for a day.		
FC.13.14	Should enable to capture value date for cheque deposited and payment		
FC.13.15	Should be able to build in maker checker concept for approval of documents by supervisory authority		
FC.13.16	Should have the ability to transfer balances multiple times during a fiscal year closing process		
FC.13.17	Should comprise of Cash Book, Bank book, Journal and different Ledgers for advances, security deposits etc.		
FC.14	Accounting - Query/ Reporting requirements		
FC.14.1	Should allow listing of all transaction for particular document type		
FC.14.2	Should have the ability to query all accounts and transactions on line for current and previous periods including previous fiscal years		
FC.14.3	Should have the flexibility in definition of transaction fields that are displayed in such query/ report based on requirements without any programming efforts.		
FC.14.4	Should have the ability to drill down from balance to individual transactions for any account.		
FC.15	Department wise cost tracking		
FC.15.1	Should have the ability to create departments / projects / functions etc. as flexible hierarchy to roll up cost		
FC.15.2	Should have the ability to do planning at the above hierarchies		
FC.15.3	Should have the ability to maintain statistical key figures to record certain cost data		
FC.15.4	Should have the ability to allocate cost based on the above key figures		
FC.15.5	Should have the ability to allocate cost to multiple cost centers or other cost objects		
FC.15.6	Should have the ability to settle such collected cost to another cost object		
FC.15.7	Should have the ability to settle such collected cost to another capital asset		
FC.15.8	Should have the ability to assign Fixed Assets to these departments		
HR			
HR.1	Organization Structure		
HR.1.1	Should enable definition of multiple Locations in one physical server		
HR.1.2	Should enable definition of multiple departments at each location		
HR.1.3	Should be capable of providing the feature for recording changes in the organizational structure (repositioning/redefining the control structure)		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.1.4	Should be able to restrict making changes in the Organization Structure to authorized persons only		
HR.1.5	Should be able to seek confirmation after every change made in the structure, changes to be made permanent only on authentication by the controller of the authorized person.		
HR.1.6	Should be able to change/restore/rollback changes to a previous(given) date and report inconsistencies		
HR.1.7	Should enable definition of multiple categories of employees to take care of clerical, technical, and the management levels		
HR.1.8	Should enable definition of multiple grades to set as many salary scales as necessary (Grades as per MMRC)		
HR.1.9	Should enable definition of multiple designations		
HR.1.10	Should enable definition of job clusters with descriptions		
HR.1.11	Should enable compilation of employee numbers by grade / function / role band at any given time		
HR.1.12	Should enable multiple assignments to permit dotted line reporting		
HR.1.13	Should be able to define multiple organizational structures (positions) and multiple reporting relationships and integrate with the respective employee data		
HR.1.14	Should be able to create the various business groups like Package wise		
HR.1.15	Should be able to define dotted relationships.		
HR.1.16	Should be able to generate tree structure giving details of all role holders and reporting employees (defining reporting and reviewing relationship)		
HR.1.17	Should be able to define administrative powers for organizational units position-wise/person-wise		
HR.1.18	Should be able to tightly integrate administrative power definitions to work flows and approvals		
HR.1.19	Should be able to show retention of history of any changes to the organization structure.		
HR.2	Calculation of Vacancies and Manpower planning		
HR.2.1	Should be able to auto calculate vacancies based on rules e.g. upward movement/wastages/position upgrades/downgrades/available manpower in the particular grade (Provision for user intervention should be available)		
HR.2.2	Should be able to make provisions for direct employment/ promotion/ recruitment to specialist categories/part time or contractual employees		
HR.2.3	Should be able to project cadre wise/grade-wise manpower requirements for a specified period based on data relating to resignations/ dismissals/future retirement etc.		
HR.2.4	Should be able to integrate with the recruitment/promotion module for filling up of vacancies		
HR.2.5	Should be able to maintain complete history of employee transfers since recruitment		
HR.3	Employment Record and Details		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.3.1	Should be able to maintain employee information including:		
HR.3.2	Employee number and Aadhaar Card Number		
HR.3.3	Aadhaar number		
HR.3.4	Employee name		
HR.3.5	Address (Present and permanent)		
HR.3.6	Phone number, mobile number, e-mail ID, extension number		
HR.3.7	Gender		
HR.3.8	Mobile number of the employee		
HR.3.9	Marital status		
HR.3.10	Details of children		
HR.3.11	Academic Qualifications		
HR.3.12	Professional qualifications		
HR.3.13	Designation		
HR.3.14	Previous experience capturing		
	Names of companies		
	Sector of industry where worked		
	Tenure (from - to)		
	Role		
HR.3.15	Date of birth		
HR.3.16	Trainings or courses undergone before joining JOL		
HR.3.17	Date of joining		
HR.3.18	Cost to Organization (this field should be password protected)		
HR.3.19	Status (Permanent, Probationer, Management Trainees, Graduate Engineer Trainees)		
HR.3.20	PF number		
HR.3.21	ESI number		
HR.3.22	PAN number		
HR.3.23	If handicapped		
HR.3.24	SC / ST / OBC / General		
HR.3.25	Religion		
HR.3.26	Blood group		
HR.3.27	Other details like health insurance		
HR.3.28	Should be able to maintain single model database capturing all personal and job related data of all kind of employees permanent/ temporary/ contractual/ on deputation or ex-employees retired on superannuation, voluntarily retired, resigned, dismissed, opted for pension etc.		
HR.3.29	Should be able to date and time stamp all changes in the database, enabling data availability on 'as on date/ time' basis		
HR.3.30	Should be able to update the data through work flow on real time and on-line basis with maker checker concept implemented.		
HR.3.31	Should be able to generate unique identification number for each employee in the institution		
HR.3.32	Should have the flexibility of additionally capturing any information relating to employee at a later date.		
HR.3.33	Should be capable of retaining the data structure and		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	format even after release/loading of future updates/upgrades.		
HR.3.34	Should be able to link employee data with the position based standard responsibility (Job Matrix)		
HR.3.35	Should be capable of maintaining data on continuous basis without purging and without affecting system performance		
HR.3.36	Should be capable of assembling the details pertaining to an employee in one screen		
HR.3.37	Should be capable of multiple assignments / supervisor to any employee		
HR.3.38	Should have the ability to maintain assets (movable and immovable) owned by an employee		
HR.3.39	Should be capable of service history retention		
HR.3.40	Should have the ability to change retirement dates, etc. as and when policy changes are effected		
HR.3.41	Should have the ability to assess leave records		
HR.3.42	Should be capable to assign basic salary details		
HR.3.43	Should be able to create service book record in pre-defined format as required by MMRC		
HR.3.44	Should be able to capture the probation and confirmation details of employees		
HR.3.45	Should be able to capture details of joining formalities like submission of proofs, etc.		
HR.4	Employee Time Management, Leave, and Attendance		
HR.4.1	Should permit the definition of a time calendar with provision for Indian National Holidays and MMRC's specific holidays, which are local in nature		
HR.4.2	Should permit the recording and maintenance of attendance based on direct entry, OT calculation through appropriate formulae		
HR.4.3	Should permit the definition of leave types such as casual, privilege, medical, maternity, etc.		
HR.4.4	The system should additionally allow for leave application through process of application, authorization		
HR.4.5	The system should validate the process		
HR.4.6	The system should have entitlement Units		
HR.4.7	System should enable leave encashment and procedure for calculation of amount		
HR.4.8	System should enable posting rule for maximum / minimum days		
HR.4.9	The system should permit bulk eligibility definitions also		
HR.4.10	Should be able to mark attendance on-line through the HRMS or through a link to the swipe card/ contact less card system or biometric system		
HR.4.11	Should be able to maintain & configure multiple types of leave like EL, HPL/COL, CL, Paternity Leave/Maternity Leave, Sick Leave, Extra Ordinary Leave, Study Leave, Quarantine leave, Special CL, Without pay leave etc. and enforce applicable rules		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.4.12	System should enable that the leave balances should be credited through an accrual process in the system automatically based on user defined criteria.		
HR.4.13	Should be able to maintain local holidays and integrate with the leave management		
HR.4.14	Should be able to manage on-line application, tracking and approval of various kinds of leave through workflow logic and self-service.		
HR.4.15	Should have the capability of record keeping and maintenance of historical data		
HR.4.16	Should be able to integrate the time management with leave management		
HR.4.17	Should be able to mark attendance through on-line login with authentication feature (Manual intervention to be allowed with Authentication features)		
HR.4.18	Should be able to integrate with pay-roll module for calculation and recovery of loss of pay etc.		
HR.4.19	Should be able to provide the Manager consolidated status of present/absent employees working under him/her.		
HR.4.20	Should be able to link to payroll module for calculation of leave liability		
HR.4.22	Should be able to intimate the controlling officer when an employee goes on unauthorized leave (unmarked attendance) / returns back from unauthorized leave/ extends leave/ reports in the middle of the sanctioned leave period(along with appropriate reduction in sanction)		
HR.4.23	Should be able to integrate with biometric system and able to record IN and Out time and display reports accordingly		
HR.5	Employee Appraisals		
HR.5.1	Should be able to record employee performance appraisals		
HR.5.2	Should be able to integrate with pay roll for sanction of performance incentives through work flows		
HR.5.3	Should be able to maintain history of performance appraisals		
HR.5.4	Should be linked to competence and skills of the employee		
HR.6	Self Service (Employee / Manager)		
HR.6.1	Should be able to empower employees to enter the data/view/edit pre-defined data on self-e.g. updation of personal records like Bank details, marital status, record/change nomination etc. and leave balance, leave status (Cannot be modified), Salary details, liabilities, declare investments for IT returns, Property returns, Lease data, Medical & Entertainment etc. and should be sent as email to self		
HR.6.2	Should have the capability of providing functionality to the employees of a bill payment system which would also include reimbursements. This would have features for		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	submission, tracking, and approval and credit/debit the account, for receiving of physical proof/bills; there should be provision.		
HR.6.3	Should be able to remind the employee through self-service/e-mail regarding modification or requirement of additional data		
HR.6.4	Should be able to provide links to the important items hosted in various in-house websites/ intranet e.g. important circulars/ instructions/ policy documents etc.		
HR.6.5	Should be able to provide projection features for viewing projections on Income Tax liability, terminal benefits etc.		
HR.6.6	Should be able to approve leave, bill payments, loans etc. for employees reporting to a Manager		
HR.6.7	Should be able to apply for or cancel any kind of leave on-line, submit generate reminders for those working under him/her who have not submitted the A&L, (also covered under respective heads)		
HR.6.8	The system should send the employee confirmations after changes are made online		
HR.6.9	The system should allow the user customize the menus		
HR.6.10	The system should provide immediate updates to the core HRMS database when data changes complete the workflow cycle.		
HR.6.11	The system should Provide workflows. Accommodates multiple levels of review and approval		
HR.6.12	The System should provide the capability to create new self-service transactions as and when required.		
HR.6.13	The system should Provide access to staff training information.		
HR.6.14	The system should Enable managers to review staff training history.		
HR.6.15	The system should Enable managers to approve training enrollments.		
HR.6.16	The system should Accommodate multiple levels of review and approval.		
HR.6.17	The system should Provide immediate updates to the core HRMS/payroll database when data changes complete the workflow cycle.		
HR.6.18	The system should Provide an audit trail.		
HR.6.19	The system should allow managers to view their direct reports as well as drill down to lower levels under their area of responsibility		
HR.6.20	Should be able issue, capture and track of non-performance and issue letters and warnings, etc. This should be tracked and linked to appraisals		
HR.7	Workflows		
HR.7.1	Should be able to support industry standards and workflow technologies and details thereof		
HR.7.2	Should be able to define various work-flows		
HR.7.3	Should be able to generate standard text, which shall be editable		
HR.7.4	Should be able to track the position of the work-flow		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	(where it is pending)-diagrammatically, with/ without showing the contents, as the case may be		
HR.7.5	Should be able to route the item to an authority who is not part of the work-flow to whom it can be referred.		
HR.8	Sanction of Exit / Retirements		
HR.8.1	Should have the ability to identify the reason of exit e.g. retirement/compulsory retirement/voluntary retirement/death/resignation/dismissal etc.		
HR.8.2	Should have the ability to process the voluntary retirement application as per the rules defined for the particular scheme		
HR.8.3	Should be able to generate retirement notice to concerned departments and retirement proposal at least 3 months in advance in case of superannuation for sanction. For other type of retirement/exit as soon as the papers are submitted/ on-line request is received.		
HR.8.4	Should be able to initiate the process for making payment of the retirement benefits and sanction pension as per applicable rules		
HR.8.5	Should have the ability to analyze data relating to exits/retirements		
HR.8.6	Should have the ability to conduct on-line real time exit interviews and record observations/comments of the authority.		
HR.8.7	Should be able to handle after Retirement benefits		
HR.9	Management of LTC / Holiday Home		
HR.9.1	System should Capture the employee-wise LTC eligibility details like present LTC block, when last LTC was availed etc. with related report as per requirement.		
HR.9.2	Should have the facility to apply online for LTC by the employees and online approval by concerned authority		
HR.9.3	Should support LTC cancellation, extension, postponement etc.		
HR.9.4	Should have the ability to sanction encashment of LTC as company policy		
HR.9.5	Should be able to sanction of advance against the LTC application		
HR.9.6	Should be able to generate reminder letters if LTC/HH final bill is not submitted within the prescribed time		
HR.10	Deputation / Lien		
HR.10.1	The system should have the ability to handle deputation to and from other organizations.		
HR.10.2	The system should have the capability to record history information on Deputation		
HR.10.3	The system should have the ability to generate reminders for repatriation at least 6 months in advance before repatriation of officer is due from other organization		
HR.10.4	The system should have the capability to generate list of officers on deputation		
HR.10.5	The system should have ability to record Leave salary contribution/ gratuity contribution		
HR.11	MIS/Reporting		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.11.1	Should be able to generate user friendly reports across all modules, which shall be meaningful, consolidated and concise, could work as an effective tool for top executives for decision making		
HR.11.2	Should be able to generate Staff Strength		
HR.11.3	Should be able to generate report on user-defined criteria across different modules/databases e.g. establishment cost Group Wise, category-wise/ qualification-wise/ experience-wise/ male-female employees etc.,		
HR.11.4	Should be able to provide powerful drill down facilities to access information on the employees at various levels		
HR.11.5	Should be able to provide user-friendly, multi-dimensional analysis and information on real-time / updated basis		
HR.11.6	Should be able to provide/display data in tabular form / text form / graphical form		
HR.12	Manpower Budgeting		
HR.12.1	Should support planning for manpower across all departments and cost centers		
HR.12.2	Should support planning of manpower based on yearly revenue budgets on basis of user defined rules. This planning should be for		
HR.12.2.1	- No. of personnel		
HR.12.2.2	- Type of personnel		
HR.12.2.3	- Employees or Contract personnel		
HR.12.2.4	- Skills of personnel		
HR.12.3	The system should support workflow based approval of manpower budgets		
HR.12.4	Should have manpower planning integrated with Cost Centre and other levels of Budgeting		
HR.12.5	Should have facility to consolidate the manpower requirements		
HR.12.6	Department wise		
HR.12.7	Function wise		
HR.12.8	Grade wise		
HR.12.9	Profile wise		
HR.12.10	Should support what-if analysis tool for increase or decrease in wages or number employees to analyze the financial impact of the same		
HR.13	Integration		
HR.13.1	Should have the ability to integrate tightly with the Financial Accounting to handle post payroll activities like cheque printing, ECS, etc.		
HR.13.2	Should have the ability to integrate with the Projects functionality to provide the link of the employee for allocating time bound projects based upon the ability and the availability of the employee		
HR.13.3	Should have the ability to integrate with the Business analytical tool		
HR.14	Employee Compensation		
HR.14.1	Should enable salary definition as per MMRC IDA Payscale with Basic, HRA, DA & other allowances, etc.		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.14.2	Should be able to do leave Encashment		
HR.14.3	Should enable provident Fund		
HR.14.4	Should be able to do medical Reimbursement		
HR.14.5	Should be able to facilitate loans and Advances		
HR.14.6	Should enable gratuity, Super-Annuation		
HR.14.7	Should be able to facilitate Income Tax		
HR.14.8	Should be able to deal with Benefits		
HR.14.9	The system shall be rule based and generic in nature so as to permit changes in salary and tax structure		
HR.14.10	Should enable processing of scale and non-scale increments		
HR.14.11	Should enable arrears calculations shall support payroll increases with retrospective benefit.		
HR.14.12	Should be able to do audit trails for all system activities.		
HR.14.13	Should support alert features about scheduled dates like receipt of payments.		
HR.14.14	Should support for transactions in multiple currencies and cross currencies		
HR.14.15	Should provision for TDS calculations (if any) & tracking of TDS payable to the Government of India.		
HR.14.16	Should be able to approval limits for expense reimbursement should be configured based upon the hierarchy limits.		
HR.14.17	Should have a field in the master to reflect the company code/ cost center to which an employee is associated.		
HR.14.18	Should be able to maintain online leave records		
HR.14.19	Should enable EDI of salary information to the bank account.		
HR.15	Payroll Management		
HR.15.1	The system should allow for the creation of user defined components of Pay like:		
HR.15.2	- Recurring and Adhoc Allowances		
HR.15.3	- Recurring and Adhoc Deductions		
HR.15.4	- User Defined Allowances & Deductions		
HR.15.5	The system should allow for the computation of the following elements:		
HR.15.6	- Fixed Pay elements applicable to all employees Like Basic, PF, Special Allowance, Conveyance Allowance, Uniform, etc.		
HR.15.7	- Variable Pay elements based on parameters Like options exercised by the employee, place of duty etc. (CCA, HRA, Recoveries Like LIC, NIC)		
HR.15.8	- Formula based Pay elements like (DA as a % of Basic) and combination of the above.		
HR.15.9	The system should allow the calculation of pay based on Compensation Rules like		
	- Years of Service		
	- Grade		
	- Location		
HR.15.10	- Employee Type like Executives, Supervisors, Workman, Deputation, Casual, Consultants, Probation, etc.		
HR.15.11	The system should have provision to maintain/ configure		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	pay elements like LTA and Medical, Service Award etc.		
HR.15.12	The system should allow pay types based on user defined cycles of pay (Monthly)		
HR.15.13	The system should allow the user to override the standard rate of pay for individual employees		
HR.15.14	The system should allow restriction of administrative functions to a few select payroll users		
HR.15.15	The system should have a data upload facility to upload history payroll data		
HR.15.16	The system should allow the maintenance of slab wise details for statutory elements like Income Tax, Professional Tax as well as user defined elements		
HR.15.17	The system should allow for the calculation of the following kinds of pay elements		
HR.15.18	- Basic/ Leave Encashment/ Joining Bonus		
HR.15.19	- Special Pay/ Allowance/ Personal Pay		
HR.15.20	- Dearness Allowance		
HR.15.21	- House Rent Allowance		
HR.15.22	- City Compensatory Allowance		
HR.15.23	- Tuitions Fees		
HR.15.24	- Children's Education Allowance		
HR.15.25	- Conveyance Allowance		
HR.15.26	- All Loans & funds		
HR.15.27	- Accounting at PF, LTS, Pension, Gratuity, Leave, GSLI, Welfare fund policy, etc.		
HR.15.28	- Performance Linked Variable Pay		
HR.15.29	- Transport Allowance		
HR.15.30	- Others (User Defined)		
HR.15.31	The system should Perform advance payments: Fixed Value amounts (e.g. festival/ natural calamity advance) or Formula-based Amounts (e.g. pay advance on transfer / long leave)		
HR.15.32	The system should allow for deductions that might be either Go rules, State Rules or Local Organization rules like		
HR.15.33	- General Provident Fund		
HR.15.34	- Income Tax/ Surcharge		
HR.15.35	- Others (User Defined)		
HR.15.36	The system should allow for, Loans & Advance payments		
HR.15.37	The system should Allow the following calculation of onetime payment of allowance and / or deduction:		
HR.15.38	- Incentive, arrear, ex-gratia, lease / conveyance maintenance, etc.		
HR.15.39	- By Amount: enter amount to be deducted or payable		
HR.15.40	- by Days: enter number of Days for system to compute the amount based on Basic Pay or gross Pay and/or any other component of Pay		
HR.15.41	- By Percentage: enter percentage for system to compute the amount based on basic pay or gross pay and/or any other component of pay		
HR.15.42	The system should Calculate recurring payments and / or deductions using the same criteria as onetime payment /		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	deduction		
HR.15.43	System should allow for input of start and end date for recurring payment / deduction		
HR.15.44	The system should be able to process payroll on the following frequencies:		
HR.15.45	- Monthly		
HR.15.46	-On-demand (i.e., terminations, vacation advance)		
HR.15.47	System should for each employee, use Employee Master data of HRMS such as:		
HR.15.48	- Name of employee		
HR.15.49	- PF Account No.		
HR.15.50	- Name of Father / Husband		
HR.15.51	- Date of birth		
HR.15.52	- Basic Pay		
HR.15.53	- Designation		
HR.15.54	- Date of Joining service		
HR.15.55	- Nomination details:		
HR.15.56	- Name & address of nominee		
HR.15.57	- Relationship with subscriber		
HR.15.58	- Age of Nominee		
HR.15.59	- Other user-defined fields		
HR.15.60	The system should Automatically update Payroll database for changes in employee record without interfering with payroll processing (e.g. Promotions in the middle of month)		
HR.15.61	The system should Automatically update payroll database when Finance Department makes pay rate changes		
HR.15.62	The system should Reflect payroll adjustments in correct pay period		
HR.15.63	The system should have a full and Final settlement process in place		
HR.15.64	The system should provide a final settlement report for each terminated employee		
HR.15.65	The system should have provision to suspend Payroll runs or control final settlement processing on a case to case basis		
HR.15.66	The system should have the provision to run separate bonus/ incentive runs		
HR.15.67	The system should provide the capability to handle unlimited pay account codes and drawing banks		
HR.15.68	The system should have a provision to process Arrear and Payment calculations		
HR.15.69	Should provision to recover advances in subsequent pay periods with a single transaction		
HR.15.70	The system should maintain earnings history information (i.e., a record of all pay of all activity) for each employee for a user-specified period of time		
HR.15.71	The system should calculate HRA Rebate		
HR.15.72	The system should handle LTA and Medical exemptions as per the Income Tax Rules		
HR.15.73	The system should handle Gratuity Calculations		
HR.15.74	The system should handle Provident fund rules like		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.15.75	- Calculate and deduct contributions according to the respective Statutory Acts/ Organization policy etc.		
HR.15.76	- Maintain individual GPF accounts and generate individual account slip for every financial year		
HR.15.77	Should have a report generated before posting of salaries at month end. This would ensure that the system allows checking of data prior to posting		
HR.16	Information Capture		
HR.16.1	The system should allow the capture of the following kinds of information for an employee:		
HR.16.2	- PAN No		
HR.16.3	- Residential Status		
HR.16.4	- PF Number		
HR.16.5	- Superannuation Number		
HR.16.6	- Gratuity Number		
HR.16.7	- ESI Number		
HR.16.8	- Group Insurance Number		
HR.16.9	- Pension Fund Number		
HR.16.10	- Disability Information		
HR.16.11	- Dependent info, CEA, Class/Hostel info, etc.		
HR.16.12	The system should capture different Employee Categories		
HR.16.13	The system should capture the following Organization information:		
HR.16.14	- Tax Organization		
HR.16.15	- PF Organization		
HR.16.16	- Professional Tax Organization		
HR.16.17	- ESI Organization		
HR.16.18	- Establishment		
HR.16.19	The system should capture Previous Employment Information like		
HR.16.20	- Designation		
HR.16.21	- Annual Salary		
HR.16.22	- PF Number		
HR.16.23	- PF Establishment code		
HR.16.24	- No of LTC availed in the previous block		
HR.16.25	- No of LTC availed in the current block		
HR.16.26	- Leave Encashment amount		
HR.16.27	- Gratuity Amount		
HR.16.28	- VRS Amount		
HR.16.29	- Gross Earnings for the current tax year		
HR.16.30	- PF deduction for the current tax year		
HR.16.31	- Professional tax paid in the current tax year		
HR.16.32	- TDS deducted for the current tax year		
HR.16.33	The system should Capture Nomination Information like		
HR.16.34	- Nominee Details		
HR.16.35	- Percentage		
HR.16.36	- Relationship		
HR.16.37	The system should capture Organization Information like		
HR.16.38	- Organization Registration Number		
HR.16.3	- Legal Name		
HR.16.39	- Establishment Registration Details		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.16.40	- TAN Number		
HR.16.41	-Employer Classification		
HR.16.42	- Income Tax Challan Details		
HR.16.43	- PF Information		
HR.16.44	- PF Challan Details		
HR.16.45	- ESI Details		
HR.16.46	- ESI Challan Details		
HR.16.47	- Profession Tax Information		
HR.16.48	The system should Capture termination settlement details like		
HR.16.49	- Notice Period Pay		
HR.16.50	- Leave Encashment Information		
HR.16.51	- Retrenchment Compensation		
HR.16.52	- Voluntary Retirement		
HR.16.53	- Commuted Pension		
HR.16.54	- PF Settlement Details		
HR.16.55	- Loan Recovery		
HR.16.56	- Gratuity details		
HR.16.57	- LIEN payments		
HR.16.58	Should have the option of a form to enable a new employee to enter his profile details into the ERP package. This shall reduce the effort in entering the details.		
HR.17	Support for Allowances, Reimbursements, etc.		
HR.17.1	Should support encashment of Leave, LTC and also on retirement with consequent tax adjustments		
HR.17.2	Should have Employee--wise recovery position, recovery list and outstanding balances list – month wise or as user defined		
HR.17.3	Should support calculation and payment of arrear/bonus with consequent tax adjustments		
HR.17.4	Should enable payment of medical reimbursement, allowances, recovery and taxation (if any) thereon		
HR.17.5	The system should Complete calculation and deduction of tax automatically / user defined		
HR.17.6	The system should Project the tax liability of each employee for the period within a tax calendar based on the employee declaration of savings etc. And providing tax planners to the employee.		
HR.17.7	Should have the provision to Manually adjust taxable earnings (in case of income from other sources, investments etc.)		
HR.17.8	The system should Support separate tax tables for bonus pay calculations (Flat Tax)		
HR.17.9	The system should handle Exemptions and Rebates as per the Income Tax Rules		
HR.17.10	Should enable professional tax deductions with exemptions, arrears and generation of related reports and Challan		
HR.22	Deductions		
HR.18.1	Should have the provision to establish deduction limits for each deduction based on various parameters like:		
HR.18.2	- Employee;		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.18.3	- Job Classification;		
HR.18.4	- Organization;		
HR.18.5	- Benefit plan;		
HR.18.6	- Salary		
HR.18.7	Should have the provision to make deductions effective:		
HR.18.8	- In the current period;		
HR.18.9	- In any pay period or periods selected;		
HR.18.1	- In any user-defined frequency selected;		
HR.18.11	- Between user-defined start and stop dates;		
HR.18.12	- Until an user defined limit is reached		
HR.18.13	Should be able to maintain Start and stop dates for deduction :		
HR.18.14	- On the Employee Master file;		
HR.18.15	- On employee level		
HR.18.16	Should have provision to reverse deduction to be included in next paycheck if incorrectly withheld / Option with user		
HR.19	Pay slip		
HR.19.1	The system should Provide for online ad-hoc calculation of employees pay slip amount		
HR.19.2	The system should Perform on-line calculation of pay and benefits for terminated employee based upon termination date		
HR.19.3	The system should display the status of the Payroll calculations		
HR.19.4	Should have provision to run Payroll multiple times before finalization to ensure accurate pay computation		
HR.19.5	The system should Post the amount of salary paid for each element of pay for an employee, based on the relevant GL account code and employee cost center information to General Ledger. Financial postings include:		
HR.19.6	-Element		
HR.19.7	-Amount		
HR.19.8	-GL Account		
HR.19.9	-Cost Centre		
HR.19.10	The system should Post salary payment advice including multiple payment methods such as bank, cash and cheque to General Ledger		
HR.19.11	Should have provision to issue third party checks		
HR.19.12	Should generate Payslip with following detail:-		
HR.19.13	- Taxable and non - taxable components in separate columns		
HR.19.14	- Tax till date, Calculated, Recovered, and Projected.		
HR.19.15	-Loan balances and no. of installments deducted / left		
HR.19.16	-Provident fund opening balance, interest till date, closing balance etc.		
HR.19.17	Should enable PF & Terminal Benefit Management		
HR.19.18	System should support pooling the monthly contribution of PF,VPF in to the PF management system		
HR.19.19	System should Support PF settlement process including generation of settlement sheets and relevant vouchers for accounting		
HR.19.20	System should support calculation of periodic interest and		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	crediting the amount to the accounts		
HR.19.21	System should maintain nominee details and payment to nominee in case of death of an employee.		
HR.20	Payroll Reports / MIS		
HR.20.1	The system should have the mandatory forms and reports like		
HR.20.2	- IT declaration form		
HR.20.3	- Payroll Register		
HR.20.4	- Payslip (including leave/other payment details, IT deducted)		
HR.20.5	- Perks calculation		
HR.20.6	- Leave encashment		
HR.20.7	- Tax calculation (at any point of time)		
HR.20.8	The system should have an online Payslip		
HR.20.9	The system should provide the following current and year-to-date totals on earnings statements:		
HR.20.10	- Income tax;		
HR.20.11	- Professional tax;		
HR.20.12	The system should display vacation status information on earnings statement		
HR.20.13	The system should display absence status information on earnings statement		
HR.20.14	Should display last pay certificate on transfer/separation.		
HR.20.15	Should generate TDS Challan at user-defined frequency (quarterly, yearly, etc.).		
HR.20.16	The system should be able to generate the reports for each employee to show individual employee records which regards to leave register/ expenses/ PF details etc.		
HR.21	Income Tax		
HR.21.1	Should facilitate auto generation of e-return required u/s 205 of the IT Act.		
HR.21.2	Should have the facility to adjust excess/ short deduction of TDS		
HR.22	Promotions		
HR.22.1	Should be able to implement Organization's Career path for various cadres, streams, grades and scales		
HR.22.2	Should have the ability to define grade advancements within a channel (seniority/Merit/time based)		
HR.22.3	Should have the ability to draw a competency matrix in the system and define the competencies /skills/roles/responsibilities required at each level/position for the purpose of promotion. (included in Competency Management also)		
HR.22.4	Should have the ability to carry out the entire promotion process through work flows including on-line preparation/printing of Promotion Appraisal Forms/ Booklet recording of Recommending Authorities Comments/generation of scores/status regarding pending vigilance cases		
HR.22.5	Should have the ability to obtain work flow based clearance on vigilance/disciplinary cases from various		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	authorities - Under Consideration		
HR.22.6	Should have the ability to upload promotion list and print Promotion Letters of candidates found suitable for promotion		
HR.22.7	Should have the ability to support prospective/wait listed promotions		
HR.22.8	Should have the ability to release promotion only on reporting at new place in case of officer getting transferred on promotion and generate periodical detailed report on non- reporting		
HR.22.9	Should have the ability to do salary fitment on promotion		
HR.22.10	Should be able to report on due promotions and reporting of seniority levels		
HR.22	Requirement Management		
HR.23.1	The system shall provide templates to the Concerned HR Officer for creating an advertisement to be published in Local/ National newspapers inviting application from prospective candidate seeking employment in MMRC through the System		
HR.23.2	Concerned HR Officer should provide the online link that will enable the candidate to apply and register against the job vacancy by downloading and submitting the application form in a prescribed format		
HR.23.3	Interested Candidate should visit the MMRC site and should be able to search for the job openings		
HR.23.4	Candidate should be able to fill and apply for the job opening by submitting the application form in a prescribed format		
HR.23.5	On submitting the online application, system should generate a unique reference number against the service request		
HR.23.6	Concerned HR Officer should be able to receive, verify and validates the applicant details furnished in the application form		
HR.23.7	Concerned HR Officer should be able to finalize the venue for examination based on the date of examination and should be communicated to the eligible candidates through the System		
HR.23.8	Call letters should be sent through the System to the eligible candidates to appear for the Examination followed by interview by the MMRC Authority		
HR.23.9	The application forms should be scrutinized as regards to the suitability of the candidates as per the Recruitments Rules		
HR.23.10	Eligible candidates should be shortlisted and the status on applicants request should be updated into the system		
HR.23.11	Concerned HR Officer should be able to prepare the list of eligible, ineligible candidates through the System		
HR.23.12	Concerned HR Officer should be able to finalize the venue for examination based on the date of examination and the same should be communicated to the eligible		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	candidates through the System		
HR.23.13	Concerned HR Officer should be able to design the Question paper and the answer key and guidelines for conducting the interview and get it approved through the workflow		
HR.23.14	The competent authority should receive and evaluate the question paper and gives approval through the System		
HR.23.15	Based on the performance in the examination test and Interview, if held, proceedings are prepared and panel of selected candidates is recommended by the Concerned HR Officer		
HR.23.16	Concerned HR officer should be able to submit for issuance of the appointment letter to the selected candidates through the System Thereafter nominations of the candidate to the concerned department for appointment should be issued		
HR.23.17	System should have provision for Recruitments process of Gazetted and Non- Gazetted employees		
	Internal Job Posting		
HR.23.18	Online Vacancy notification		
HR.23.19	Concerned HR Officer should be able to publish information on various job openings over the system to promote hiring from existing pool of resources within the organization		
HR.23.20	System should provide online notification on technical and non-technical job openings and the same should be send to the employees		
HR.23.21	System should have a provision to generate Unique request id for each vacancy notification and id would be used for further processing of the request		
HR.23.22	Employee views, search and applies for specific position		
HR.23.23	Employee should be able to receive, view the online notification on job openings through the System		
HR.23.24	The requisition should be posted through the System, specifically only for internal employees looking for change in role or for transfer		
HR.23.25	Employee should receive daily or weekly mails listing the current job opportunities through the System and should provide a link for applying for the opportunities in the System		
HR.23.26	The job openings should also put on notice board for convenience of employees		
HR.23.27	On submitting the online application, system should generate a unique reference number against the service request		
HR.23.28	Screening and Shortlisting of applications		
HR.23.29	Concerned HR Officer should receive online notification on the application for job opportunities through the System		
HR.23.30	Concerned HR Officer should be able to verify the application form		
HR.23.31	The status on employee selection against the applied job		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	opening should be updated into the system against the unique reference number		
HR.23.32	Employee should receive online for shortlisting against the job opening and should be intimated about the appropriate date and time for interview		
HR.23.33	System should allow the user to view the status of the request submitted online		
HR.23.34	System should have the —Auto Search facility		
HR.23.35	System should have a provision to search the list of candidates on the basis of the requirements posted by the HR division		
HR.23.36	System should have a provision to forward the databank on the prospective candidates to employer by email or soft copy		
HR.23.37	System should have Auto Search criteria where criteria can be added or deleted so that a new profile list is populated		
HR.23.38	If some particular profiles are —Deactivated then those profiles would not get populated in the Auto Search		
HR.23.39	System should provide Recruitment module to get details on Job description, recommended compensation package, and various other contract terms through workflow		
	Interview Selection		
HR.23.40	Setting up Interview Panel		
HR.23.41	Director, Personal should receive the list of the candidates shortlisted for interview through selection procedure provided by the System		
HR.23.42	The system shall have a provision to nominate Interview Panel which will be formed by identifying the committee members to conduct Face to Face and Focus Group Discussion (FGDs) to critically analyse knowledge and skills of the candidate		
HR.23.43	The system should provide access to the previously constituted committees to assist the process of nomination of members for different committees involved in evaluation of a candidate for promotion		
HR.23.44	The system should provide provision to send online request along with the list of candidates shortlisted for interview, to the committee members to confirm the appropriate date and time for conducting interviews generated notification should be send to all committee members		
HR.23.45	Finalization& Communication of Interview slots		
HR.23.46	The concerned HR Officer should be able to record the date, time and venue of the interview in the system		
HR.23.47	The system should send alert the concerned candidate and interview committee members for approaching interview dates through SMS / e-mail		
HR.23.48	Online Intimation on Interview date & time slot		
HR.23.49	Candidate should receive and provide online acceptance via e-mail to the concerned HR Officer informing about his availability through the System		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.23.50	Online confirmation from Candidate's for the Interview		
HR.23.51	The status is updated into the system and should be able to notify to the concerned Panel members through the System		
HR.23.52	The concerned HR Officer should receive online confirmation from candidate's attending the interview on scheduled date and time		
HR.23.53	Conducting of Interview		
HR.23.54	Candidate should appear for the interview and Focus Group Discussion (FGD) is conducted by the Panel Committee as per the guidelines		
HR.23.55	Basis on the observation, Interview assessment sheet should be prepared to give feedback by giving assessment on various key competencies essential to perform the specific role		
HR.23.56	The committee feedback should be recorded and fed into the system		
HR.23.57	Online notification along with the Candidate Interview assessment sheet should be send to the Concerned HR Officer to release the appointment letter		
HR.23.58	The Concerned HR Officer should receive online notification and issues the appointment letter through the System		
HR.23.59	The Concerned HR Officer should discuss the offer with the candidate and should be informed about the documents he/she needs to bring along with them on the day of selection		
HR.23.60	The system should enable track of the interview process and proper communication with involved stakeholders		
	Hiring on deputation and absorption of deputation		
HR.23.61	Post approval from competent authority, system shall be able to create an Indent in the prescribed format		
HR.23.62	The concerned official shall put his approval in the system for selection of a particular candidate which should be then forwarded to MD for approval		
HR.23.63	After getting approval from MD, concerned official prepares the communication using template given in the system		
HR.23.64	The system shall provide the facility for initiation of absorption process in the system		
HR.23.65	The system shall provide the facility to the concerned department/competent authority to forward the duly filled application for absorption of the employee to HR department		
HR.23.66	The system should make a provision for forwarding the same to the Absorption Committee		
HR.23.67	The system shall provide the checklist to the Committee to check the following:		
HR.23.68	Manpower position against Sanctioned manpower in the particular unit		
HR.23.69	The system shall provide facility to hold interview of the concerned employee and capturing of the result of the		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	same in the system by Absorption committee		
HR.23.70	After approval of competent authority, the concerned HR official should be issued a memorandum to concerned employee for furnishing technical resignation from parent department		
HR.23.71	The technical resignation is forwarded to the parent department or concerned ministry for acceptance. The details of the same should also be recorded in the system.		
HR.23.72	Post approval by concerned department, system shall be able to capture the approval letter. The concerned HR official after due approval process should be able to issue a letter of absorption of employee through the system and mark copies to designated officials.		
	Fixation of pay for new hires		
HR.23.73	The system shall generate the list of employees finalised for hiring. Concerned HR employee reviews the list and checks the data and documents submitted by each employee		
HR.23.74	The system should enable re-submission of last pay scale details / submit clarifications by new hires.		
HR.23.75	The system should enable automatic calculation of salary of the individual based on the defined rules for different categories of employees.		
HR.23.76	The system should allow creation of new category of individual and definition of rules to calculate salary.		
HR.23.77	The system should be able to Include Salary and other benefits and should be able to calculate total CTC of the employee		
HR.24	e-Profile for employees		
HR.24.1	Auto Profile Creation		
HR.24.2	When a new employee joins MMRC, the system should automatically create a profile for the employee, based on the joining details provided by HR in the system		
HR.24.3	After successful registration in the system, the concerned HR official should be able to review the details and should be able to make changes, if required		
HR.24.4	The system should generate the login -id and default password, which should be communicated to the employee through system		
HR.24.5	Assign Role to a user profile		
HR.24.6	Concerned HR Officer should be able to assign a role to the user profile		
HR.24.7	View & Update Employee Profile		
HR.24.8	Employee should be able to update the profile through the System for employee's personal information fields, like dependent information, marital status etc		
HR.24.9	If a change is made to the field that requires approval, like addition of photographs and details of achievements / awards, educational certificate, dependent details etc		
HR.24.10	The concerned HR official should be able to ask for any clarification through the System, if required		
HR.24.11	After System based approval from the concerned HR		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	official, the profile should be updated		
HR.24.12	If the change in the profile, like phone number etc		
HR.24.13	The updated profile should be available to other users as User Access Rights define in the System as a business rule		
HR.24.14	Changing Employee's Reporting Officer		
HR.24.15	MMRC officer should be able to raise a request through the System to change the reporting officer of an employee from the list of employees reporting to the officer as on date		
HR.24.16	System should ask to specify new reporting officer in the request		
HR.24.17	The request should be forwarded to the concerned authority for approval through the System		
HR.24.18	After approval / rejection of the change request through the System, the same should be forwarded to the concerned HR official		
HR.24.19	The same should also be updated by the Reporting Officer/ HR through the System based HR module		
HR.24.20	Changing Employee Status, Project assigned, transfer, promotion, location, retirement, termination etc		
HR.24.21	Concerned official should be able to raise a request for changing the Employee status through the System		
HR.24.22	Concerned HR official should be able to select an employee to change the status like transfer, promotion, location, retirement, termination through the System, after the approved change requests placed by the reporting officer		
HR.24.23	For each status, the official should be able to specify the effective date (as of date)		
HR.24.24	View Service Book		
HR.24.25	The service book of an employee should be prepared automatically by the system, capturing different employee related events like promotion, pay revision, disciplinary action and leave details etc		
HR.24.26	The system should provide access to the service book to the concerned employee and concerned HR official		
HR.24.27	The system should enable role assignment to the user profile to define the access to transactions, and controls the data a user can access		
HR.24.28	e-Profile should have provision to view career progression of employee and PF details of Employee		
HR.24.29	e-Profile should have provision to view employee personal details & family details with photographs		
HR.24.30	e-Profile should Medical profile of Employee to monitor medical details and medical reimbursement details of employee		
HR.24.31	e-Profile should be linked with Finance module		
HR.25	ePay		
HR.25.1	Auto preparation of Compensation Plan		
HR.25.2	When a new employee joins, the system should		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	automatically create default compensation plan for the employee, as per the HR policy		
HR.25.3	On creation / updation of the compensation plan, the same should be updated in the system		
HR.25.4	The system should send alert the concerned employee informing creation / updation of compensation plan		
HR.25.5	View Compensation Plan		
HR.25.6	Compensation plan of an employee should be viewed by an authorized person (like, employee, concerned HR officer)		
HR.25.7	View / Print Salary Statement		
HR.25.8	The employee should be able to access the salary statement for a particular month or selected multiple months through the System		
HR.25.9	Add / Update / View Direct Deposit Bank Account		
HR.25.10	The system should enable an employee to Add / Update / View the direct deposit bank account to directly transfer salary / advances / reimbursements through the System		
HR.25.11	PF Declaration / View		
HR.25.12	The system should provide e-form and downloadable template of nomination and declaration form for EPF scheme		
HR.25.13	The System should provide the provision to submit the form by the employee in the system		
HR.25.14	The employee should be able to view the PF details		
HR.25.15	Tax Declaration and Submission of Supporting Documents		
HR.25.16	The employee should provide tax declaration details against different components like, Tax Declaration under 80C, Interest on House Loan, other income etc		
HR.25.17	The system should enable employee to view tax calculation sheet, based on different components provided by the employee		
HR.25.18	Leave Encashment		
HR.25.19	The system should enable employee to view available earned leaves that could be encash by the employee		
HR.25.20	The employee should be able to submit the application for encashment in the system		
HR.25.21	The system should forward the same to the concerned HR officer for processing and sanctioning by the competent authority		
HR.25.22	After approval of the encashment, the data base should be able to update and the sanction letter is forwarded to the finance for disbursement of payment		
HR.25.23	The system should allow an authorised user to view the PF details and provide the year-wise PF contribution details		
HR.25.24	The system should enable an authorised user to make tax declaration and submit Supporting Documents		
HR.25.25	Auto preparation of Compensation Plan		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.26	Initiation of Minor/ Major Penalty Disciplinary Proceedings		
HR.26.1	The system shall allow the competent authority to send the draft charges against an employee along with its annexures (templates already in system)		
HR.26.2	The system shall be able to check the competency of authority as per the SOP for sending the draft charges against the employee		
HR.26.3	The system shall be able to reject the request if the draft charges are not sent by the competent authority		
HR.26.4	The system shall forward the request if found OK, to concern HR(official) who will examine the citation of rules for taking suitable disciplinary action on the employee		
HR.26.5	The system shall provide template to HR (Official) to prepare the case (Charge memorandum) and shall forward it to concerned Disciplinary Authority/ Controlling Officer for issuance/signature of/on Charge Memorandum (subject to the nature of action Major/Minor)		
HR.26.6	The system shall forward digitally signed charge memorandum (Major/Minor) by DA to HR(Official) to the employee concerned to present defence within a given time frame		
HR.26.7	The system shall send an alert to concern employee to present defence within given time frame		
HR.26.8	Examination of Defence		
HR.26.9	The system shall provide defence submitted by the concern employee to Disciplinary Authority for examination The system shall allow Disciplinary Authority to pass the order as he may deem fit subject to the circumstantial evidence, · Impose any of the minor penalty specified in D&A Rules, · Exonerate the employee from the alleged charges or drop the charges		
HR.26.10	The system shall forward the orders to concern HR(official) and Concern employee		
HR.26.11	The system shall facilitate the HR(official) to look after whether the course of action proposed by the authority is within the rule(The rules shall already be in the system)		
HR.26.12	The system shall send a NIP to concern employee for imposing any of the minor penalty specified in the D & A Rules if the charges found ok		
HR.26.13	The system shall allow HR(Official) to forward it to Disciplinary Authority for signature on the final order to be communicated to the concerned employee		
HR.26.14	The system shall be able to send notification to the concern employee The acknowledgement of receiving from the concerned employee shall be recorded in the system		
HR.26.15	The system shall facilitates the HR(official) in the communications for making provisions for disciplinary action against the employee after receiving the NIP orders and acknowledgement of receipt of NIP by employee		
HR.26.16	The system shall record the penalty imposed, and the		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	entry is recorded in the service book of the concern employee		
HR.27	Administrative Warning		
HR.27.1	The system shall allow the competent authority to send the draft charges against an employee along with its annexures (templates already in system).		
HR.27.2	The system shall be able to check the competency of authority as per the SOP for sending the draft charges against the employee.		
HR.27.3	The system shall be able to reject the request if the draft charges are not sent by the competent authority.		
HR.27.4	The system shall forward the request if found OK, to concern HR(official) who will examine the citation of rules for taking suitable for administrative action on the employee.		
HR.27.5	The system shall provide template to HR (Official) to prepare the case (Warning/Counselling memorandum) and shall forward it to concerned Disciplinary /		
HR.27.6	The System shall forward digitally signed Warning/Counselling memorandum to HR (Official) the same shall be communicated to the employee concerned		
HR.27.7	The acknowledgement for receipt from employee shall be recorded in system.		
HR.27.8	Recorded Warning		
HR.27.9	The system shall be able check the administrative action. If for recorded warning shall alert the HR (official to examine the citation of rules and competent Authority for taking suitable Administrative action on the employee.		
HR.27.10	The system shall allow the competent authority to send the draft charges against an employee along with its annexures (templates already in system).		
HR.27.11	The system shall be able to check the competency of authority as per the SOP for sending the draft charges against the employee.		
HR.27.12	The system shall be able to reject the request if the draft charges are not sent by the competent authority.		
HR.27.13	The system shall forward the request if found OK, to concern HR(official) who will examine the citation of rules for taking suitable for administrative action on the employee.		
HR.28	Training and Development		
HR.28.1	The system shall provide the provision to define the skillsets needed for MMRC and capture the proficiency level of the MMRC staff		
HR.28.2	Based on the desired level of proficiency decided and fed in the system, the system shall aid in the concerned HR official to conduct a training need analysis. The system shall provide templates to the concerned HR official identify the individual training requirement related to specific projects or self-developmental needs.		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
HR.28.3	The system shall make the Performance management system data available to the concerned HR personnel. The system shall also allow to fetch the data from the employee service book to identify the training dependent on the date of joining.		
HR.28.4	The system shall help HR personnel to identify the Individual training needs and development needs of individual staff captured during the performance appraisal discussion.		
HR.28.5	The system shall also make provision to capture training needs through <ul style="list-style-type: none"> • Training Need Identification Surveys • Exit Interviews 		
HR.28.6	The system shall make a provision for the concerned HR personnel to send the request to HODs/CPMs to provide details of the training needed		
HR.28.7	The system shall collate the individual and organizational needs assessed across various job levels and then aid the concerned HR personnel in designing the training program. The system shall allow the concerned HR personnel to prepare training calendar for the year.		
HR.28.8	Training Incharge should logs into the system and should be able to upload the training content into the Learning Management System.		
HR.28.9	HR official should be able to assign mandatory courses to the employees applicable to attend the online training.		
HR.28.10	The system should be able to send online notification/ reminder to the selective participants for attending and completing required trainings.		
HR.28.11	CPM in consultation with GM of the concerned department should be able to assign the mandatory courses to their subordinates.		
HR.28.12	Employee should be able to receive, view online notification on the list of mandatory trainings with timeline that needs to be undertaken through the System. Employee should be able to online register for the mandatory courses as assigned by their Supervisor through the System.		
HR.28.13	Employee should be able to search and register for other required courses of their interest through the System.		
HR.28.14	On Successful training course registration, Employee should be able to undergo e-learning courses at their convenient time within the deadline through the System.		
HR.28.15	On successfully completion of e-learning courses, the system should be able to generate and issue a training completion certificate to the participant through the System and online intimation will be sent to the reporting supervisor informing the status on completion of mandatory trainings.		
HR.28.16	Post completion of e-learning course, system should provide provision to raise a request the participant to fill the online training assessment form to give their inputs		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	and feedback on the training program delivery.		
HR.28.17	CPM/ Reporting Supervisor should be able to receive online intimation on the list of employees not completed mandatory trainings on time through the System and should be able to record the reason for non- completion of the training for taking necessary action.		
HR.28.18	HR official should be able to collate the feedback given by the participants on the training program for quality improvement and assessment through the System.		
HR.28.19	The system shall aid in designing the training strategy for MMRC. The system will provide the facility to capture the following: <ul style="list-style-type: none"> • Set objectives and criteria for different training programs • List of trainings (mandatory and important ones) • Training Catalogue (with calendar dates) • Target Audience • No. of participants • Training Agency • Estimated Training cost 		
HR.28.20	Participants should be able to receive, view and should submit their feedback on the training program imparted through the System.		
HR.28.21	Ability to automatically transfer the skills or qualifications acquired by an employee to his/her record.		
HR.28.22	System should be able to produce form letters to manage required correspondence, including confirmations for course registration, rebooking and waitlist notifications, confirmation of attendance, cancellations and schedule changes, registrations for external courses or events and other custom correspondence.		
HR.28.23	HR should be able to forward the recommendations to the Training Incharge to make the suggested improvements.		
HR.28.24	Ability to allocate budgets and to see past trend in budgets Vs utilization by department.		
HR.28.25	System should be able to provide summary of course feedback by course & trainer over a period of time. This could be month, quarter, year etc. It should also enable Workflow based feedback by the attendees of a course.		
HR.29	Managing RTI		
HR.29.1	Applicant should be able to fill the RTI application as per the defined format or through the website and send it to the PIO of the MMRC. There should be a provision in the payment gateway to receive the payment towards RTI.		
HR.29.2	An alert should be send through the System, to PIO for timely disposal of RTI.		
HR.29.3	PIO should be able to forward all the RTI applications to APIO.		
HR.29.4	APIO should be able to get the applications digitized (if		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	required), assign a unique ID to each application & should be able to define the internal timelines through the system.		
HR.29.5	APIO should be able to segregate the applications as per the divisions and should be able to forward the same to the concerned division for receiving point wise replies.		
HR.30	Benefits		
HR.30.1	The system shall allow the Concerned Employee covered in the scheme for GSLI and Welfare fund policy		
HR.30.2	The payments shall be made to employee through NEFT/ RTGS		
HR.31	Roster Management		
HR.31.1	Should enable creation of rosters - Horizontal, vertical, Ex-Servicemen roster as per the statutory requirement		
HR.31.2	Should enable mapping the organization structures to roster that helps in employee management		
HR.31.3	Should enable creating roster points based on the rules defined in the system		
HR.31.4	Should have the ability to manage the roster points at the Central & state level to manage the specific requirement & adhere to local statutory requirements		
HR.31.5	Should have the ability to link rosters to recruitment & promotions		
HR.31.6	Should have the ability to define percentage of reservation across categories		
HR.31.7	Information on backlog, vacancy and new roster points to facilitate decision making during recruitment		
HR.31.8	Should have the ability to define the validity dates for rosters		
HR.31.9	Should have provision to download the roster reports to Excel sheets and ability to define Ad-hoc queries in rosters		
AD.31	Admin : Events and Meetings		
AD.31.1	The concerned official should be able to raise the request through the System for the event/ meeting by filling all the details for the meeting including details like tentative number of attendees and any special arrangements that needs to be done.		
AD.31.2	The system should be able to process the request in accordance to the facilities available inside the office and their availability with respect to the request raised.		
AD.31.3	If facilities, internal to the office are available for requested event or meeting then system should inform the requestor about the same.		
AD.31.4	If the facilities are not available internal to the office, then the system should provide message for non-availability of facilities and System should checks for existence of empaneled vendors for the same.		
AD.31.5	System should provide the provision to select an empaneled Vendor for raised request of organizing		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	event/ meeting.		
AD.31.6	If there are no empanelled vendors, then the system should provide provision to raise the alert for a fresh tendering process		
AD.31.7	The system should be able to forward the request for the event/meeting along with the results of the above findings to the concerned official. System should send an alert to official regarding receiving the request.		
AD.31.8	The concerned official should be able to take the required action to organize the event/meeting through the System, based on the findings of the system.		
AD.31.9	System should be able to generate report for —Details of request for organizing events/ meetings		
AD.32	Admin: Supervision Management of receipt and dispatch		
AD.32.1	The concerned official/PIU should be able to forward the communication to be send to MOUD, State Govt, any other department/individual by the system to the receipt & dispatch section		
AD.32.2	The system should be able to make entry in the digital outgoing register for the communication to be send to MOUD, State Govt, any other department/individual by the system to the receipt & dispatch section.		
AD.32.3	The concerned official should be able to take print out of the physical communication to be sent, through the System.		
AD.32.4	The printed communication should be able to send to the Communication authority/ Department/ organization as intended by the concerned department through courier/ Postal Dept/ by hand.		
AD.32.5	Ansms/email based alert should be send to the concerned official for sending the original communication.		
AD.32.6	POD should be collected in proof of the document send and concerned official should be able to make entry in the system for record keeping.		
AD.32.7	System should allow scanning of communications received and storing them in the Document management system to be forwarded to the concerned recipient official		
AD.32.8	System should allow the concerned official of receipt & dispatch section to make entry for the communication received in the incoming register		
AD.32.9	System should be able to generate MIS report for —Details of communications sent from MMRC		
AD.32.10	System should be able to generate MIS report for — Details of communications received		
AD.33	Admin: Procurement & Management of Office Supplies		
AD.33.1	The concerned official should be able to prepare the monthly estimate for the requirement of the office stationary through the system along with the threshold		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
	value of the items.		
AD.33.2	The concerned employee should be able to raise a request for stationary through the system.		
AD.33.3	The system should validate the monthly estimate created along with the stock of supplies present and raises alert if any item is out of stock or its present quantity is below the threshold value to the concerned official		
AD.33.4	If the stationary is available, then the same should be distributed to the concerned employee and required entry should be made in the stationary distribution register.		
AD.33.5	If the stationary is not available, then System should be able to raise the alert for procurement of the same.		
AD.33.6	A sms/ email based alert will be sent to the concerned official		
AD.33.7	The receiving officer should be able to vet the request received and should be able to forward the same to Finance department for vetting.		
AD.33.8	System should be able to send an SMS/ email based alert will be sent to the concerned official		
AD.33.9	The finance department should provide its approval to the procurement of the office stationary		
AD.33.10	An sms/ email based alert should be send to the concerned official		
AD.33.11	After the approval from finance is received, the request should be forwarded to the concerned official as per SOP.		
AD.33.12	An sms/ email based alert should be send to the concerned official		
AD.33.13	After the final approval is received, the system should be able to create the purchase order which should be forwarded to the procurement officer		
AD.33.14	The procurement officer should be able to undertake the procurement of the requested office stationary		
AD.33.15	The concerned official of the admin department should be able to store the stationary procured for safekeeping and distribution to the employees. The stock register should be automatically updated by the system.		
AD.33.16	The office stationary which was not distributed because of non-availability should be distributed.		
AD.33.17	An sms/ email alert should be send to the concerned employee		
AD.33.18	Concerned Vendor should be able to submit the invoice through the System, the concerned official should be able to verify the items received and the items mentioned in the invoice		
AD.33.19	After verification of the above described items, the concerned official should be able to forward the same to Finance department for payment through the System.		
AD.33.20	System should have the capability to check the availability of the requested / planned office stationary in respect to the asset/ stock register and the threshold value		

S. No.	Requirement	Available out of the box (Yes/No)	Customization Required
AD.33.21	System should have the capability of the automatically update the asset / stock & distribution register		
AD.34	Admin : Management of other services		
AD.34.1	System should provide provision to checklist for managing various supporting services like housekeeping, security, pantry, plantation, Rest House etc.		
AD.34.2	The concerned official should be able to define and monitor Service levels for the services procured. The concerned official should be able to update a periodic checklist for the quality of the work done for supporting services.		
AD.34.3	The system should be able to raise an alert if any of the service levels of the supporting services are not met.		
AD.34.4	The concerned official should be able to take the required action to rectify the issue identified through the System.		
AD.34.5	System should provide provision for selection of required action through the System.		
AD.34.6	The concerned vendor should be able to submit the invoice for payment through the System.		
AD.34.7	At the end of the billing cycle of the concerned vendor, the system should be able to compile the results of the checklist filled and forwards it to the concerned official for approval		
AD.34.8	The concerned official should be able to approve the same and forward to the finance department for payment mentioning any service level violations		
AD.34.9	System should allow sending of SMS/email based alert to various users as required by the business rule of the process		
AD.34.10	System should allow user to maintain quarter type-wise details of existing quarters.		
AD.34.11	System should allow user to tag quarters with departments & units.		
AD.34.12	System should maintain priority list for allotment of quarters		
AD.34.13	System should allow user to update quarter allocation details including date of allocation to employees.		
AD.34.14	Rent, Water charges, electricity charges etc. should be deducted from the salary of the employees availing the facility of quarter		
AD.34.15	System should allow user to record maintenance details of quarters.		
AD.34.16	Quarter allocation should also needs to be integrated with "Payroll		
AD.34.17	Transferred/ Separated employees need to vacate quarters or pay penalty as per defined rules.		
AD.34.18	System should generate vacancy status for quarters occupied by employees transferred/ separated		
AD.34.19	Quarter usage is linked with HRA payout		

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

Section: 7

Guidelines for Financial Proposal

7 Guidelines for Financial Proposal

7.1 Financial Proposal Cover Letter

(To be submitted on the Letterhead of the bidder)

Date: dd/mm/yyyy

To

Executive Director (Electrical)
MMRC,
Bandra - Kurla Complex
Bandra (East)
Mumbai—400051

Subject: Submission of proposal in response to the RFP For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

Ref:

Dear Sir,

We, the undersigned, offer to provide the services for "***Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support***" in accordance with your Request for Proposal dated [*Insert Date*] and our Initial filter. Our attached Financial Proposal for is for the sum of [*Insert amount(s) in words and figures*]. We are aware that any conditional financial offer will be outright rejected by MMRC. This amount is Inclusive of Taxes except service tax as listed at ANNEXURE 7.2 attached.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal (120 days) from the date of submission of Bid. We undertake not to sub contract the work of more than 25% of the total value of the Contract.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive. We confirm that no Technical deviations are attached here with this commercial offer.

Yours sincerely,

Authorized Signature [*In full and initials*]:

Name and Title of Signatory:

Date and Stamp of the signatory

Name of Firm:

7.2 Financial Proposal Format & Instructions

*Ref:*RFP Notification number

A) Financial Proposal Format(Inclusive of Taxes) - ERP Implementation Cost

Particulars	Specifications	No of Users	No of units	Cost/ or cost per Device (INR)	Unit per Months (INR)	Man Months (INR)	Total (INR) (inclusive of taxes)
Proposed COTS License	Finance						
	HR						
Implementation	Functional Lead						
	Technical Lead						
	Project Support						
	Others						
Training and UAT							
Hardware	Server						
	Database						
	Others						
Operations and Maintenance (O&M) per year	License						
	Manpower						

Note:

- Bidders may visit MMRC office for inspection and feasibility study of space/infra available**
- Quantity mentioned are indicative and for price evaluation only. Payment will be made as per approved actual quantity based on the unit rate as required by the solution implementation.**
- The COTS ERP product should be from among the top 5 companies in revenue as per "Total ERP software Revenue, worldwide, 2013-2014" Gartner Report**

B) Instructions:

- I. The rate quoted shall be inclusive of cost of detailed scope of work mentioned in Section 3.0 of the RFP document.
- II. The quoted rates should be inclusive of all operational costs to render services as per the scope
- III. All the prices are to be entered in Indian Rupees ONLY
- IV. The Bidder needs to account for all Out of Pocket expenses due to Boarding, Traveling, Lodging and other related items.
- V. Service Tax shall be as per the prevailing rates at the time of releasing the payments

Annexure's

8 Annexure- Performance Bank Guarantee

For Contract Performance Bank Guarantee

Ref:

Date: _____

Bank Guarantee No.: _____

To

Executive Director (Electrical)
MMRC,
Bandra - Kurla Complex
Bandra (East)
Mumbai—400051

Dear Sir,

PERFORMANCE BANK GUARANTEE – For <Project Name>

WHEREAS

M/s. (name of Bidder), a company registered under the Companies Act, 1956, having its registered and corporate office at (address of the Bidder), (hereinafter referred to as "our constituent", which expression, unless excluded or repugnant to the context or meaning thereof, includes its successors and assigns), agreed to enter into a Contract dated (Hereinafter, referred to as "Contract") with you for "**For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support**", in the said Contract.

We are aware of the fact that as per the terms of the Contract, M/s. (name of Bidder) is required to furnish an unconditional and irrevocable Bank Guarantee in your favor for an amount of 10% of the Total Contract Value, and guarantee the due performance by our constituent as per the Contract and do hereby agree and undertake to pay any and all amount due and payable under this bank guarantee, as security against breach/ default of the said Contract by our Constituent.

In consideration of the fact that our constituent is our valued customer and the fact that he has entered into the said Contract with you, we, (name and address of the bank), have agreed to issue this Performance Bank Guarantee.

Therefore, we (name and address of the bank) hereby unconditionally and irrevocably guarantee you as under:

In the event of our constituent committing any breach / default of the said Contract, and which has not been rectified by him, we hereby agree to pay you forthwith on demand such sum/s not exceeding the sum of 10% of the Total Contract Value i.e.,.....<in words> without any demur.

Notwithstanding anything to the contrary, as contained in the said Contract, we agree that your decision as to whether our constituent has made any such default(s) / breach(es), as aforesaid and the amount or amounts to which you are entitled by reasons thereof, subject to the terms and

conditions of the said Contract, will be binding on us and we shall not be entitled to ask you to establish your claim or claims under this Performance Bank Guarantee, but will pay the same forthwith on your demand without any protest or demur.

This Performance Bank Guarantee shall continue and hold good till 180 days after completion of the Contract Period, subject to the terms and conditions in the said Contract.

We bind ourselves to pay the above said amount at any point of time commencing from the date of the said Contract until 6 months after the completion of Contract Period.

We further agree that the termination of the said Agreement, for reasons solely attributable to our constituent, virtually empowers you to demand for the payment of the above said amount under this guarantee and we would honor the same without demur.

We hereby expressly waive all our rights: Requiring to pursue legal remedies against MMRC; and For notice of acceptance hereof any action taken or omitted in reliance hereon, of any defaults under the Contract and any resentment, demand, protest or any notice of any kind.

We the Guarantor, as primary obligor and not merely Surety or Guarantor of collection, do hereby irrevocably and unconditionally give our guarantee and undertake to pay any amount you may claim (by one or more claims) up to but not exceeding the amount mentioned aforesaid during the period from and including the date of issue of this guarantee through the period.

We specifically confirm that no proof of any amount due to you under the Contract is required to be provided to us in connection with any demand by you for payment under this guarantee other than your written demand.

Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax, registered post or other electronic media to our address, as aforesaid and if sent by post, it shall be deemed to have been given to us after the expiry of 48 hours when the same has been posted. If it is necessary to extend this guarantee on account of any reason whatsoever, we undertake to extend the period of this guarantee on the request of our constituent under intimation to you.

This Performance Bank Guarantee shall not be affected by any change in the constitution of our constituent nor shall it be affected by any change in our constitution or by any amalgamation or absorption thereof or therewith or reconstruction or winding up, but will ensure to the benefit of you and be available to and be enforceable by you during the period from and including the date of issue of this guarantee through the period.

Notwithstanding anything contained hereinabove, our liability under this Performance Guarantee is restricted to 10% of the Contract Value, and shall continue to exist, subject to the terms and conditions contained herein, unless a written claim is lodged on us on or before the aforesaid date of expiry of this guarantee.

We hereby confirm that we have the power/s to issue this Guarantee in your favor under the Memorandum and Articles of Association / Constitution of our bank and the undersigned is / are the recipient of authority by express delegation of power/s and has / have full power/s to execute this guarantee under the Power of Attorney issued by the bank in your favor.

We further agree that the exercise of any of your rights against our constituent to enforce or forbear to enforce or any other indulgence or facility, extended to our constituent to carry out the contractual obligations as per the said Contract, would not release our liability under this guarantee and that your right against us shall remain in full force and effect, notwithstanding any arrangement that may be entered into between you and our constituent, during the entire currency of this guarantee.

Notwithstanding anything contained herein:

Our liability under this Performance Bank Guarantee shall not exceed 10% of the Total Contract Value. This Performance Bank Guarantee shall be valid only from the date of signing of Contract to 180 days after the End of Contract Period; and

We are liable to pay the guaranteed amount or part thereof under this Performance Bank Guarantee only and only if we receive a written claim or demand on or before 180 days after the completion of Contract Period.

Any payment made hereunder shall be free and clear of and without deduction for or on account of taxes, levies, imports, charges, duties, fees, deductions or withholding of any nature imposts.

This Performance Bank Guarantee must be returned to the bank upon its expiry. If the bank does not receive the Performance Bank Guarantee within the above-mentioned period, subject to the terms and conditions contained herein, it shall be deemed to be automatically cancelled.

This guarantee shall be governed by and construed in accordance with the Indian Laws and we hereby submit to the exclusive jurisdiction of courts of Justice in India for the purpose of any suit or action or other proceedings arising out of this guarantee or the subject matter hereof brought by you may not be enforced in or by such court.

Dated this Day 2014.

Yours faithfully,

For and on behalf of the Bank,

(Signature)

Designation

(Address of the Bank)

Note:

This guarantee will attract stamp duty as a security bond.

A duly certified copy of the requisite authority conferred on the official/s to execute the guarantee on behalf of the bank should be annexed to this guarantee for verification and retention thereof as documentary evidence in the matter.

9 Annexure- Non-Disclosure Agreement

[Company Letterhead]

This AGREEMENT (hereinafter called the "Agreement") is made on the [day] day of the month of [month], [year], between, Mumbai Metro Rail Corporation on the one hand, (hereinafter called the "MMRC") and, on the other hand, [Name of the Bidder] (hereinafter called the "Bidder") having its registered office at [Address]

WHEREAS

1.The "MMRC" has issued a public notice inviting various organizations for provision of for "For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support";

2. The Bidder, having represented to the "MMRC" that it is interested to bid for the proposed Project,

3. The MMRC and the Bidder agree as follows:

- a) In connection with the "Project", the MMRC agrees to provide to the Bidder a detailed document on the Project vide the Request for Proposal document. The Request for Proposal contains details and information of the MMRC operations that are considered confidential.
- b) The Bidder to whom this information (Request for Proposal) is disclosed shall –
 - i. hold such information in confidence with the same degree of care with which the Bidder protects its own confidential and proprietary information;
 - ii. restrict disclosure of the information solely to its employees, other member with need to know such information and advise those persons of their obligations hereunder with respect to such information;
 - iii. use the information only as needed for the purpose of bidding for the Project;
 - iv. except for the purpose of bidding for the Project, not copy or otherwise duplicate such information or knowingly allow anyone else to copy or otherwise duplicate such information; and
 - v. undertake to document the number of copies it makes
 - vi. on completion of the bidding process and in case unsuccessful, promptly return to the MMRC, all information in a tangible form or destroy such information

4.The Bidder shall have no obligation to preserve the confidential or proprietary nature of any information which:

- a) was previously known to the Bidder free of any obligation to keep it confidential at the time of its disclosure as evidenced by the Bidder's written records prepared prior to such disclosure; or
- b) is or becomes publicly known through no wrongful act of the Bidder; or
- c) Is independently developed by an employee, agent or contractor of the Bidder not associated with the Project and who did not have any direct or indirect access to the information.

5.The Agreement shall apply to all information relating to the Project disclosed by the MMRC to the Bidder.

6. MMRC will have the right to obtain an immediate injunction enjoining any breach of this Agreement, as well as the right to pursue any and all other rights and remedies available at law or in equity for such a breach.

7. MMRC reserves the right to share the information received from the bidder under the ambit of RTI Act.

8. Nothing contained in this Agreement shall be construed as granting or conferring right of license or otherwise, to the Bidder, on any of the information. Notwithstanding the disclosure of any information by the MMRC to the Bidder, the MMRC shall retain title and all intellectual property and proprietary rights in the information. No license under any trademark, patent or copyright, or application for same that are now or thereafter may be obtained by the MMRC is either granted or implied by the conveying of information. The Bidder shall not alter or obliterate any trademark, trademark notice, copyright notice, confidentiality notice or any notice of any other proprietary right of the MMRC on any copy of the information, and shall reproduce any such mark or notice on all copies of such information.

9. This Agreement shall be effective from the date of signing of this agreement and shall continue perpetually.

10. Upon written demand of the MMRC, the Bidder shall (i) cease using the information, (ii) return the information and all copies, notes or extracts thereof to the MMRC forthwith after receipt of notice, and (iii) upon request of the MMRC, certify in writing that the Bidder has complied with the obligations set forth in this paragraph.

11. This Agreement constitutes the entire Agreement between the MMRC and the Bidder relating to the matters discussed herein and supersedes any and all prior oral discussions and/or written correspondence or agreements between the two parties. This Agreement may be amended or modified only with the mutual written consent of the parties. Neither this Agreement nor any right granted hereunder shall be assignable or otherwise transferable.

12. Confidential information is provided "As-Is". In no event shall the MMRC be liable for the accuracy or completeness of the confidential information.

13. This agreement shall benefit and be binding upon the MMRC and the Bidder and their respective subsidiaries, affiliate, successors and assigns.

14. This agreement shall be governed by and construed in accordance with the Indian laws.

For and on behalf of the Bidder

(Signature)

(Name of the authorized Signatory)

Designation :

Date :

Time :

Seal :

Business Address:

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

10 Annexure- Power of Attorney

Know by all men by these presents, We _____ (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr. / Ms. _____ (name and residential address of Power of attorney holder) who is presently employed with us and holding the position of _____ as our Attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for the **“Request For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support”**, including signing and submission of all documents and providing information / responses to the MMRC, representing us in all matters before MMRC, and generally dealing with the MMRC in all matters in connection with our Proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid Attorney shall and shall always be deemed to have been done by us.

For _____
Name:
Designation:
Date:
Time:
Seal:
Business Address:

Accepted,

(Name, Title and Address of the Attorney)

Note:

- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
- The Power of Attorney shall be provided on Rs.100/- stamp paper.
- The Power of Attorney should be supported by a duly authorized resolution of the Board of Directors of the Bidder authorizing the person who is issuing this power of attorney on behalf of the Bidder.

11 Annexure- Declaration of Data Security

To,
Executive Director (Electrical)
MMRC,
Bandra - Kurla Complex
Bandra (East)
Mumbai—400051

Dear Sir,

We..... Who are established and reputable bidder having office at..... Do hereby certify that MMRC shall have absolute right on the digital data and output products processed / produced by us. We shall be responsible for security / safe custody of data during processing.

We also certify that the data will not be taken out of the MMRC's premises on any media. The original input data supplied to us by Survey Bidder/ MMRC and output products processed / produced from input data will not be passed on to any other agency or individual other than the authorized person of MMRC. We shall abide by all security and general instructions issued by MMRC from time to time.

We also agree that any data from our computer system will be deleted in the presence of MMRC official after completion of the project task.

Thanking you,

Yours faithfully,

12 Annexure- Draft of Agreement Format

THIS AGREEMENT made the day of 2015 BETWEEN Mumbai Metro Rail Corporation Limited having its office at 1stFloor, Namttri Building, Behind MMRC, Near Jetwan, Bandra Kurla Complex, Plot No, R -13, E Block, Bandra (East), Mumbai 400051 (hereinafter referred to as "MMRC") which expression shall unless repugnant to the context or meaning thereof mean and be deemed to include its authorized agents, representatives and permitted assigns of the First Part.

AND

M/s <Name of the Bidder>having its office at <office address of the bidder> which expression shall unless repugnant to the context or meaning thereof mean and be deemed to include their successors and permitted assigns of the Second Part.

WHEREAS the contractor has tendered for providing services to MMRC as per the terms and conditions mentioned in the Request for Proposal (from herein after referred to as "RFP") "For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support" dated <date of release of RFP> and the all subsequent corrigendum's published document, as per the Commercial Bid submitted in response to the RFP dated <date of release of RFP>. Whereas such tender has been accepted and the contractor has provided Bank Guarantee to MMRC, Mumbai for the sum of Rs. <amount of the bid>.

NOW IT IS HEREBY AGREED between the parties hereto as follows:

The contractor has accepted the contract on the terms and conditions set out in the RFP No: <Ref no of RFP> issued on <date of issue of RFP> and all subsequent communications through letters / emails and clarifications/corrigendum issued which shall hold good during period of this agreement.

Refund of deposit shall be based on the timelines, terms and conditions as has been specified in the RFP/LoI and shall form a part of the contract. In absence of any timeline specified the deposit shall after the expiration of 180 days from the date of completion of the contract, be returned to the contractor but without interest and after deducting there from any sum due by the contractor to MMRC under the terms and conditions of this agreement.

This agreement shall remain in force until the expiry of <duration of the contract> from the date of entering into the contract, but MMRC may cancel the contract at any time upon giving 15 days' notice in writing without compensating the contractor.

All terms and conditions as specified in the RFP, clarifications / corrigendum issued in regards to the RFP <ref no RFP> as has been mentioned above in the document shall stand enforce unless has been expressly agreed to in writing by both the parties.

The Contractor shall be responsible to abide and shall be liable to deliver the requirements/deliverables as has been specified to in the RFP, clarifications / corrigendum issued in regards to the RFP. No. <ref no RFP> and Letter of Acceptance No: <LoI number>dated <date>

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

IN WITNESS whereof the said Contractor hath set his hand hereto and MMRC has affixed his hand and seal thereto the day and year first above written.

Signed, sealed and delivered

By

Executive Director (Electrical)

For and on behalf of

Mumbai Metro Rail Corporation Limited

Witnesses:

(1)

(2)

Signed, sealed and delivered

By

For and on behalf of

M/s <Name of Bidder>

Witnesses:

(1)

(2)

13 Annexure – Technical Specifications

This sections details out the minimum technical specification of the hardware and software to be used in the project. The bidder needs to size the hardware & software accordingly to meet the service requirements of the project and should ensure to meet the minimum technical specifications as mentioned below. The bidder feels is free to provide any additional features or capabilities.

Sr. No.	Component Qualification	Criteria
1	Application & Database Servers	Top 4 Vendors as per Gartner or equivalent Server Systems by Factory Revenue, Full Year 2013 or Year 2014 Server Tracker or latest
2	Database	Products belonging to Leaders & Challengers Quadrant in Gartner's Magic Quadrant Report or equivalent for Operational Database Management Systems, March 2014 or latest
3	Storage	Top 4 Vendors, as per Gartner or equivalent Total Disk Storage Systems Factory Revenue, Q4 2013 Systems Tracker or the 2014 Year Report or latest
4	Switches & Routers	Top 4 Vendors, as per Gartner or equivalent Quarterly Ethernet Switch and Router Tracker Shows Mixed Results in the Q4 2013 or the 2014 Year Report or latest
5	Firewall with IPS	Products belonging to Leaders & Challengers Quadrant in Q4 2013 or the 2014 Gartner Magic Quadrant Report for Enterprise Firewall or latest
6	EMS	Products belonging to Leaders, Challengers & Visionaries Quadrant in Gartner or equivalent Magic Quadrant for Application Performance Monitoring in Gartner Report for Q4 2013 or the 2014 Latest Report
7	Backup/Recovery Software (Disaster Management Software)	Products belonging to Leaders & Challengers Quadrant in Q4 2013 or the 2014 Gartner Magic Quadrant or equivalent for Backup/Recovery Software or latest
8	Antivirus Solution	Products belonging to Leaders & Challengers Quadrant in Q4 2013 or the 2014 or Latest Report by Gartner Magic Quadrant or equivalent for Endpoint Protection Platforms: Challengers & Leaders
9	UTM	Gartner Leader
10	Link Load Balancer	Products belonging to Leaders & Visionaries quadrant in Q4 2013 or the 2014 Gartner's Magic Quadrant Report for Application Delivery Control.
11	Server Load Balancer	Products belonging to Leaders & Visionaries quadrant in Q4 2013 or the 2014 Gartner's Magic Quadrant Report for Application Delivery Control.

The bidder can propose rack servers or blade servers for the project. However under any of the cases the minimum technical specifications of servers should comply with the specifications of servers as mentioned in section A & B below.

A Database Servers/ Application Server /Web Server				
S. No.	Specifications	Compliance	Reasons for Deviation (if any)	Details
1.	<p>Minimum Intel® Xeon® 4600 series Processor 8 Core, 15MB Cache, 2.4 GHz. Populated with 2 Nos. of CPU and scalable to 4 CPU.</p> <p>If other than Intel platform is proposed then the server performance should be supported with TPCC/SPEC/SAP benchmark reports and also OEM certified reports can be given for the proposed server along with a comparison with minimum proposed server.</p>			
2.	<p>Minimum Intel® Xeon® 4600 series Processor 4 Core, 10MB Cache, 2 GHz. Populated with 2 Nos. of CPU scalable to 4</p> <p>If other than intel platform is proposed then the server performance should be supported with TPCC/SPEC/SAP benchmark reports and also OEM certified reports can be given for the proposed server along with a comparison with minimum proposed server.</p>			
3.	<p>Minimum Intel® Xeon® 2600 series Processor 2 Core, 15MB Cache, 2.0 GHz. Populated with 1 Nos. of CPU, scalable to 2.</p> <p>If other than intel platform is proposed then the server performance should be supported with TPCC/SPEC/SAP benchmark reports and also OEM certified reports can be given for the proposed server along with a comparison with minimum proposed server.</p>			

B Core Router	
S. No	General features:

1	The router should be chassis based with minimum 2 payload slots
Architecture	
1.	Should have N+1 redundant power supplies
2.	Minimum back-plane capacity of 72-Gbps & forwarding performance of 51 Million packets per sec of 64 bytes packet. The performance is considered with IPv4 & IPv6
3.	Should support 10/100/1000, Gigabit, 10-Gig or STM-1/4 interfaces
4.	Should have 2 X 10 GE- SR and Minimum 8 X 1 Gig Ports and 8 SFP based ports with SX trans-receivers.
5.	<p>Protocols to be supported:</p> <ul style="list-style-type: none"> i. Border Gateway Protocol (BGP) V4 ii. Dynamic Host Configuration Protocol (DHCP) iii. IP Multicast, PIM SM, PIM SSM, IGMP, MLD, MSDP, RP, iv. Shall support multicast in L3 VPNs/ native IP using MPLS for QoS, reliability and resiliency. v. Features like TE, bandwidth reservation and FRR shall be available to multicast traffic. vi. Internet Protocol version 6 (IPv6) vii. Intermediate System-to-Intermediate System (IS-IS) viii. Label Distribution Protocol (LDP) ix. Multi-protocol Label Switching (MPLS) L2 VPN, L3 VPN, VPLS, DiffServ Aware TE (DS-TE), x. Open Shortest Path First (OSPF) xi. Resource Reservation Protocol (RSVP) xii. SPF (Sender Policy Framework Protocol) xiii. The router shall support Virtual Router Redundancy Protocol (VRRP) xiv. Support MPLS fast Re-route (RFC 4090) xv. Shall support BFD (bi-directional forwarding) Non Stop Routing, Graceful Restart
6.	<p>IPv4 Features:</p> <ul style="list-style-type: none"> i. Support for Routing Information Protocol ii. Support for RIP Version 2 , OSPF , IS-IS , Border Gateway protocol iii. Support for BGP confederations & Route Reflectors iv. Resource Reservation Protocol (RSVP), RSVP with IETF Integrated Services
	<p>IPv6 Features:</p> <ul style="list-style-type: none"> v. IPv6 ping IPv6 trace route vi. Stateless Auto configuration or equivalent vii. RIPng OSPF v3 viii. IS-IS ix. IPv6 L3 forwarding in HW x. VRRPv6 , MLD , IPv6 ACL
7.	<p>The supported features should include: 802.3ad , 802.3x , 802.1Q , VLAN , 802.1p , LACP Jumbo Frames support STP, RSTP, MSTP (802.1d, 802.1s, 802.1w) L2 ACLs , IGMP Snooping (v1, v2, v3)</p>
8.	Should support at-least 500K IPv4 routing entries per system and 500k IPv6 routing entries per system

9.	Should support at-least 128 K MAC addresses
10.	Should support minimum 100 VRF's
11.	Should support 15 logical routers
12.	Should support 2 K VPLS instances
Certifications	
13.	Router should be EAL 3+ or higher certified
14.	Safety certifications UL 60950-1
15.	EMC certifications FCC Class A

S. No.	Core Switch: Required Minimum Specifications
Features	
1	Should be Chassis based switch with passive backplane
2	Shall have minimum 8 payload slots and 2 CPU for redundancy
3	Shall have distributed, Non-blocking switching architecture, each module should be provisioned with adequate hardware/software to support the same. All the interfaces ports should be wire speed and non-blocking.
4	Shall have CPU and power supply redundancy
Performance	
5	Dual Redundant Switch Fabric/CPU shall offer minimum 1.2 Tbps
6	In the event of failure of one switching/routing engine, forwarding shall not stop and failover from one engine to other shall be stateful. The performance of the switch should not degrade in case of failure of one CPU card.
7	The proposed switch shall support simply the changes through In-Service / non-stop aS upgrade mechanism with a minimal disruption of traffic through upgrade process.
8	The proposed switch shall support Net flow/ Sflow /IPFIX or J-flow or equivalent. If it is given as services on a module, at least two of those modules shall be quoted to ensure redundancy of the solution.
9	Minimum 900 Mpps performance or higher shall be supported for both IPv4 and IPv6
10	Shall be capable of 160Gbps switching capacity per slot and each module should offer non-blocking & wire speed forwarding for ipv4 & ipv6
11	Shall have hardware based unicast, multicast and broadcast suppression.
12	Should have distributed Switching Architecture

13	Shall support minimum 8 hardware queues per port
14	Shall support Hot-swappable power supplies and switching modules
15	Layer 1 Features
16	Support for 10/100/1000 BASE-T, 100 BASE FX, 1000 BASE-SX, LX, LH, ZX GBIC/SFP and 10-Gig SR/LR/ZR
17	Chassis shall support - Minimum 384 Gigabit ports - Minimum 64 Nos. of 10-Gig non-blocking ports.
18	Layer 2 Features
19	Shall have Layer 2 switch ports and VLAN trunks
20	Shall have IEEE 802.3ad Link aggregation and port Trunking across line cards
21	Shall have IEEE 802.1Q VLAN encapsulation
22	Shall support VTP or equivalent centralized VLAN management to reduce administrative burden of configuring VLANs on multiple switches in turn eliminating the configuration errors & troubleshooting
23	Shall support a mechanism to detect connectivity issues with both fiber and copper cabling to ensures that a partially failed link is shut down on both sides, to avoid L2/L3 protocol convergence issues
24	Shall support display and clear MAC address information in MAC Address Table
25	Shall have IEEE compliance for 802.1Q VLAN, 801.2p, 802.1d STP,
26	802.3ad, 802.1w RSTP, 802.1s MSTP, 802.3ad LACP, IEEE 802.1ab Link Layer Discovery Protocol.
27	Shall have 128,000 system wide MAC addresses
28	Shall have minimum 4000 active VLAN support
29	Layer 3 Features
30	Shall have advanced Routing-Static IP routing, RIP v1/v2, OSPF, RIPng PIM-SM and policy based routing, RIPng, OSPFv3, MLD
31	Shall have VRRP or equivalent for redundancy
32	Shall have IGMP v1, v2, v3
33	Shall have IP multicast routing protocols PIM
34	Shall support minimum 250K IPv4 and 250K IPv6 (both) unicast routes. Shall support minimum 100K IPv4 and 100K IPv6 (both) multicast routes.
35	Support VRF/VRF-Lite
36	QoS Features
37	Shall have sophisticated QoS and Traffic Management

38	Shall have Per-port QoS configuration
39	Support for IEEE 802.1p QoS policies.
40	Support for Diff ServQoS on all ports
41	Shall support minimum eight queues per port in hardware
42	Shall have priority queuing
43	Shall have IP differentiated service code point (DSCP) and IP precedence
44	Shall have classification and marking based on full Layer 3, 4 headers
45	Shall support Congestion Avoidance feature
Availability	
46	Shall be provided with Dual Switching Fabric
47	N+1/1+1 Redundant Power Supply from day one
48	Hot Swap ability on all modules and Power Supply
49	Hot Swappable Fan tray
Security	
50	Shall have Filters/Access-List on all ports
51	Shall have 802.1X user authentication
52	Shall have 802.1X accounting
53	Shall support Port Mirroring based on port basis/vlan basis to support intrusion prevention system deployment in different VLANs. Shall support port mirroring across the switches to remotely monitor ports in a Layer 2 switch network from any other switch in the same network
54	Shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses
55	Shall prevents IP spoofing by forwarding only packets that have a source address consistent with the DHCP Snooping table
56	Shall be able to shut down Spanning Tree Protocol PortFast-enabled interfaces when BPDUs are received to avoid accidental topology oops
57	Shall be able to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes
58	Shall have TACACS+/RADIUS enabled.
59	Shall have SSHv1/ SSHv2, SNMPv1, SNMPv2, SNMPv3, SCP/SFTP /SNTP support
63	Switch should be EAL 3+ or higher certified
64	Minimum Configuration deliverable

65

Core Switch Shall have minimum 40 x 10/100/1000 Mbps Base TX ports and 16 Nos of 10 Gig ports with SR transceivers.
All the above mentioned should be non-blocking and should be distributed among minimum 2 slots.

Perimeter Firewall with Intrusion Prevention System

S. No	Required Minimum Specification
	Security Health Dashboard for Customer
1.	The proposed solution from the bidder must mandatorily include a detailed Security Health Dashboard which will allow Customer to view the complete network traffic patterns in its network and also provide associated Risks which need to be clearly shown in real time through this Dashboard. The Dashboard must encompass the following functional requirements of Customer:
2.	a) The Security Health Dashboard should provide a detailed view of the entire network traffic (which includes applications of all types) running in the network regardless of ports used by the applications including the risk rating of the applications, identify end users who are using these applications as well as the total bandwidth consumed by each application in terms of sessions & byte. It should also show the Known and Unknown threats, in the specific applications traversing the network.
3.	b) The Security Health Dashboard should also provide a detailed view of all Known and Unknown threats, Vulnerabilities that are running in the network including viruses and spywares across all types of applications, across all users and across the entire Customer network, irrespective of ports and protocols.
4.	c) The Security Health Dashboard should also provide complete information of all geo-locations from where the threats are emanating and outgoing with specific country information.
5.	d) The Security Health Dashboard should provide detailed information of the URL-Categories that are been accessed by all the users (irrespective of their end devices) of Customer network.
6.	e) The Security Health Dashboard should provide a detailed view of all file types being used by users in the network & also identify Unknown malwares that may be existing in Customer network.
7.	f) Importantly, the Security Health Dashboard should provide Real Time Risk Rating of Customer network on a daily basis with regards to the risky applications and threats (Known and Unknown) that are seen running in the network.
	Securing Customer Encrypted traffic
8.	a) In order to secure Customer encrypted network traffic from attacks, the proposed Security Solution from the bidder must mandatorily support all Inbound and Outbound SSL decryption capabilities which will allow Customer to identify and prevent known and unknown threats and malware in encrypted network streams.
9.	b) To protect Customer critical information from being stolen by malicious applications using SSH tunnel to subvert Firewalls, the solution should support the capability to decrypt SSH traffic to clearly identify genuine SSH traffic used to manage Customer Unix infrastructure and block applications trying to tunnel & exfiltrate data out within SSH traffic.
	Predictable Response and Timelines for Dealing with Unknown Threats/ Attacks on Customer network

10.	a) The proposed solution should be able to provide visibility into all Known and Unknown threats within the Customer network. In case of all "Unknown Threats/ attacks" on Customer network, the proposed solution should mandatorily provide Customer with signature protection in a predictive timeline not exceeding 30 Minutes from the time of attack detected in the network. The OEM should provide proof and demonstrable capabilities of this functional requirements of Customer prior to actual deployment in the UAT and acceptance of PO (if selected). Failure to do so, will result in disqualification of the bidder/ solution.
11.	b) Customer must also receive regular and automatic updates and protection for all Unknown attacks that the OEM discovers elsewhere across the globe not exceeding 30 Mins to protect Customer network proactively against the possibility of that particular attack targeted towards Customer.
12.	c) The proposed solution should create automatic signatures for all unknown malwares in order to stop the entire kill chain of APT (Advance Persistent Threat) attacks and prevent any exfiltration of data from Customer digital assets. The following signatures should be created for this purpose:
13.	1) Content based AV signatures which is not based on hash based signatures to ensure nobody in the Customer network is able to download the same malware or it's variants across all ports/ application and protocols.
14.	2) Spyware signatures to block any communication from Customer network and to any Command and Control centers in order to prevent malware from infiltrating data out of Customer network.
15.	3) URL-Filtering signatures learnt during the malware analysis so that the URL database is automatically updated to prevent users for call backs to these malicious URLs.
16.	4) DNS Signatures to track infected mobile devices & mobile users from connecting into Customer infrastructure and spreading the infection aimed at stealing data out of Customer network. It should also track down the infected hosts in the network who are making DNS queries to the malware infected domains and block these DNS queries.
	Identifying and Securing Proprietary/In-House Custom Applications of Customer
17.	In order to support its business needs, Customer has developed mission critical in-house/ proprietary applications which are running on Customer network. The proposed solution must therefore mandatorily identify all threats (known and unknown) and vulnerabilities in these applications and also create customized application Signatures for these applications and give them to Customer so as to prevent these applications from being used as threat vector to launch attacks. The OEM must also transfer knowledge and tools required to create custom application signatures for future use as well. The bidder has to demonstrate this capability during the UAT testing. Failure to do so will lead to disqualification of the bidder/ OEM.
Performance Criterion/ Testing	
18.	Since majority of Customer network and applications are TCP & HTTP based, the bidder should ensure that the actual performance throughput of the proposed solution should NOT be based on 1518 byte UDP traffic but actual production traffic of Customer (which is TCP and HTTP applications as described above). Customer will therefore measure the actual throughput performance of the proposed NGFW after enabling the Application Visibility and control inspection features in the firewall along with IPS, Ant-Virus, Anti-Bot, Anti-Spyware and Anti-Malware functionality with all signatures turned on.

19.	The Bidder must mandatorily provide supporting evidence of performance throughputs claims through publicly available datasheets. Any performance claims which are not mentioned in the publicly available datasheets submitted by the bidder will not be entertained. However, if the bidder is able to demonstrate the performance claims in the UAT environment based on above criterion, then the same may be considered for evaluation. These performance test criterion will be given by Customer to the bidder at the time of testing and reserves the right to accept or reject the test findings. The bidder shall bear the cost of arranging and demonstrating all the 3rd party testing gear that Customer will require for this performance testing at Customer selected premises.
20.	In case the bidder fails the performance test criterion as laid down by Customer, then the bid will be summarily disqualified and rejected.

Vendor Eligibility Criteria

21.	Proposed Firewalls should be in Gartner's Leaders Quadrant for Enterprise Firewalls from past 3 Consecutive Years.
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Technical Product Specification

22.	<p>The Proposed Platform must provide unprecedented visibility and control of applications and content – by user, not just IP address, accurately identify applications – regardless of port, protocol, evasive tactic or SSL encryption – and scan content to stop known and unknown threats. The platform should provide the following functionality</p> <ul style="list-style-type: none"> • Identify applications, not just ports: Identify exactly what the application is, across all ports, irrespective of protocol, encryption (SSL or SSH), or evasive tactic. The application identity becomes the basis for all security policies. • Identify users, not simply IP addresses. Employ user and group information from enterprise directories for visibility, policy creation, reporting, and forensic investigation, regardless of user location or device type. • Inspect content to protect networks. Protect the network against known and unknown threats including vulnerability exploits and malware embedded in application traffic. • Safe Enablement of Applications: Securely enable applications with easy-to-use graphical tools that tie them together in a unified policy. • Enable a logical perimeter. Secure all users, including traveling and telecommuter users, with consistent security that extends System protection to the user, regardless of location. • Deliver predictable performance. Combine purpose-built hardware and software to enable low-latency, multi-gigabit performance with all services enabled. • Feature consistency in hardware and virtualized form factors. The same features available in hardware form factor is also available in a virtualized form factor to help organizations support their virtualization initiatives.
23.	The proposed solution should provide 20 Gbps of application inspection Firewall throughput based on TCP HTTP profile. The performance nos. should not be based on UDP Large Byte packets.
24.	The proposed solution should provide 10 Gbps of threat prevention throughput which should be achieved after enabling features which include Application identification and control based System inspection, Intrusion Prevention System, Anti-Virus, Anti-Spyware, and Advanced Persistent Threat Prevention with all signatures turned on for maximum security. All the performance nos. of the proposed solution should be available in publicly available datasheets.
25.	The proposed solution should support 4,000,000 concurrent sessions & 150,000 new connections per second

26.	The proposed solution must allow per policy rule creation for application identification, user identification, host profile, threat prevention, content filtering, QOS and scheduling in a single rule and not at multiple locations
27.	The proposed solution must be able to be administered locally without additional management software or logging software. Platform should be manageable by Web GUI and CLI (command line Interface)
28.	The proposed solution must support solid state drives (SSD) of at least 120GB
29.	The proposed solution must support 8 Gigabit SFP's interfaces
30.	The proposed solution must support 2 10/100/1000 high availability interfaces
31.	The proposed solution must support at least 12 10/100/1000 interfaces
32.	The proposed solution must support at least 4 10Gig SFP+ Interfaces
33.	The proposed solution must support 1 10/100/1000 out of band management interface
34.	The proposed solution must support redundant internal power supplies
35.	The proposed solution must support separation of the control plane and the data plane
36.	The proposed solution must have modern malware protection that identify unknown malicious files and execute them in a controlled environment to expose malicious behavior even if the malware has never been seen in the wild before
37.	The proposed solution must be able to support DoS and DDoS protection
38.	The proposed solution be able to support simultaneous deployment with interfaces servicing Layer 3, Layer 2 Transparent and Tap modes
39.	The proposed solution shall support Dual Stack IPv4 / IPv6 application control and threat inspection under: <ul style="list-style-type: none"> - Tap Mode - Transparent mode - Layer 2 - Layer 3 - The proposed solution must support simultaneous deployment with interfaces servicing layer 3 connections, transparent and tap modes within a single piece of hardware without requiring the use of virtual systems
40.	The proposed solution should support IPSec VPN functionality with support for Des,3Des & AES algorithms for stronger data security
41.	Should support Routing Protocols like OSPF, BGP and VLAN & DHCP functionality.
42.	The proposed solution must support Per policy SSH decryption & inspection
43.	The proposed solution shall support network traffic classification which identifies applications across all ports irrespective of port/protocol/evasive tactic

For Supply, Installation and Commissioning of Enterprise Resource Planning (ERP) in Mumbai Metro Rail Corporation (MMRC) by System Integrator including associated Hardware, Software and Licenses along with its implementation, integration and maintenance support

44.	The proposed solution shall be able to create custom application signatures and categories. Should also support creation of custom threat prevention signatures
45.	The proposed solution shall support Voice based protocols (H.323, SIP, SCCP, MGCP etc.)
46.	The proposed solution shall be able to create filters to control groups of application based on category, sub category, technology, risk or characteristics etc.
47.	The proposed solution shall support user-identification allowing Active Directory, LDAP, RADIUS groups, or users to access a particular application, while denying others
48.	The proposed solution shall support user-identification from Citrix and terminal services environments in policy and logs
49.	The Proposed solution should provide transparent integration of users with the widest range of enterprise directory services (Microsoft Active Directory, LDAP, eDirectory, Microsoft Exchange, Citrix and Windows Terminal Services, XML API) in the market. This user information should be used, in policy writing and reporting and in the detailed traffic logs. Using directory integration does not require anything to be installed on the domain controllers; rather they must simply be able to see the domain controllers. Regardless of how many devices, and of what type, a user logs in with, the next-generation System will be able to tag traffic to the authenticated user across all of them.
50.	The Proposed solution should seamlessly integrate with enterprise user repositories that links the IP address to specific user and group information enabling IT organizations to monitor and control applications and content based on the employee information stored within enterprise directory services. Natively supported directory services include Microsoft Active Directory, LDAP, eDirectory, Microsoft Exchange, Citrix and Windows Terminal Services.
51.	The proposed solution should support Role-based administrative assignment to allows specific users to have full, read-only, or no access to the functions of the System. Automated responses can be set up to notify specific users of specific events or incidents

52.	<p>The Proposed solution must include powerful, on-box logging that allows administrators to perform extensive data analysis. The separate logs stored on-box should include Traffic, Threat, advanced malware analysis, Configuration, System and Alarms.</p> <ul style="list-style-type: none"> • Log viewer: View application, threat and user activity through dynamic filtering capabilities enabled simply by clicking on a cell value and /or using the expression builder to define the filter criteria. • Log exporting: Export any logs matching the current filter to a CSV file for offline archival or additional analysis. • Trace Session Tool: Accelerate forensics or incident investigation with a centralized, correlated view across all of the logs for traffic, Threats, and applications related to an individual session. • On-box reporting capabilities provide a detailed look at network usage, threats and user behavior: • Predefined reports: grouped by Application, Traffic, Threat, and PDF Summary reports. Multiple report variations available under each report type by default. • Custom reports: Create custom reports by pulling data from any of the log databases or modify one of the predefined reports. • Report grouping: Multiple reports can be grouped together with a customizable title page that is then combined into a PDF and sent via email per a specified schedule. • User activity reports: Individual user activity report shows applications, Threats over a specified period of time. • Report exporting: Export any of the predefined or custom reports to either CSV or PDF. Any of the PDF reports can be emailed on a scheduled basis. • Summary report: A custom, one-page summary pulls data from any of the predefined or custom reports and can be generated and emailed on a scheduled basis. • Behavior-based Botnet Report: The Palo Alto Networks solution integrates a range of data points to identify machines on the network that may be infected by known, unknown or polymorphic botnets. These factors include tracking of unknown applications, IRC traffic, malware sites, dynamic DNS, and newly created domains is analyzed, resulting in a report that displays a list of potentially infected hosts that can be investigated as members of a botnet.
53.	The proposed solution shall populate and correlate all logs with user identity (traffic, solution, data, etc.) without any additional products or modules in real-time
54.	The proposed solution should support the ability to create QoS policy on a per rule basis specifically by Applications e.g. Skype and Static or Dynamic Application Groups , such as P2P , IM groups
55.	The proposed solution shall define QoS traffic classes with Guaranteed and Max bandwidth along with priority queuing , Diffserv markings on packets
56.	The proposed solution should support real-time prioritization of voice based protocols like H.323, SIP, SCCP, MGCP and applications like Skype

57.	<p>Quality of Service (QoS) policies can be enforced based on application, user, source, destination, port, protocol or URL category or schedule. QoS policy determines guaranteed bandwidth, maximum bandwidth and priority.</p> <p>Traffic shaping should extend the positive enablement policy controls to provide administrators with the ability to allow bandwidth intensive applications such as streaming media, while preserving the performance of business applications.</p> <p>The solution must provide a graphical view of bandwidth and session consumption for applications and users within a selected QoS class.</p> <p>Diffserv marking should be supported, enabling application traffic to be controlled by a downstream or upstream device</p>
58.	<p>The proposed solution shall support file identification by signature and not file extensions</p> <p>The proposed solution shall support file blocking by file type that can be enabled in order to limit data leakage through specific applications. For example, an Instant messaging policy can be implemented that forces all IM (YahooIM!, MSN, AIM, etc.) through port 80. An additional policy element can be to block the transfer of specific file types through those applications.</p> <p>The proposed solution shall support identification and optionally preventing the transfer of various files (i.e. MS Office, PDF, etc.) via identified applications (i.e. P2P, IM, SMB, etc.)</p> <p>The proposed solution shall support compressed information stored in zipped format and be able to unpack and filter per policy</p> <p>The solution shall be capable of identifying and optionally preventing the transfer of files containing sensitive information (i.e. credit card numbers) via regular expression</p> <p>The solution shall support the following file types : apk, avi, avi-divx, avi-xvid, bat, bmp-upload, cab, cdr, class, cmd, dll, doc, encrypted doc, docx, dpx, dsn, dwf, dwg, edif, encrypted-doc, encrypted-docx, encrypted-office2007, encrypted-pdf, encrypted-ppt, encrypted-pptx, encrypted-rar, encrypted-xls, encrypted-xlsx, encrypted-zip, exe, flv, gds, gif-upload, gzip,hta, iso, iwork-keynote, iwork-numbers, iwork-pages, jar, jpeg-upload, lnk, lz, mdb, mdi, mkv, mov, mp3, mp4, mpeg, msi, msoffice, ocx, pdf, PE, pgg, pif, pl, png-upload, ppt, pptx, psd, rar, reg, rm, rtf, sh, stp, tar, tdb, tif, torrent, wmf, wmv, wri, wsf, xls, xlsx, zcompressed, and zip</p>
59.	<p>The Proposed solution should have support to identify infected hosts on the protected network using DNS traffic in situations where the System cannot see the infected client's DNS query (that is, the System cannot see the originator of the DNS query)</p>
60.	<p>The proposed solution must integrate with existing network services which authenticate users, such as wireless controllers, 802.1x devices, Apple Open Directory servers, proxy servers, or other Network Access Control (NAC) mechanisms, so that the System User-ID agent (either the Windows agent or the agentless user mapping feature on the System) can listen for authentication syslog messages from those services to get the User - IP mapping information which can then be used to define user based policies.</p>
61.	<p>The Proposed solution should support defining user based policies for blocking various file types within any application</p>
62.	<p>The proposed solution shall support Vulnerability Protection features</p>
63.	<p>The proposed solution shall support Virus and Spyware (phone home attacks) protection</p>
64.	<p>The proposed solution shall block application vulnerabilities</p>
65.	<p>The proposed solution shall block spyware and malware</p>

66.	The proposed solution shall block buffer overflow attacks
67.	The proposed solution shall support attack recognition for IPv6 traffic the same way it does for IPv4
68.	The proposed solution shall support CVE-cross referencing where applicable
69.	The proposed solution shall support granular tuning with option to configure overrides for individual signatures
70.	The proposed solution shall support automatic security updates directly over a secure connection (i.e. no dependency of any intermediate device)
71.	The proposed solution shall support notifications via alerts, email notifications, SNMP traps and packet logs
72.	The proposed solution shall support compressed information stored in zipped format and be able to unpack and filter per policy
73.	The proposed Systems shall support DNS-based signatures to detect specific DNS lookups for hostnames that have been associated with malware
74.	The proposed solution must handle traffic in a single pass stream-based manner with all features turned on.
75.	The proposed solution must be optimized for layer 7 application level content processing and have special ASICs to handle signature matching and processing in a single pass parallel processing architecture
76.	The proposed solution must have modern malware protection that identifies unknown malicious files by directly and automatically executing them in a virtual cloud-based environment to expose malicious behavior even if the malware has never been seen in the wild before without the need for additional hardware.
77.	The proposed solution must be able to support Network attack detection
78.	The proposed solution must be able to support DoS and DDoS protection
79.	The proposed solution must be able to support TCP reassembly for fragmented packet protection
80.	The proposed solution must be able to support Brute force attack mitigation
81.	The proposed solution must be able to support SYN cookie protection
82.	The proposed solution must be able to support IP spoofing
83.	The proposed solution must be able to support Malformed packet protection
84.	The proposed solution must be able to support Active/Active HA configuration
85.	The proposed solution must be able to support Active/Passive HA configuration
86.	The proposed solution must be capable to detect device, Link & Path failure

87.	The proposed solution must be able to support encryption of HA heartbeat & control traffic
88.	The proposed solution must be able to support session and configuration synchronization
89.	The proposed solution shall be able to perform Anti-virus scans for SMB traffic
90.	The proposed solution shall support attack recognition for IPv6 traffic the same way it does for IPv4
91.	The proposed solution shall support Built-in Signature and Anomaly based solution engine on the proposed solution
92.	The proposed solution shall support the ability to create custom user-defined solution signatures
93.	The Proposed solution should support defining of User based solution Policies
94.	The proposed solution shall support be able to exclude certain hosts from scanning of particular signatures
95.	The proposed solution shall support granular tuning with option to configure overrides for individual signatures
96.	The proposed solution shall support automatic security updates directly over a secure connection (i.e. no dependency of any intermediate device)
97.	The proposed solution Threat/Anti-Virus/Anti-Spyware updates shall not require reboot of the unit.
98.	The proposed solution shall support several prevention techniques including drop-packet, tcp-rst (Client, Server & both) etc. List all prevention options
99.	The proposed solution shall support response adjustment on a per signature basis.
100.	The proposed solution shall support notifications via alerts, email notifications, SNMP traps and packet logs
101.	The proposed solution shall support file identification by signature and not just file extensions
102.	The proposed solution shall support identification and optionally preventing the transfer of various files (i.e. MS Office, PDF, etc.) via identified applications (i.e. P2P, IM, SMB, etc.)
103.	The proposed solution shall be able to identify, decrypt and evaluate SSL traffic in an outbound & Outbound connection
104.	<p>The proposed solution shall support a rich set of intrusion prevention features to blocks known and unknown network and application-layer vulnerability exploits from compromising and damaging enterprise information resources. Vulnerability exploits, buffer overflows, DoS/DDoS attacks and port scans are detected using proven threat detection and prevention (solution) mechanisms:</p> <ul style="list-style-type: none"> • Protocol decoder-based analysis statefully decodes the protocol and then intelligently applies signatures to detect vulnerability exploits. • Protocol anomaly-based protection detects non-RFC compliant protocol usage such as the use of overlong URI or overlong FTP login. • Stateful pattern matching detects attacks across more than one packet, taking into account elements such as the arrival order and sequence. • Statistical anomaly detection prevents rate-based DoS flooding attacks.

	<ul style="list-style-type: none"> • Heuristic-based analysis detects anomalous packet and traffic patterns such as port scans and host sweeps. • Other attack protection capabilities such as blocking invalid or malformed packets, IP defragmentation and TCP reassembly are utilized for protection against evasion and obfuscation methods employed by attackers. • Custom vulnerability or spyware phone home signatures that can be used in the either the anti-spyware or vulnerability protection profiles.
105.	<p>The Proposed solution share support Inline antivirus protection that detects and blocks most types of malware at the gateway. Antivirus protection should leverage the uniform signature format and stream-based engine to protect enterprises from millions of malware variants. Stream-based scanning helps protect the network without introducing significant latency – which is the problem with network antivirus offerings that rely on proxy-based scanning engines. Key antivirus capabilities include:</p> <ul style="list-style-type: none"> • Protection against a wide range of malware such as viruses, including HTML and Javascript viruses, spyware downloads, spyware phone home, Trojans, etc. • Inline stream-based detection and prevention of malware embedded within compressed files and web content. • Leverages SSL decryption to block viruses embedded in encrypted or compressed traffic. • Drive-by-Download Protection: To prevent unintentional or malicious download of executable files, a continue page option has been added to the File Blocking Profile. This can be used to prevent users from accidental downloads as well as prevent malicious scripts or malware from using HTTP to download files to internal systems. • PDF Virus Scanning: Support for detection of virus infected PDF files has been added to the antivirus engine. • Zero-Day signature feed from APT Advanced Malware scanning engine: capable of updating signature base for threats discovered in APT advanced Malware scanning engine, in less than an hour.
106.	The proposed solution shall support customizable block pages, with a continue option for a certain amount of time
107.	The proposed solution shall support logs populated with end user activity reports for site monitoring within the local solution
108.	The proposed solution shall support sandbox behavior based inspection and protection of unknown viruses and malware across all protocols and applications not limited to HTTP and SMTP
109.	The proposed solution shall support automated signature generation for discovered malware and the signature should come as an update within 15 minutes
110.	The proposed solution shall support inline control of malware infection and command/control traffic
111.	The APT solution should support getting signatures in real time from the Cloud
112.	The proposed solution shall support capability that captures malicious code binaries, detonates them, and presents all findings from the resulting analysis.

113.	The Proposed solution shall support sending Email alerts to notify administrators based on threat criticality. Should support sending email alerts containing the malicious behaviors identified as well as information about the victim including username, application used. Alerts generated may be delivered via any combination of syslog, SNMP traps, email, or centralized logging. Alerts may be generated on a per-signature threat severity basis.
114.	The proposed solution shall support packet captures based on Source Address, Destination Address, Applications, Unknown Applications, Port, Threats, Data Filters and / or any combination as specified
115.	The proposed solution shall support PCAP downloads of specific traffic sessions from the GUI from the logging screen
116.	The proposed solution should support the following advanced file types: PE file type, Microsoft Office .doc/docx, .xls/xlsx, and .ppt/pptx; Portable Document Format (PDF); Java Applet (jar and class); and Android Application Package (APK)
117.	The solution should support SSL decryption to identify Day Zero malware which uses SSL as an evasive technique
118.	The solution should support Sandboxing across all applications irrespective of ports and protocols.
119.	The Solution should support defining user based policies for Advanced Persistent Threats
120.	The solution should be an inline platform and should be able to protect against all types of known as well as unknown threats
121.	The proposed solution shall support packet captures based on Source Address, Destination Address, Applications, Unknown Applications, Port, Threats, Data Filters and / or any combination as specified
122.	The proposed solution shall support PCAP downloads of specific traffic sessions from the GUI from the logging screen
123.	The Solution shall support referencing Dynamic Block Lists, external lists or sources which can be used for defining policies
124.	The solution should support utilizing a stream-based engine that employs signature-based analysis to identify known viruses and malware as well as previously unknown malware based on execution and behavioral analysis. Administrators should also be able to submit their own suspected malware samples to automatically through API access, or manually through a portal.

125.	<p>The solution should support summarizing the behavior of the sample file in the specific environment. Examples include whether the sample created or modified files, started a process, spawned new processes, modified the registry, or installed browser helper objects. The following describes the various behaviors should be analyzed:</p> <ul style="list-style-type: none"> • Network Activity—Shows network activity performed by the sample, such as accessing other hosts on the network, DNS queries, and phone-home activity. A link is provided to download the packet capture. • Host Activity—Lists any registry keys that were set, modified, or deleted. • Process Activity—Lists files that started a parent process, the process name, and the action the process performed. • File—Lists files that started a child processes, the process name, and the action the process performed. • Mutex—If the sample file generates other program threads, the mutex name and parent process will be logged in this field. • Activity Timeline—Provides a play-by-play list of all recorded activity of the sample. This will help in understanding the sequence of events that occurred during the analysis."
126.	Solution must support URL-Filtering capabilities for outbound Internet traffic and protect Customer internal users from accidentally accessing malicious and Malware infected domains.
127.	The Proposed solution shall support URL filtering which provides a categorical URL database functionality to the device for use as a URL and Web Content filter. URL categories can be used to define security policy, complementing the application level control as well as to to define SSL decryption exceptions, to determine quality-of-service policy and more.
128.	The Proposed solution shall support Custom URL categories to be created to complement the on-box URL database and address unique customer requirements. Administrators may upload custom URL lists from external files or use Dynamic Block Lists to point to external lists or sources.
129.	<p>The Proposed Solution should support using customizable block pages so that users can be notified that they have violated policy. The page can include references to the username, IP address, the URL attempting to be accessed and the category of the URL. In order to place some of the web activity ownership back in the user's hands, administrators should have two powerful options.</p> <p>1) URL filtering continue: when a user accesses a page that potentially violates policy, a block page warning with a "Continue" button can be presented to the user, allowing them to proceed if they feel the site is acceptable.</p> <p>2) URL filtering override: requires a user to correctly enter an administrator-set password in order to bypass the block page and continue to their internet destination.</p>
130.	The Proposed solution shall support filtering of URL-Filtering logs that can be filtered for blocks and contains detailed URL information that can be further investigated easily from the logs directly. Pre-built reporting templates to report on blocked traffic, including destination, user, and/or session timers should be included.
131.	The proposed solution should support URL filtering policies to be applied to any URLs that are entered into translation sites such as Google Translate. This will ensure that website translation tools are not used to bypass URL filtering policies.
132.	The Solution should support safe search enablement for Google, Yahoo and Bing
133	Solution must support creating custom URL-Categories and Custom Whitelist and Blacklist of URLs.

134	Device should be EAL3 or higher certified.
135	Device should be ICSA certified for firewall

Server Load Balancer

S. No.	Architecture
1	Should be high performance purpose built next generation multi-tenant hardware with multicore CPU support. Platform should support multiple instances including link load balancing, application load balancing & SSL VPN functions with dedicated hardware resources for each virtual instance.
2	The appliance should have minimum 10 Gbps of system throughput per virtual instance to support multiple load balancing and security functions
3	The appliance should have minimum 8 x10G SFP+ interfaces from day one
4	Hardware based SSL acceleration with upto 20Gbps of bulk SSL throughput. Minimum of 4,000 2k SSL transactions per second (TPS) per virtual instance
5	Platform should support minimum 4 virtual instances and must have option to scale upto 16 virtual instance on same appliance. Each instance must have assigned dedicated hardware resource such as CPU, memory, SSL & I/O for guarantee performance

Application Load balancing features

6	Should able to load balancer both TCP and UDP based applications with layer 2 to layer 7 load balancing support
7	The appliance should support server load balancing algorithms i.e. round robin, weighted round robin, least connection, Persistent IP, Hash IP, Hash Cookie, consistent hash IP, shortest response, proximity, SNMP, SIP session ID, hash header etc.
8	Should support Multi-level virtual service policy routing – Static, default and backup policies for intelligent traffic distribution to backend servers
9	Support for policy nesting at layer7 and layer4, solution should able to combine layer4 and layer7 policies to address the complex application integration.
10	Script based functions support for content inspection, traffic matching and monitoring of HTTP, SOAP, XML, diameter, generic TCP, TCPS. Load balancer should support ePolicies to customize new features in addition to existing feature/functions of load balancer
11	Traffic load balancing using ePolicies should support algorithms including round robin, least connections, shortest response, persistence IP, hash IP, hash IP and port, consistent hash IP and SNMP
12	Should provide application & server health checks for well-known protocols such as ARP, ICMP, TCP, DNS, RADIUS, HTTP/HTTPS, RTSP etc.

IPv6 gateway and Application acceleration

13	Should provide performance optimization using TCP connection multiplexing, TCP buffering and IEEE 802.3ad link aggregation. Support for TCP optimization options including windows scaling, timestamp & Selective Acknowledgement for enhanced TCP transmission speed TCP optimization option configuration should be defined on per virtual service basis not globally.
14	Appliance should provide real time Dynamic Web Content Compression to reduce server load and solution should provide selective compression for Text, HTML, XML, DOC, Java Scripts, CSS, PDF, PPT, and XLS Mime types.
15	should provide advanced high performance memory/packet based reverse proxy Web cache; fully compliant with HTTP1.1 to enhance the speed and performance of web servers
16	Should provide support for cache rules/filters to define granular cache policies based on cache-control headers, host name, file type, max object size, TTL objects etc..
17	Should provide secure online application delivery using hardware-based high performance integrated SSL acceleration hardware. SSL hardware should support both 2048 and 4096 bit keys for encrypted application access.
18	Should support certificate parser and solution should integrate with client certificates to maintain end to end security and non-repudiation
19	The appliance should support Certificate format as "OpenSSL/Apache, *.PEM", "MS IIS, *.PFX", and "Netscape, *.DB".
20	Should support OCSP protocol to check the validity of the certificates online. Certificate bases access control, CRL's (HTTP, FTP, and LDAP) support.
21	Should provide full ipv6 support and OEM should be IPv6 gold-certified. OEM should be listed vendor for ipv6 phase-2 certification.
22	IPv6 gateway should provide compressive support for IPv6 functions to help with ipv4-to-ipv6 transition without business disruption and must provide support for dual stack, DNS64, NAT 64, DNS 46, NAT 46, IPv6 NAT
	Should support various deployment modes for seamless integration including reverse proxy (IPv6 to IPv4, IPv4 to IPv6) and IPv6 to IPv6 transparent and reverse proxy mode.
Network security	
23	Should support advance ACL's to protect against network based flooding attacks. Administrator should able to define ACL's rules based on connections per second (CPS) and concurrent connections (CC), cookie value.
24	Appliance should have security features like reverse proxy firewall, Syn-flood and dos attack protection features from the day of installation.
25	Should support integrated network based firewall to protect against network based attacks; administrator should able to configure the security policies on per interface basis.
Clustering and failover	
26	Should provide comprehensive and reliable support for high availability with Active-active & active standby unit redundancy mode. Should support both device level and VA level High availability

27	should support built in failover decision/health check conditions (both hardware and software based) including CPU overheated, SSL card, port health, CPU utilization, system memory, process health check and gateway health check to support the failover in complex application environment
28	Should have option to define customized rules for gateway health check - administrator should able to define a rule to inspect the status of the link between the unit and a gateway
29	Support for automated configuration synchronization support at boot time and during run time to keep consistence configuration on both units.
30	should support floating MAC address to avoid MAC table updates on the upstream routers/switches and to minimize the failover delay
31	Support for multiple communication links for real-time configuration synchronizations including HA group, gateway health check, decision rules, SSF sessions etc.. and heartbeat information
32	Clustering function should support IPv6 VIP's (virtual service) switchover
33	N+1 clustering support with active-active and active-standby configurations.
Global Server Load Balancer	
34	The appliance should have feature of GSLB for future requirement
35	Should support global load balancing algorithms like global round robin (grr), VIP based weighted global round robin, global connection overflow, global least connections, IP overflow, Proximity etc.,
36	Per host name TTL value control - TTL (Time to live) controls RTO failover and hence could be different for different services w hich needs to have TTL control per host name
37	GSLB (Global Server Load Balancer) for Application Failover across Datacenter - GSLB to be supported on same appliance. The appliance should have ability to select Server Per Site for failover and BCP drills for server selection for application continuity, Should Support Topology.
38	GSLB should be capable of monitoring health of application across data center example Primary site and DR site - GSLB at the primary data center should have intelligence and visibility of application across Data center and DR
39	Support DNS Rate Limiting and DNS DDOS Protection
40	DNS report per host name - DNS report per host name provides usage trending patterns to help capacity planning
41	Capable of handling complete DNS bind records including A,MX, AAAA etc.
42	should support dynamic proximity rules instead of static proximity rules to direct the traffic to closest datacenter
Management	
43	Centralized management appliance should have extensive reporting and logging with inbuilt tcpdump like tool and log collecting functionality

44	The appliance should have SSH CLI, Direct Console, SNMP, Single Console per Cluster with inbuilt reporting.
45	Should support XML-RPC for integration with 3rd party management and monitoring
46	Should support role based access control with different privilege levels for configuration management and monitoring.
47	The appliance should provide detailed logs and graphs for real time and time based statistics

Link Load Balancer

S.No.	Hardware
1	Should be appliance based solution with 64 bit Speed Core Architecture & purpose built hardware for high performance.
2	Intel based CPU with 8 GB RAM to support multiple features and load balancing functions.
3	The appliance should have minimum 8 triple speed gigabit 10/100/1000 copper ports .and 2 x 1GbE SFP with Ports
4	Appliance should support Non Uniform Memory access (NUMA) support for better performance
5	The appliance should have 5 Gbps of system throughput
6	Should provide 4 Million concurrent connections from day one
7	Appliance should provide full ipv6 support and OEM should be IPv6ready.org gold-certified. OEM should be listed vendor for ipv6ready.org phase-2 certification only
8	Should support NAT 46/64, DNS 46/64 functionality along with dual stack
9	Should need server loadbalancer license bydefault in linkloadbalancer appliance without any additional cost

Load balancing Features

10	Support for multiple internet links in Active-Active load balancing and active-standby failover mode.
11	Appliance must have link loadbalancer license & server loadbalancer license comes by default along with base license including ipv6
12	Extensible policies (epolicies) TCL scripts to implement business logic on network without changes in application code.
13	Should support Outbound load balancing algorithms like round robin, Weighted round robin, shortest response, hash ip, target proximity and dynamic detect.
14	Should support inbound load balancing algorithms like round robin, Weighted round robin, target proximity & dynamic detect.

15	Should support Static NAT, Port based NAT and advanced NAT for transparent use of multiple WAN / Internet links.
16	IPv6 support with IPv6 to IP4 and IPv4 to IPv6 translation and full IPv6 support.
17	IPv6 support with DNS 6 to DNS 4 & DNS 4 to DNS 6 translation
18	Domain name support for outbound link selection for FQDN based load balancing.
19	Dynamic detect (DD) based health check for intelligent traffic routing and failover
20	In case of link failure, device should detect it in less than 30 seconds and divert the traffic to other available links.
21	Shall provide individual link health check based on physical port, ICMP Protocols, user defined I4 ports and destination path health checks.
22	Should provide mechanism to bind multiple health checks, support for Application specific VIP health check and next gateway health checks.
23	Should support persistency features including RTS (return to sender) and ip flow persistence.
High Availability and Cluster	
24	Should provide comprehensive and reliable support for high availability and N+1 clustering based on Per VIP based Active-active & active standby unit redundancy mode.
25	Stateful session failover with N+1 clustering support when deployed in HA mode
26	Should support USB based FFO link to synchronize configuration at boot time of HA
27	Support for multiple communication links for realtime configuration synchronizations including HA group, gateway health check, decision rules, SSF sessions etc.. and heartbeat information
28	should support floating MAC address to avoid MAC table updates on the upstream routers/switches and to speedup the failover
29	should support for secondary communication link for backup purpose
30	should support floating IP address and group for statefull failover support. Appliance must have support 256 floating ip address for a floating group
31	should support built in failover decision/health check conditions including, CPU overheated, system memory, process health check, unit failover, group failover and reboot
32	should also have option to define customized rules for gateway health check - the administrator should able to define a rule to inspect the status of the link between the unit and a gateway
33	Configuration synchronization at boot time and during run time to keep consistence configuration on both units.
Security and Application Performance	

34	should support advance ACL's to protect against network based flooding attacks. Administrator should able to define ACL's rules based on connections per second (CPS) and concurrent connections (CC), cookie value.
35	Should define ACL rules to restrict the connections per second (CPS) and concurrent connections (CC) utilizable for the clients on a specified subnet/IP or network
36	Should provide performance optimization using TCP connection multiplexing, TCP buffering and IEEE 802.3ad link aggregation.
37	should support TCP optimization options including windows scaling, timestamp & Selective Acknowledgement for enhanced TCP transmission speed.
38	TCP optimization option configuration must be defined on per virtual service basis not globally.
39	Software based compression for HTTP based application, support and high speed HTTP processing on same appliance.
40	Should support QOS for traffic prioritization, CBQ , borrow and unborrow bandwidth from queues.
41	Should provide QOS filters based on port and protocols including TCP, UDP and ICMP Protocols.
42	Should support rate shaping for setting user defined rate limits on critical application.
43	Should support integrated firewall module to protect the device itself from network based DOS and DDOS attacks.
44	Appliance should have security features like reverse proxy firewall, Syn-flood and dos attack protection features from the day of installation.
Centralized Management	
45	The appliance should have extensive reporting and logging with inbuilt tcpdump like tool and log collection functionality
46	The appliance should have SSH CLI, Direct Console, SNMP, Single Console per Cluster with inbuilt reporting.
47	Should support XML-RPC for integration with 3rd party management and monitoring of the devices.
48	The appliance should provide detailed logs and graphs for real time and time based statistics
49	Appliance must support multiple configuration files with 2 bootable partitions for better availability and easy upgrade / fallback.
50	The system should support led warning and system log alert for failure of any of the power and CPU issues