

Request for Proposal

Selection of System Integrator for Implementation of e-Governance in Urban Local Bodies and Department of Local Government, Punjab

Attachments to Volume-I



**Department of Local Government
Punjab**

June 2017







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Attachment-1: Procedure for e-Tendering

Details about the Punjab e-Tendering Website and Procedure for e-tendering																																		
S.No	Title	Description																																
1	Punjab e-Tendering Website	http://etender.punjabgovt.gov.in																																
2	View and print Tender Documents Free of cost	<p>To Download/ View the tender notifications and corrigendum follow the steps given below: Click on "TENDER SEARCH" after opening the e-Procurement website. Provide all or any one of the options like "Tender Number", "Region", "Estimated Cost", "Request Dates (from and to)", "Tender Submission date" or "any key words from Tender Description" Click "Submit" to view the results. A list of tenders will appear on the screen.</p> <p>δ. Click on  to view.</p> <p>ε. Click  to print.</p>																																
3	Digital Signatures	<p>The user must be in possession of a valid Digital Signature Certificates (DSC) which may be procured from any of the authorized Certifying Authority (CA), such as; MTNL, TCS, e-mudhra, N-code, Sify etc. In case of any problem in compatibility of DSCs, e-Procurement helpdesk may be contacted.</p>																																
4	e-Payment Options and procedure	<p>Following options are available for making e-Payment:</p> <table border="1"> <thead> <tr> <th>Mode of payment →</th><th>IPG</th><th>Net Banking</th><th>OTC</th><th>NEFT</th></tr> </thead> <tbody> <tr> <td>Purpose & Amount ↓</td><td></td><td></td><td></td><td></td></tr> <tr> <td>Registration Fee Rs 2247.00</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td></tr> <tr> <td>Tender Fee (differs for each tenders)</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td></tr> <tr> <td>Processing Fee (0.1 % of tender estimated value + service tax – Varies between Rs 562.00 to Rs 5618.00) Rs 2247.00 for tenders where estimated value is not known</td><td>Yes</td><td>Yes</td><td>No</td><td>No</td></tr> <tr> <td>EMD (differs for each tenders)</td><td>Yes</td><td>Yes</td><td>Yes</td><td>Yes</td></tr> </tbody> </table> <p>Procedure for e-Payment through OTC /NEFT: Take a print of challan from the e-payment gateway. Pay the amount in your bank and collect the receipted copy duly stamped by the bank and note UTR Number. Upload the scanned copy of challan and payment details including UTR Number in the e-tendering web site.</p>			Mode of payment →	IPG	Net Banking	OTC	NEFT	Purpose & Amount ↓					Registration Fee Rs 2247.00	Yes	Yes	No	No	Tender Fee (differs for each tenders)	Yes	Yes	Yes	Yes	Processing Fee (0.1 % of tender estimated value + service tax – Varies between Rs 562.00 to Rs 5618.00) Rs 2247.00 for tenders where estimated value is not known	Yes	Yes	No	No	EMD (differs for each tenders)	Yes	Yes	Yes	Yes
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EMD (differs for each tenders)	Yes	Yes	Yes	Yes																														

5	Registration	<p>Steps to be followed for registration of bidders:</p> <p>Click on "Register" and fill the online registration form. Pay the registration fee of Rs. 2247/- through e-Payment Gateway (IPG and Net Banking). Note the User ID and Password allotted by the system. Upload following documents in scanned format:- Request on Company Letter Head PAN Card Enlistment certificate, if any. Registration Acknowledgement</p> <p>After this the bidder will have to contact Punjab e-Procurement Helpdesk for the activation of his User ID.</p>
6	Login & Participation in the Tendering process	<p>Log in with your User Id and Password (which was allotted by the system after registration). For participating in the tendering process follow the instructions given below:</p> <p>Insert the PKI (which consists of your DSC) in your PC USB port (make sure that necessary driver software of PKI is installed in your system). To open the Microsoft Internet Explorer (from the Desktop of your computer) click on the Internet Explorer icon, or Go to Start > Programs > Internet Explorer. Type etender.punjabgovt.gov.in in the address bar, to access the Login Screen. Enter e-Procurement User Id and Password, click on "Go". Click on "Click here to login" for selecting the DSC. Select the Certificate and enter DSC Password. Re-enter the e-Procurement User Id & Password. Select the Department (in this case Punjab Information & Communications Technology Corporation Ltd.) from the drop box in whose tender you intend to participate.</p>
7	Online Query Resolution System/ Pre-bid meeting	<p>Under the Department selected as explained at ser. No. 6 above click on the tender, then take the email option and you will be able to upload your queries under the "Pre-bid meeting option". The queries can be sent to PMIDC through email at egov.dolg@gmail.com in .xls or .xlsx format carrying details like S. No., referred clause, query/suggestion. Queries not sent in the required format shall not be entertained.</p>
8	Online Request for Tender Documents	<p>Steps to be followed for online request for tender:</p> <ol style="list-style-type: none"> Click on "Un Applied" to view / apply for new tenders. Click on  for online request. Pay the Tender Fee and Processing Fee online. Click  to view the tender documents which are available in the user profile (<i>Tender document screen appears</i>). Click on "Click here to download" to download the documents on your desktop
9	Other Department tenders	<p>To apply for other Department tenders, Click on "Select Department" to switch over to other Department Tenders and repeat procedure given at point 7 above.</p>
10	Pay EMD and update details in the web site	<p>Steps to be followed for uploading supporting documents:</p>

		<p>From the  screen click on "Click here to enter EMD Details" (which is displayed in "Red color") to feed the EMD details and upload the scanned copy of challan with UTR Number in case payment is made through OTC or NEFT.</p> <ol style="list-style-type: none"> When the user finishes with the payment of EMD, the "Red color" will automatically turn to "Black color". Click "Click here to Download Empty Document" and download the editable Technical/ Price bid documents and save the same without changing the "File Name" on your Desktop. The user may log off and fill up the editable documents off line in his own time.
11	Upload files – Technical Sheet/ Price bid Sheets and attach documents to the tender	<ol style="list-style-type: none"> From the  screen click on "Click here to Upload the Filled File" (which is displayed in "Red color") Select the filled file/ files which were saved in the same name. Click on "OK" to upload the filled Technical and Price bid documents to the tender. (Note that when the user uploads the filled Technical and Price Sheet, the "Red color" will automatically turn to "Black color" which reflects that user is ready for the final submission). Click "Click here to Attach the General Documents" to upload all the documents which are already saved in the vendor profile. Attach the required documents to the concerned tender from general document section to the tender document screen.
12	To Submit the Tender	<p>Bids once submitted cannot be revised. Therefore, prior to submission, verify whether requisite documents have been attached and uploaded.</p> <p>Note down / take a print of "bid control number" once it is displayed on the screen.</p>
13	To view the tender opening process	<p>Tender opening event can be viewed online as per procedure given below:</p> <p>Log in with your User Id and Password (which was allotted by the system after registration).</p> <p>Select Department from "Select the Department" drop down box.</p> <p>Click on "OPENED". Click on the  icon to view bid documents of all bidders participating in the tendering process.</p>
14	e-Procurement Help Desk details	<ol style="list-style-type: none"> Portal: http://etender.punjabgovt.gov.in Office Address: Punjab Infotech, (e-Procurement Helpdesk), S.C.O - 101, 2nd Floor, Sector – 47 C, Chandigarh. Visiting Hours: 8 AM to 8 PM (Monday to Sunday except Public Holidays) Contact Details: Tel : 0172-3953764 Fax : 0172-3934665 (Fax) Mobile : 09257209340, 08054628821 E-mail : etenderhelpdesk@punjabinfotech.in, etender.helpdesk.pictc@gmail.com

Attachment-2: Functional Requirements Specification

Functional requirements provided below for all the application modules are minimum in nature. Further, this should be read in conjunction with the As-Is Status and To Be requirements as mentioned in this RFP. The requirements to be captured and finalized in the FRS (Functional Requirement Specifications) and SRS (System Requirement Specification) are expected to be in much greater detail as compared to what is contained in this RFP.

2.1 General Requirements of COTS/Bespoke Solution

S.No.	Requirement
General Requirements	
1	Should be multi-tier, SOA-based (having browser enabled front-end for users and as well as for system administrative functions) and having centralized database, web & application server
2	Should support interoperable & scalable applications, services, interfaces, data formats and protocols
3	Should support any one of the major Operating Systems like Microsoft Windows, UNIX and Linux
4	Should work on latest version of the proposed RDBMS based database systems
5	Database should be at least ODBC/JDBC compliant
6	Should be compatible with leading Web Browsers in India
7	Development environment and databases should be from an OEM with presence in India (and easy availability of skilled resources for the product in India) and should not restrict Government Agencies from using application / data / database structure in any future requirement
8	Should support the English and Punjabi character sets
9	Should provide browser based access on a 24 x 7 x 365 days
10	Should enforce secure login as per the Login process with automatic where the government official/staff will have to authenticate his/her Username, Password to access the home page.
11	Should secure Web Application Firewall (WAF) with transparently identify and stop fraudulent transactions.
12	Should be Correlate fraud and WAF policies for granular identification and blocking of illicit activity.
13	License for the proposed Solution, if required, should be enterprise-wide for all the 'transactional users' of the envisaged project without any restriction on access / usage of any kind of functionality
14	On successful login, should display the Main page or the Home page of the browser as customized by user with specific ULB/location and links to various services as per customization
15	Should provide ability to securely access the application(s) from a remote location
16	Should provide for online help, general information and instructions
17	Should use standard drop-down lists wherever possible for standard values to be selected by the User
18	Should have capability to cut/ paste/ format, etc. at a field level on the inputs screens, output screens, etc.
19	User Interface of proposed Solution should make use of horizontal and vertical scroll bar feature wherever needed, depending on the layout of the window
20	Should have an ability to configure restricted & mandatory fields (where relevant)

S.No.	Requirement
21	Should at the time of input pre-fill the field with the next value in the restricted list that matches the characters which have already been entered
22	Should include a calendar tool which can be used to graphically select a date when date-field is to be used
23	Should provide wide range of security features such as Authentication, Single Sign-On (SSO), Authorization and Integrated User management
24	Should store all authentication credentials of users in an encrypted format
25	Should suspend the user in case of a specified number of unsuccessful attempts to logon to the system and these suspended user IDs should only be reactivated by system administrator
26	Should allow administrator to 'forcibly' log out users, in case needed
27	Should provide facility for recording of audit trail and should maintain following categories of logs: <ul style="list-style-type: none"> • System access logs • System health logs • System error logs
28	Should have an integrated audit log capable of recording, displaying and reporting all transactions occurring in the system
29	Should time-out after a stipulated period of idle time
30	Should be natively built based on 64 bit operating system
Usability Requirements	
31	Should be UNICODE compliant and should provide complete support for Punjabi and English language. It should be able to perform the necessary display, read, write, update, query, generating data including all reports etc. operations in Punjabi and English for all modules / functions.
32	The screen layout and designs, menu options, other system formats, etc. should be designed keeping in mind ease of use by the department staff. A final signoff from the nominated department staff to be taken before finalizing this.
33	Users should be able to customize browser home page as per his/her interest with the options selected in proposed Solution.
34	Should facilitate Information Dissemination through User Interface of the Application Modules
35	Should allow only the authorized Department officials/ Supplier to update information as obtained from various sources
36	Should be able to add new information components besides the above Should be accessible to citizens, department officials, other government officials
37	Should not allow any user to upload information beyond his/ authorized sections
38	Should have different presentation layer for different users i.e. for Information seekers, updaters, approvers, etc.
39	Should notify the HODs once information is updated over the portal
40	Should allow the HODs to either approve or reject the information update
41	Should update information over the portal only after digital signatures of the concerned person has been put up on the information update
42	Should ask for digital signature of the concerned person in case of rejection also
43	Should ask for changes from the Department Head desired in case of rejection by the HODs
44	Should notify the Department/ Supplier both in case of acceptance or rejection of the information update
45	Should request Department/ Supplier to put digital signature after each updation
46	Should have a counter at the bottom of the page to record the number of people hitting the website, this would prove beneficial in capturing the usefulness of information

S.No.	Requirement
47	Should auto generate grievances in case of concerned person or Department/ Supplier are not performing against their set SLAs
Forms/ Templates Availability	
48	Should store all the forms/templates at predefined location for selected services
49	Filling of forms should be possible off-line i.e. without staying connected to internet
50	Should be able to retrieve form/template from the predefined location
51	Should allow for form/template to be easily downloadable both through HTML and word format
52	Should give service/ process/sub module/ module wise list of forms/templates
53	Should provide for printable version of the form/template
54	Should give an error message in case it is not able to retrieve the form/template from the given location
55	Should have a provision for uploading new version of the forms/templates as and when it is required to change the version
56	Should maintain the version control for the form/template
57	All the forms/templates must carry a version identifier
58	Should have a security feature embedded for changing the version of the form and should allow only predefined process owners to change the form version
59	Should maintain log for all version change with the details of the process owner making version change
60	Should not allow to change the fixed fields of the form and should be in read only version
61	Should be able to make available form/templates online and via portal
62	Should allow for easy searching of the form/template
63	Should allow for easy and user friendly layout for locating service request form
64	Should be able to export forms in multiple formats to ensure compatibility
65	Should have a life counter feature to keep track of number of forms being downloaded from the portal
Payments	
66	Should provide for and allow financial transaction functions
67	Should check for all details of the service before initiating the payment
68	Should enable payment option only when all the fields of service request are filled
69	Should highlight & return back fields having inconsistencies / error for rectification
70	Should retain all information of service request form (beside the inconsistencies)
71	Should return back after successful checking of fields with prompt of confirmation to open payment page
72	Should open a new page for recording payment details against the service request
73	Should allow payment to be registered on service application request against: <ul style="list-style-type: none"> • Payment against the service • Payment against the dues / payments as defined under service charter of the specific service
74	Should record and maintain all details of payment against a unique service application number
75	Should be able to maintain all the payment records in a database and retrieve the same when required.
76	Should be able to open a page with declaration on successful payment output

S.No.	Requirement
77	Should able to record specific payment details on the service request form after successful payment has been made
78	Should be such that it should allow for part payment function
79	Should be able to retrieve information of first part payment during the final delivery of service output for final payment as per the overall payment specified for service request
80	Unique application number for requested service
81	Should be able follow the payment cycle as mentioned above for the final payment also
82	Should be able to maintain all records of part payments as well as consolidated payment amount against the service request
83	Should support online payment, including the following fields: <ul style="list-style-type: none"> Facilitate payment against dues & recoveries online through a payment gateway (interfaced with a bank) Supplier may be required to integrate with other payment options as & when required. The deployed solution should be able to support multiple payment gateways. Prompt the user to make payment of late fee in case the last date of payment is passed. Facilitate automatic updation of the information on the applicant record, upon realization of the submitted money Payment made should be credited to the proper head of account as per the rules and directives of the Purchaser. The system should allow transaction through approved financial instruments such as Credit Cards, Debit Cards and Online Banking
84	The payment function should be against specific invoice / bills for the given services
85	Should ask for the confirmation from user before initiating payments function
86	Should allow for user re-verification before initiating payment function through transaction unique ID allocated to the user
87	Should provide for migration to payment gateways from portal in a secure manner
88	Should allow predefined data / information to be provided to payment gateways
89	Should be able to generate unique ID codes for every transaction
90	Should be able to correlate and confirm: <ul style="list-style-type: none"> User data / information through unique ID code generated Payment gateway data information through Unique ID code
91	Should provide for confirmation of transaction to the user
92	Should provide for payment receipt against the payment
93	Should provide printable version of receipt
94	Should store the payment details in the corresponding account heads of the Punjab Local Government Department under which bills are paid.
95	Should have interface with the monthly accounts module and store the payment details in the corresponding office monthly accounts.
96	Confirmatory Receipt issued should have a unique registration number against the transaction
97	Should not store any critical information of the user provided on the secured payment gateway
98	Should allow for data / information transfer / flow across Applications during payment process
99	Should facilitate automatic updation of the information on applicant record on successful payments made

S.No.	Requirement
100	Should not allow any initiation of payment function beyond prescribed days limit for transaction. The system should be able to provide user friendly information for such transactions
101	Should not allow for initiation of payment in case of non-availability of records of invoice / bills against which payment function is initiated. System should be able to provide information for such transactions
102	Should provide user friendly information wherever required
103	Should follow predefined payment rules and regulation as defined from time to time by the application. The same should be updated in the application.
104	Should maintain records of such transaction for users accounts respectively
105	Should be able to send emails on registry value of the user account on payments.
106	Should maintain all information and records of user transaction tagged to the user account and also provide for viewing of such information as and when required by the user
107	Should not allow any changes to be made by the user into the following: <ul style="list-style-type: none"> • Past records • Ongoing transaction once confirmation on initiation of such a transaction is given by the user • Any values maintained for such transaction
Status Check	
108	Should have integrated auto status tracking features embedded in the overall architecture of the system
109	Should keep track of all the service requests from the citizens along with the respective unique application reference id generated at the time of the service request receipt
110	Should be available in public and administrative view
111	Should be able to keep track of the status of all the service requests with the help of the respective unique reference id (application id) and map the current status with pre-defined service level against each process
112	Should be able to detect any change in the status of a given unique application reference ID
113	In case there is a change in the status of a unique application reference ID, should update the status information in the database
114	Should have provisions for intimating the applicant about the current status of his/her application through SMS and/or Email especially if there is a change in the status with respect to final delivery of the service
115	Should not provide details about the internal SLAs to the applicant and only provide update about the status with respect to the final delivery. This feature should also allow the system to update the applicant if there is any change in the service level of the final delivery
116	Should display the links for status check for each service from where the applicant can retrieve the status information by entering the unique application reference ID
117	Should also allow the applicant to retrieve his/her service request through the web portal by entering the reference id in the link provided on the portal
118	Should display the number from where the applicant can retrieve the status information by sending SMS along-with the unique application reference ID
119	Should also allow the applicant to retrieve update about his/her service request by sending a SMS containing the unique application reference id to the Application Module
120	Should display an appropriate message if the system is unable to retrieve the details due to any reason like connectivity issues, maintenance issues, etc. and also provide contact details of the system administrator and alternate link (if available)
121	Should have Side Menu on each page so as to reflect the contents of the containing directory, making it easier to navigate the site and locate the link for retrieving update against a given reference ID

S.No.	Requirement
122	Should be adequate security features built in the architecture of the system to ensure that it cannot be hacked or manipulated
123	Should not allow the users to edit the details of the application upon retrieving the status update against a given reference id
124	Should allow the end user to print the status update information if the applicant is retrieving the status through the portal or email
125	Should have provision for Calendar System, which displays the dates and time of schedule events on a page formatted as a standard monthly calendar
126	Should have provisions such that the System Administrator can add/remove/modify the hierarchy of the Government officials with adequate authentication mechanism
127	If there is any modification in hierarchies of the relevant authority against a given service, should automatically map escalation levels with the new hierarchy of Government officials

2.2 Corporation & Council Management System

Birth & Death Certificates

S. No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> The portal should have information about the Birth / Death processes & documents required for the convenience of the citizen. The system should have facility to deliver the service online & through SEWA KENDRA. The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have the facility to apply online and through SEWA KENDRA. The system should have facility to download required forms. The system should have provision for e-forms. The system should have facility for online payment and through SEWA KENDRA. The system should have facility to send the alerts through SMS and email. The system should have the provision to maintain Birth Register as defined in the process. The system should have provision to maintain the death register as defined in the process. 	
2.	Registration of Birth /Death	<ul style="list-style-type: none"> The system should provide an interface to hospitals/ individual for online registration of birth/death. Alternatively, same may be done by SEWA KENDRA official using the similar interface once the information is received by the SEWA KENDRA official. The system should have the facility for online application for birth and death certificates. Each application being tracked by a unique registration number. There should be facility to make online payments for the issuance of Birth/Death certificates. There should be facility to cancel the Registration details and provision for Remarks that can be added with the cancelled record. The system should capture the request for Death certificate and retrieve details of the applicant based on the Registration Number. The system should have the provision for Health Officer to approve the request with the help of digital signature or reject. The system should have facility to send email and SMS alerts to the applicant about the status of the process. The system should have the facility to deliver the issued certificate via mail by SEWA KENDRA official to the applicant. 	<ul style="list-style-type: none"> Interface in the web portal Interface with workflow/document management system Interface to use digital signature certificate The system should interface with Mailing & Messaging System and SMS application.
3.	Name correction in birth/death certificates	<ul style="list-style-type: none"> The Govt. official should be able to add/modify/delete the Birth and Death details by based on the approval/right as per process. The system should have the facility to upload additional documents required. There should be facility to make online payments for the issuance of new Birth/Death certificates. 	<ul style="list-style-type: none"> Interface with workflow/document management system Interface to use digital signature certificate

S. No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have facility to send email and SMS alerts to the applicant about the status of the process. The system should have the facility to deliver the issued certificate via mail by SEWA KENDRA official to the applicant. 	<ul style="list-style-type: none"> The system should interface with Mailing & Messaging System and SMS application.
4.	Late Registration of Birth/Death	<ul style="list-style-type: none"> The system should have the facility to allow the late registration of birth/death as per the rules. The application should be automatically routed to the concerned Govt. Officials as per the duration gap of the registration as per the Birth/Death registration rule. 	<ul style="list-style-type: none"> Interface with workflow/document management system
5.	Name entry for Birth Registration	<ul style="list-style-type: none"> The system should allow the registration of birth with entering the Name of Child. The system should allow to enter the name of child at later stage in the existing record The system should have the facility to highlight the entry in red in the record and reports generated. 	
6.	MIS Report	<ul style="list-style-type: none"> The system should generate the critical statutory reports related to Birth and Death based on record maintained in database for same. The system should able to generate the Reports of Births sex wise, year wise etc. The system should able to generate the Reports of Deaths sex wise, year wise etc. The system should able to generate the MIS for Actual time taken for issuing a Birth/ Death certificate. The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Property Tax Module

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> The system should assign the unique property ID based on the Process defined in the ULBs. The system should capture description of property like Khasara Number, mutation number, number of floors, area covered, land owner, co-owner, mailing & permanent address, house style, built year, individual room measurements (if required), compliance with the regulations of the building authorities, public / private utilities mapping to the plot and other required details. The system should have the facility to classify the property based on its type. The system should allow changing the type of property. The system should have facility to deliver the service online & through SEWA KENDRA. The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have the facility to apply online and through SEWA KENDRA. The system should have facility to download required forms. The system should have provision for e-forms. The system should have facility for online payment and through SEWA KENDRA. The system should have facility to send the alerts through SMS and email. Approximately for 16,68,833 owners property tax will be managed through the system. 	
2.	Assessment of Property Tax	<ul style="list-style-type: none"> The system should have the facility to make entry in system by inspector after site visit and assessment of the same by the superintendent The system should have the facility to download the Assessment letter from the portal. The system should also have the facility to send the Assessment letter to citizen by email. The system should have the facility to intimate the citizen through SMS. The system should have the facility for citizen to raise the objection (if any) after getting the assessment letter. If there is no objection been raised with in specified time, the system should automatically update the TS1 database and generate bill through system. 	<ul style="list-style-type: none"> Integration with document and workflow management system. Interface with Mailing & Messaging System and SMS application
3.	Collection of Property Tax	<ul style="list-style-type: none"> The system should have the facility to send SMS alert to citizen for payment & due date. 	<ul style="list-style-type: none"> Interface with Payment gateway

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have the provision for online payment of house tax through portal & SEWA KENDRA. The system should have all the irregularities in tax payment predefined; to automatically detect any suppression of fact and details on the part of the citizens in paying the tax. MIS should be generated listing suspect cases and reasons citing irregularities The system should have interface with to track the defaulters of house tax payment. The system should have inbuilt check and balances to enable the Enforcement authorities to track citizens evading tax payment The system should have provision to make a qualitative and quantitative assessment of the tax paid and shall arrive at logical decisions that will help urban local bodies in decision making on which raids, inspections and imposition of penalties on the defaulters The system should have the facility to analyze and forecast revenue trends based on tax collection. For house tax assessment, the system should provide the complete flow of data of approval/rejection by Inspector, Superintendent, DDLG, EO, House tax committee. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application
4.	e-filing of Property Tax	<p>The system shall also have the functionality to e-file the property tax by tax payers based on their self-assessment. The system shall have all the functionalities related to e-filing including, but not limited to:</p> <ul style="list-style-type: none"> Enter the property details (including address, name of owner, age, construction/renovated year, floor wise covered, non-covered areas, etc.) for all types of properties like residential houses, flats, commercial buildings, restaurants, hotels, malls, etc. Compute the property taxes automatically as per process and rules of Government of Punjab. System shall support dynamic calculation for late fee, interest, rebate, etc. as on the day of challan generation. Online generation and printing of property tax challan Payment of tax online or offline. Track the status of property tax filled Fetch the data of previous year property data while e-filing for current year. Format of self-assessment form is attached as Attachment 11 	
5.	Issuance of T.S. 1 Certificate	<ul style="list-style-type: none"> The system should allow the authorized user to edit/modify the Title and Tax data. The system should have the facility for applying online or through SEWA KENDRA for the Issuance of T.S. 1 Certificate. 	<ul style="list-style-type: none"> Integration with document and workflow

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have the facility of e-forms. The system should have provision for Superintendent/Clerk to verify details from TS1 database and get online No Dues Certificate (NDC) from all branches of ULB. The system should have facility for payment at the accounts branch online or through SEWA KENDRA and finally updating of the TS1 database. The system should have the facility for change of ownership of property, for which the system should have provision to generate the receipt number online as per the TS1 database. The system should allow Superintendent to verify the same and the record will be updated in the TS1 database. 	<p>management system.</p> <ul style="list-style-type: none"> Integration of all modules for verification and getting online NDC.
6.	MIS Reports	<ul style="list-style-type: none"> System should able to generate reports related to tracking of cases pending and at what stage of house tax assessment. The system should able to generate the records of previous ownership and current ownership. The system should able to generate the Payment received/pending details. The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Water & Sewerage Module

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> Portal should have all information including the processes and documents required for the convenience of citizen. System should capture all details required for application. System should have facility to apply online and through SEWA KENDRA. System should have facility to download required forms. System should have provision for e-forms. System should have facility for online payment and through SEWA KENDRA. System should have facility to send the alerts through SMS and email. System should have the provision to maintain the water/ sewerage consumer related data. System should have facility to deliver service online & through SEWA KENDRA Approximately 19,48,146 water and sewerage connections will be managed through the system. 	

S.No.	Services Covered	Functionality	Integration Requirements
2.	Sanction and Installation of New Water/ Sewerage Connection / Re-connection Approval of Water/ Sewerage Disconnection	<ul style="list-style-type: none"> The system should have the facility to apply and submit the online application for new water / sewerage connection / disconnection / reconnection. The system should have the facility to upload documents like plumber certificates, NOC from Land lord in case of rented property etc. along with the online application. The system should have the facility to track the application/file status of the applicant. The system should have workflow system to route the documents through the SEWA KENDRA and online approval / rejection process by HOD / Superintendent The system should have facility to send SMS / Email alerts if additional payment needs to be made by applicant after site inspection or for any other information. 	<ul style="list-style-type: none"> Integration with document and workflow management system. Interface with Mailing & Messaging System and SMS application
3.	Payment of Water & Sewerage Bill	<ul style="list-style-type: none"> The system should have the facility to enter/capture the meter reading as on date for metered-connections. The system should have facility to maintain the automated system of ledger according to zones. The system should have facility to generate the water and sewerage Bills. The Citizens should be intimated by SMS and email alerts about the bill due dates and also confirmation after online payment/ Payment. The system should have the facility to make online Payment using the portal through payment gateway. The portal will have the interface to provide the facility to citizens for making online bill amendment process. The system should able to log all transaction details in the file server. The System should have provision for approve/reject the same, based on which the billing ledger and other related docs should also be updated. 	<ul style="list-style-type: none"> Integration with accounts and finance Module. Interface with Mailing & Messaging System and SMS application Integration with workflow and document management system.
4.	Change of Title in Water & Sewerage Bill	<ul style="list-style-type: none"> The system should allow the authorized user to change the title (Owner Name). The system should have the remarks field for adding the details. The system should allow the concerned official to approve/ reject the Application. The system should automatically verify the details with Property Tax system. After change in title the same should be updated in other linked sub systems. 	<ul style="list-style-type: none"> Interface with Property Tax
5.	Assessment of Disposal Charges	<ul style="list-style-type: none"> The system should have pre-defined forms/e-forms for collecting the assessment data. The system should have the facility for WSSA categorization as per the process defined. 	<ul style="list-style-type: none"> Integration with Payment gateway

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should automatically calculate the disposals based on the data entered by the officials. The system should automatically generate the bill based on the assessment. 	
6.	Water & Sewerage Bill Amendment	<ul style="list-style-type: none"> The system should allow applying for bill amendment online. The system should have e-forms. The system should allow the authorized user to do the necessary changes in the bill generated. The system should automatically update the changes to other linked sub systems. 	
7.	General	<ul style="list-style-type: none"> The System should facilitate accessing all water / sewage data, updating network information, integrating work orders, finding citizen information, preparing reports through GIS. With built-in spatial analysis tools the System should support network tracing as well as analyze development trends affecting future demand. The system should have Visualization and mapping features 	
8.	MIS Reports	<ul style="list-style-type: none"> The entire billing details should be captured by reports. There may be separate reports for late payment of bills, the money received month wise, year wise. Accounts and finance will have further reports customized for their needs. The system should able to generate Reports pertaining to bill amendments. The system should able to generate Reports pertaining to new connection, re-connection, disconnection etc. The system should able to generate List of water / sewage Connections Sanctioned in Specified Period The system should able to generate Arrear Demand Register (All Water Connections Arrears list) The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Complaints & Grievances Module

S.No.	Service Covered	Functionality	Integration Requirements
1.	Complaints and Grievances	<ul style="list-style-type: none"> The system should have facility to deliver the service online & through SEWA KENDRA. The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have the facility to apply online and through SEWA KENDRA. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with Helpdesk for Citizen.

S.No.	Service Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should have facility to download required forms. • The system should have provision for e-forms. • The system should have facility for online payment and through SEWA KENDRA. • The system should have facility to send the alerts through SMS and email. • The system should have clear classification of complaints based on their types. • The system should have the facility for all the stakeholders to lodge complaints through Portal. • The system should also provide the facility to lodge complaints through mobile, SEWA KENDRA and by telephone. • The system should generate a unique ticket number for each complaint based on complaint type and the same should be communicated to applicant by SMS, telephone and / or email. • The system should have the provision for assigning the complaint based on the ticket number, ULB/location etc. • The system should have the provision for Auto routing of the complaints to the concerned ULB / Department / Section. • The system should have provision for escalation of non-resolved cases with defined timeline to the ULB/Concerned head. • The system should have the facility to track the complaint status by ticket number through portal, SMS and telephone. • The system should have facility to communicate the resolution done through email and SMS. The status should also be updated on portal. • The System should allow for feedback mechanism by SMS/Internet/telephone for the resolved cases • The system should be capable of integrating with social platforms/tools 	<ul style="list-style-type: none"> • Integration with document and workflow management system.
2.	MIS	<ul style="list-style-type: none"> • The system should generate the report showing the total number of complaints received and the issued resolved. • The system should generate the Reports showing time taken for resolution. • The system should generate the Reports showing complaints pending branch-wise, location-wise etc. • The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

S. No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> • The system should have facility to deliver the service online & through SEWA KENDRA. • The portal should have all the information including the processes and documents required for the convenience of citizen. • The system should capture all the details required for application. • The system should have the facility to apply online and through SEWA KENDRA. • The system should have facility to download required forms. • The system should have provision for e-forms. • The system should have facility for online payment and through SEWA KENDRA. • The system should have facility to send the alerts through SMS and email. • The system should have the facility to download form, online filling and submission of form. • The system should maintain the details about Licenses - category wise like commercial unit, rickshaw, trolley, slaughter house • The system should maintain the details about License holder details, like, owner name, shop /rickshaw, address, purpose, date of issuance, license number etc. • The system should have Facility to create/edit/update the deficiency/Inspection report against the application. • The system should have facility to assign the application to respective Inspector for survey and verification. • The system should have the facility to assign unique identification number based on license type, which will be used for all future transactions of the license. • The system should allow intimating the applicant about the payment of license fee through SMS/ e-Mail. • The system should allow the online payment of license fee. • The system should allow the Generation of receipt for the payment. • The system should allow printing the license, sending the license through e-mail. • The system should automatically send the alerts to the License holder 15 days before the license expiry. 	<ul style="list-style-type: none"> • Interface with Mailing & Messaging System and SMS application • Integration with Payment gateway <p>Integration with Accounts & Finance</p>
2.	Issuance of License for Commercial Unit	<ul style="list-style-type: none"> • The system should allow the SMS alerts to the applicant regarding the date of inspection / visit by the inspector, approval / rejection of the application. • The system should allow the inspector to enter the field visit details and filed visit report should be generated and automatically routed to the superintendent. 	<p>Interface with document/workflow management system</p>

S. No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should allow the superintendent to approve or reject the report. 	
3.	Issuance of License for a Slaughterhouse	<ul style="list-style-type: none"> The system should allow the MOH/ superintendent to verify the report prepare by inspector. The system should allow the MOH/ superintendent to approve or reject the report. 	Interface with document/workflow management system
4.	Issuance of License for a Mule Cart	<ul style="list-style-type: none"> The system should allow the MOH/ superintendent to verify the report prepare by inspector. The system should allow the MOH/ superintendent to approve or reject the report. The system should allow generating paper based license. However the number plate will be given to the applicant. 	Interface with document/workflow management system
5.	Issuance of License for a Rickshaw	<ul style="list-style-type: none"> The system should allow the MOH to verify the report prepare by inspector. The system should allow the MOH to approve or reject the report. The system should allow generating paper based license. 	The system should interface with workflow/document management system
6.	MIS Reports	<ul style="list-style-type: none"> The system should generate the Reports showing the number of licenses approved/rejected. The system should generate the Report showing the number of license pending for approval/rejection. The system should generate the reports for which data was submitted after each inspection. The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Health & Sanitation

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> The system should have facility to deliver the service online & through SEWA KENDRA. The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. 	

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have the facility to apply online and through SEWA KENDRA. The system should have facility for online payment and through SEWA KENDRA. The system should have facility to send the alerts through SMS and email. The system should capture the details about the training needs of various staff and maintain the surveillance data of field survey System should allow user / citizens to file complaint through SMS / e-mail/ website. If Mobile No of the defaulter has been captured, system shall intimate the defaulter through SMS/ e-Mail about the complaint filed against him apart from hard copy notice The system should be able to place requisition for equipment, medicines, etc. The system should maintain the records of each proceeding and it will be linked to the respective case id. 	
2.	Issuance of Challan for dumping dirt	<ul style="list-style-type: none"> The system should be linked with complaint & grievances module. The system should have facility to enter the details of the filed visit. The system should have facility to send the notice to concerned citizen through e-mail and alert for notice through SMS. The system should have the facility to update the Challan register automatically after generating notice. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Interface with Complaint & Grievance module
3.	Spray / Fogging for Prevention of Diseases	<ul style="list-style-type: none"> The system should allow Sanitary Inspector/ Chief Sanitary Inspector to prepare the program for month. The system should have a facility to control and manage for example, Malaria unit that includes activities like disease surveillance, etc. System generated e-mail / SMS notification to the concerned urban local body members such as Mayor, chairman, ward member about the schedule of spray/fogging for prevention of malaria, dengue & other diseases, system should allow the urban local body members to update the Department through SMS / website whether the schedule activity has been carried out as per the timelines. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application
4.	Penalty for Stray Cattle	<ul style="list-style-type: none"> The system should have facility to enter the details for Stray Cattle. The system should be integrated with complaints & grievances. The system should have to capture the details of penalty. 	<ul style="list-style-type: none"> Integration with Accounts & Finance Integration with Payment gateway

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should have online payment facility. • The system should have the facility to update the Goshala records. 	<ul style="list-style-type: none"> • Interface with complaints & grievances.
5.	Sterilization of Stray Dogs	<ul style="list-style-type: none"> • The system should have facility to update the operation. • The system should able to generate the report related to vaccination of stray dogs. • The system should be integrated with complaints & grievances. 	<ul style="list-style-type: none"> • Interface with complaints & grievances.
6.	MIS Reports	<ul style="list-style-type: none"> • Project details under various scheme • Area coverage of fogging and spraying • The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Fire Services Module

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> • Should have all the information including the processes for the convenience of citizen. • Should have the facility to apply online and through SEWA KENDRA. • Should have facility to download required forms. • Should have provision for e-forms. • Should have facility for online payment. • Should have facility to send Alerts through SMS and email 	<ul style="list-style-type: none"> • Interface with Mailing & Messaging System and SMS application • Integration with Payment gateway
2.	Conducting Fire Rescue operations	<ul style="list-style-type: none"> • Should have the facility to send SMS alerts by the Control room attendant to Shift In-charge on receiving the call. • Should have provision that citizen can call for service through Helpdesk for Citizen • Should have facility to intimate the rescue team by SMS. • Should have provision for entering data in the system by the shift in charge for the details of the accident after the resolution of the matter. 	Interface with SMS application
3.	Issuance of Fire Call Report	<ul style="list-style-type: none"> • The system should have the facility to apply online and through SEWA KENDRA for fire call report. • The System should allow generation of fire call report based on the details entered regarding a fire operation. • The system should have facility to send digitally signed fire call report through email. The same should also be delivered from SEWA KENDRA in Hard copy. 	Interface with Mailing & Messaging System and SMS application
4.	Issuance of NOC for Fire Safety	<ul style="list-style-type: none"> • Should have provision to make online application through portal and SEWA KENDRA. • Should have provision to make online payments for Issuance of fire call report/NOC Fire Safety and SMS alert on confirmation status of report. • Should have the facility to enter the site inspection details as per National Building Code requirements. • Should have provision for online approval and generation of digitally signed NOC for Fire Safety certificate. • Should have facility to send digitally-signed NOC through email. The same should also be delivered from SEWA KENDRA in Hard copy 	<p>Integration with Payment gateway</p> <p>Interface with Mailing & Messaging System and SMS application</p>
5.	MIS Reports	<ul style="list-style-type: none"> • The number of fire call received month/year wise. • The time taken to bring the fire under control and the common causes of fire recorded. • Summary of Issuance of fire call reports. • The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Rent, Lease & Tahebazari

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> • Should have facility to deliver the service online & through SEWA KENDRA. • Should have all the information including the processes and documents required for the convenience of citizen. • Should capture all the details required for application. • Should have the facility to apply online and through SEWA KENDRA. • Should have facility to download required forms. • Should have provision for e-forms. • Should have facility for online payment and through SEWA KENDRA. • Should have facility to send Alerts through SMS and email • Approximately 22,011 real estate lease properties and 22,011 rental units will be managed through the system. 	<ul style="list-style-type: none"> • Interface with Mailing & Messaging System and SMS application • Integration with Accounts & Finance
2.	Payment of Rent and Lease	<ul style="list-style-type: none"> • The system should have facility to view and upload Rent & Lease contract. • The system should have facility to send SMS about due date, payment due, etc. • The system should allow the citizen for online payment as per contract and through SEWA KENDRA. • The system should have provision for in workflow for routing of the documents through the SEWA KENDRA and online approval/rejection by rent and lease branch. • The System should provide the functionality for checking of nonpayment cases and issue notices and forward these further for court cases, if required. 	<ul style="list-style-type: none"> • Integration with document and workflow management system. • Integration with Payment gateway
3.	Removal of Temporary Encroachment (Tahebazari Branch)	<ul style="list-style-type: none"> • The system should allow the inspector to enter the details of field visit. • The system should have the facility to calculate the compensation fee. • The system should have facility to automatically update the 229 register after removal. • The system should allow the applicant to apply and pay compensation fee online or through SEWA KENDRA. 	<ul style="list-style-type: none"> • Integration with Accounts & Finance • Integration with Payment gateway
	Collection of Tahebazari Fees	<ul style="list-style-type: none"> • The system should have facility to view and upload Tahebazari contract. • The system should have facility to send SMS about due date, payment due, etc. • The system should allow the citizen for online payment as per contract and through SEWA KENDRA. 	<ul style="list-style-type: none"> • Integration with Accounts & Finance • Integration with Payment gateway

S.No.	Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should generate receipt with receipt number after receiving payment as per process. The system should update the R-2 register & R-5 register based on case automatically. 	
4.	MIS Reports	<ul style="list-style-type: none"> Reports pertaining to payment received month wise, year wise. Reports pertaining to nonpayment of rent and lease. The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Libraries

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. System should have facility to download required forms. The system should have provision for e-forms. The system should have facility to send the alerts through SMS and email. 	
	Issuance of Library Membership Card	<ul style="list-style-type: none"> The system should have provision for online application for membership. This system should have facility for online payment of membership fee through payment gateway. The system should generate a unique registration number / membership ID. The system should have facility to generate the library membership card. The system should capture the details of books, magazines, newspaper, etc. 	
	Issuance & Return of Books	<ul style="list-style-type: none"> The system should capture details of all books are maintained in the online system in such a manner that it can be queried by users The system should have the provision to intimate users about late return status, fine etc. by email/SMS. The system should have facility to capture the details related to issue and return of book like date of issue, book name, member name, etc. The system should able to calculate the fine based on the rules and actual return date. The system should have the facility to make online payment. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with Accounts & Finance

S.No.	Services Covered	Functionality	Integration Requirements
	MIS	<ul style="list-style-type: none"> The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Plantation & Parks

S.No.	Services Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have facility to download required forms. The system should have provision for e-forms. The system should have facility to send the alerts through SMS and email. 	
2.	New Plantation Operations	<ul style="list-style-type: none"> The system should have facility make the request for new plantation by public or councilor online or through SEWA KENDRA. The system should allow JE to prepare estimate for new plantation. The system should have the facility to create an action plan by Section Officer. The system should have interface with workflow system as per process for approval/ rejection. The system should have interface with e tendering module. The system should allow the online payment to the vendor in case of tender. The system should allow preparing & generating the report as defined for process. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Interface with e tendering Application
3.	Management of Existing Parks	<ul style="list-style-type: none"> The system should allow to apply for management of park through SEWA KENDRA or online. The system should allow entering the field visits details about the condition of park. The system should have interface with workflow system as per process for approval/ rejection. The system should have facility to generate the approval letter which is digitally signed. The system should have the facility to upload the agreement letter. The system should have the facility to track the work for management based on the details entered after filed visit. The system should allow payment to the vendor/PMC online or through cheque. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Integration with Accounts & Finance Integration with Payment gateway
4.	MIS	<ul style="list-style-type: none"> The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Advertisement & Hoardings

S.No.	Services Covered	Functionality	Integration Requirements
1	General	<ul style="list-style-type: none"> The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have facility to download required forms. The system should have provision for e-forms. The system should have facility to send the alerts through SMS and email. 	
2	Approval for Hoardings, Adv Boards on Private Sites	<ul style="list-style-type: none"> The system should have the facility to apply online or through SEWA KENDRA for hoardings/ advertisements. The system should allow entering the details of field visit. The system should have interface with workflow system as per process for approval/ rejection. The user will be intimated about the approval by SMS once workflow will approve it. The system should have facility for payment of the prescribed fee through payment gateway or SEWA KENDRA. The system should have the facility to generate the receipt after getting payment. The system should automatically update the records. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with Accounts & Finance Integration with workflow and document management system.
3	Contracting of Advertisement Sites with Relevant Media	<ul style="list-style-type: none"> The system should have the facility to prepare the list of relevant media like hoardings, board, banner, kiosks, unipoles, etc. The system should have interface with workflow system as per process for approval/ rejection. The system should have interface with e tendering module. The system should allow the online payment to the vendor or through cheque. The system should allow preparing & generating the report as defined for process. The system should allow all the records to be updated. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Interface with e tendering Application Integration with Accounts & Finance Integration with Payment gateway
4	MIS	<ul style="list-style-type: none"> The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

Verification Services

S.No.	Services Covered	Functionality	Integration Requirements
1	General	<ul style="list-style-type: none"> The portal should have all the information including the processes and documents required for the convenience of citizen. The system should capture all the details required for application. The system should have facility to download required forms. The system should have provision for e-forms. The system should have facility to send the alerts through SMS and email. 	
2	Sanction of Scheme for Widows/ Dependents /Elderly/Handicapped	<ul style="list-style-type: none"> The system should have facility to enter the details about various schemes. The system should have facility to apply online or through SEWA KENDRA. The system should have facility to upload the required documents. The system should have facility for file indexing based on the case. The system should have interface with workflow system as per process for approval/ rejection. The system should have the facility to upload Payment Order issued by social welfare department. 	<ul style="list-style-type: none"> Integration with workflow and document management system.

2.3 Works Management System

S.No.	Module	Functionality	Integration Requirements
1.	Works Management System	<ul style="list-style-type: none"> The system should have capability of end to end works management system but not limited to creation of estimation, budget, preparation of DPR, Workflow & approvals, tendering, contract management, allotment of works, creation of Measurement book (MB), monitoring, invoicing, payments etc. The system should have clear classification of Works based on their types. The system should generate a unique Project Code for each Project based on Project type. The system should have the facility to track the project status by project code through portal. The system should have the list of prospective vendors. The system should capture the details of vendor. The system should have provision to prepare the estimate after filed visit. System should maintain rate schedule based on type of work and automatically update it whenever there is any revision. 	<p>Interface with Mailing & Messaging System and SMS application</p> <p>Integration with e-Tendering.</p> <p>Integration with document and workflow management system.</p> <p>Integration with Accounts & Finance</p> <p>Integration with Treasurers/Banks etc. for direct</p>

S.No.	Module	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should have facility to compile the estimate and submit it for review and approval by the competent authority • The system should have interface with e-tendering application which is being developed separately. • The system should capture all the details required for Function. • On approval, there must be provision in system for uploading the same in the portal. • The system should have facility to carry-out the measurement/progress of work done and verify it. • The system should have provision to raise online application for bill. • The system should have provision to enter site inspection details/report in the system which will be further evaluated in the required workflow. • The system should facilitate ULBs for payment of work bill through e-payment • The system should facilitate to view the bill raised by vendor and should able to link bill details with Purchase/ work order (if any) • The system should facilitate the user to view the status of bill raised • The system should Allow entry of payments in any of the following ways: Manual cash/Cheque receipt, Batch upload from an external file/database, Electronic upload of the Data through system checks like bill number • The System should allow online transfer of funds from one A/C to another • The system should have facility to generate and print cheque • The system should have facility to search either by the Challan No, Receipt No, Cheque No, Amount, Date of Receipt and Date of Challan • The system should have facility to capture the different mode of receipts like DD/Cheque/Cash etc. • The system should allow invoice processing With respect to a Goods Receipt Note (GRN) in the system and service entry note in case of a service vendor • The system should have expense voucher where vendor is credited without PO/GRN in the system • The system should have Ability to prompt/automatically deduct all deductible charges such as TDS, works contract tax, surcharge on these taxes at the time of vendor bill processing • The system should have facility to download required forms. • The system should have provision for e-forms. • The system should have facility for online payment. 	transfer to beneficiaries

S.No.	Module	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have facility to send the alerts through SMS and email. 	
2.	MIS	<ul style="list-style-type: none"> The system should generate the Reports showing Projects branch-wise, location-wise etc. The system should generate project status report. The system should generate the report for planned work and actual work done. The system should generate reports like invoices raised, payment made, tax deducted, pending payments, etc. The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

2.4 Improvement Trust Management System

S.No.	Module	Services Covered	Functionality	Integration Requirements
1.	Sale of Plots/ Flats	Conducting of Lottery Conducting of Auction Refund of earnest money	<ul style="list-style-type: none"> The system should have provision to apply online or through SEWA KENDRA under different categories. The system should have facility to upload the required document along with the application. The system should have the facility to generate the allotment letter which digitally signed. The system should have facility to send the alerts through SMS and email. The system should have facility to publish the various notices on the portal. The system should have facility to deposit earnest money online and through SEWA KENDRA. The system should have facility to refund the earnest money through cheque also. The system should have facility to implement the process based work flow system. 	<ul style="list-style-type: none"> Integration with Payment gateway Interface with Mailing & Messaging System and SMS application
		Sale Agreement	<ul style="list-style-type: none"> The system should have provision to apply online or through SEWA KENDRA under different categories. The system should have facility to upload the required document along with the application. The system should have the facility to generate the unique ID for the sale agreement. 	

S.No.	Module	Services Covered	Functionality	Integration Requirements
			<ul style="list-style-type: none"> The system should have facility to enter the details like khasara number, etc. The system should have facility to send the alerts through SMS and email. The system should have facility to deposit installments online and through SEWA KENDRA. The system should have facility to generate the receipt after payment. The system should have facility to implement the process based work flow system. The system should have facility to generate Sale agreement and should allow taking the printout on stamp paper. The system should have the facility to upload sale agreement along with unique ID. 	
		Payment from Defaulters	<ul style="list-style-type: none"> The system should have provision to apply online or through SEWA KENDRA. The system should have facility to implement the process based work flow system. The system should have facility to send the alerts through SMS and email. The system should have facility verify the details. The system should have facility to deposit installments online and through SEWA KENDRA. The system should have facility to generate the receipt after payment. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Integration with Payment gateway
		Payment of Regular Installment	<ul style="list-style-type: none"> The system should have provision to apply online or through SEWA KENDRA. The system should have facility to implement the process based work flow system. The system should have facility to send the alerts through SMS and email. The system should have facility verify the details. The system should have facility to deposit installments online and through SEWA KENDRA. The system should have facility to generate the receipt after payment. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Integration with Accounts & Finance Integration with Payment gateway

S.No.	Module	Services Covered	Functionality	Integration Requirements
		Issuance of Possession Letters	<ul style="list-style-type: none"> The system should have facility to generate the possession letter along with unique ID after all above processes. The system should have facility to deliver the same through SEWA KENDRA & email. The system should have facility to send the alerts through SMS and email. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application
		Finalization of Sale Deed	<ul style="list-style-type: none"> The system should have facility to track the file after entering the unique id. The system should have the facility to verify the current status of the payments from accounts branch. The system should have facility to verify the details from other branches also. The system should have facility to upload the documents required like completion plan. The system should be able to verify the details from GIS. The system should have facility to prepare the sale deed and printing the same on stamp paper after approval of completion plan. The system should have the facility to calculate non construction charges/enhancements. The system should allow to prepare the reports based on details received and should have process based work flow system. 	<ul style="list-style-type: none"> Integration with workflow and document management system.
2.	Property management	Issuance of NOC for Allotted Plots	<ul style="list-style-type: none"> The system should have facility to apply online and through SEWA KENDRA. The system should have facility to track the file after entering the unique id. The system should allow the clerk to prepare report based on the details. The system should have facility to map all the work flow for approval. The system should have facility to make online payment of processing fee and through SEWA KENDRA. The system should have facility of digital signature for approval & issuing the permission letter. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Integration with Property Tax

S.No.	Module	Services Covered	Functionality	Integration Requirements
		Transfer of Property	<ul style="list-style-type: none"> The system should have facility to apply online and through SEWA KENDRA. The system should have facility to track the file after entering the unique id. The system should allow the clerk to prepare report based on the details. The system should have facility to send the alerts through SMS and email. The system should have facility to edit/modify the property details by authorized users based on right. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with workflow and document management system.
		Permission for Mortgage of Property	<ul style="list-style-type: none"> The system should have facility to apply online and through SEWA KENDRA. The system should have facility to track the file after entering the unique id. The system should allow the clerk to prepare report based on the details. The system should have facility to map all the work flow for approval. The system should have facility to make online payment of processing fee and through SEWA KENDRA. The system should have facility of digital signature for approval & issuing the permission letter. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with workflow and document management system.
		Sanction of Building Plan	<ul style="list-style-type: none"> The system should have facility to apply online and through SEWA KENDRA. The system should allow uploading building plan in form of softcopy. The system should allow the clerk to prepare report based on the details. The system should have facility to map all the work flow for approval. The system should have facility to make online payment of processing fee and through SEWA KENDRA. The system should have facility of digital signature for approval & issuing the permission letter. 	<ul style="list-style-type: none"> Interface with Mailing & Messaging System and SMS application Integration with workflow and document management system.
3.	Land Acquisition	Land Acquisition Process	<ul style="list-style-type: none"> The system should have facility to define the scheme. The system should have interface with GIS. The system should have interface with Property management System. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Interface with Property

S.No.	Module	Services Covered	Functionality	Integration Requirements
			<ul style="list-style-type: none"> • The system should capture all the details of properties, lands, free lands, etc. • The system should have facility to identify and select the land. • The system should have facility to prepare survey plan and Khasara plan. • The system should have the workflow system as per defined process. • The system should have the facility to publish the notice on the Portal. • The system should have the facility to identify the land lord details. • The system should have facility to file objection from land lord and general public. • The system should have facility to update the details of hearing after receiving the objection. • The system should have facility to prepare report based on hearing. • The system should have facility to prepare layout plan. • The system should have provision for market rates of land. • The system should have facility to make payment to land lord online and /or through cheque. 	<p>Management system</p> <ul style="list-style-type: none"> • Interface with Buildings module.
		Approval of Enhanced Compensation	<ul style="list-style-type: none"> • The system should have the workflow system as per defined process. • The system should have facility to make payment to land lord online and /or through cheque. 	<ul style="list-style-type: none"> • Integration with workflow and document management system.
		Approval of Development Schemes	<ul style="list-style-type: none"> • The system should have interface with GIS. • The system should have facility to make Online Request for regulation of house for declaration of un-build area. • The system should have facility to provide online confirmation. • The system should provide the facility for online suggestions. • The system should have facility for notification. • The system should have the required workflow as part of function. 	<ul style="list-style-type: none"> • Integration with workflow and document management system. •

S.No.	Module	Services Covered	Functionality	Integration Requirements
4.		Works Management System	<ul style="list-style-type: none"> • The system should have clear classification of Works based on their types. • The system should generate a unique Project Code for each Project based on Project type. • The system should have the facility to track the project status by project code through portal. • The system should have the list of prospective vendors. • The system should capture the details of vendor. • The system should have provision to prepare the estimate after filed visit. • System should maintain rate schedule based on type of work and automatically update it whenever there is any revision. • The system should have facility to compile the estimate and submit it for review and approval by the competent authority • The system should have interface with e-tendering application which is being developed separately. • The system should capture all the details required for Function. • On approval, there must be provision in system for uploading the same in the portal. • The system should have facility to carry out the measurement/progress of work done and verify it. • The system should have provision to raise online application for bill. • The system should have provision to enter site inspection details/report in the system which will be further evaluated in the required workflow. • The system should facilitate ULBs for payment of work bill through e-payment • The system should facilitate to view the bill raised by vendor and should able to link bill details with Purchase/ work order (if any) • The system should facilitate the user to view the status of bill raised • The system should Allow entry of payments in any of the following ways: Manual cash/Cheque receipt, Batch 	<ul style="list-style-type: none"> • Interface with Mailing & Messaging System and SMS application • Integration with e-Tendering. • Integration with document and workflow management system. • Integration with Accounts & Finance

S.No.	Module	Services Covered	Functionality	Integration Requirements
			<p>upload from an external file/database, Electronic upload of the Data through system checks like bill number</p> <ul style="list-style-type: none"> • The System should allow online transfer of funds from one A/C to another • The system should have facility to generate and print cheque • The system should have facility to search either by the Challan No, Receipt No, Cheque No, Amount, Date of Receipt and Date of Challan • The system should have facility to capture the different mode of receipts like DD/Cheque/Cash, etc. • The system should allow invoice processing With respect to a Goods Receipt Note (GRN) in the system and service entry note in case of a service vendor • The system should have expense voucher where vendor is credited without PO/GRN in the system • The system should have Ability to prompt/automatically deduct all deductible charges such as TDS, works contract tax, surcharge on these taxes at the time of vendor bill processing • The system should have facility to download required forms. • The system should have provision for e-forms. • The system should have facility for online payment. • The system should have facility to send the alerts through SMS and email. 	
5.	Others	Record Maintenance of Trust Business Matters	<ul style="list-style-type: none"> • The system should be linked with agenda as described above. • The system should have workflow system as per defined process. • The system should have facility to update the resolutions. 	<ul style="list-style-type: none"> • Integration with workflow and document management system.
6.	MIS Reports		<ul style="list-style-type: none"> • The system should able to generate the any other fixed format and Ad-hoc reports as desired. 	

2.5 Accounts & Finance

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
1.	General	<ul style="list-style-type: none"> • The system should capture all the details required as part of working of Accounts & Finance branch. • The system should have facility to download required forms. • The system should have provision for e-forms. • The system should capture all the working processes of account & finance. • The system should have Ability to perform combined basis accounting (Cash and Accrual) • The system should have Facility for defining Control Accounts • The system should allow Real Time update of data from the subsidiary ledgers like Accounts Receivables, Accounts Payables, Fixed Assets, Materials, Sub-ledger • The system should allow definition of ULB, its zonal / ward offices, etc. • The system should allow definition of profit/cost centers within organization • The system should have Flexibility to define fiscal year including start month and end month • The system should have Ability to define 12 periods/ month within fiscal year • The system should have Provision for separate logical periods for the purpose of annual closing activities Municipal fiscal year closing are allowed. Multiple sets of same books of accounts are permitted. • The system should allow closing of fiscal periods to restrict transaction posting. • The system should allow to keep multiple periods open across financial years or within financial year • The system should have ability to reopen closed period, subject to valid authorization. • The system should have ability to draw complete set of books of accounts such as profit and loss account, balance sheet for the legal entity, each of the department, location, unit etc. • Availability of system generated numbering for the documents • Availability of option of manual numbering for certain documents • The system should Support legal requirements such as TDS, Sales Tax, VAT, 	Interface with all other modules

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<p>Excise Duty, Service Tax and Works Contract Tax fully.</p> <ul style="list-style-type: none"> • The system should have Flexibility to control posting to specific ledger accounts with specific documents • The system should have Flexibility to date formats, number formats per user. • Implementation Vendor shall not be responsible for preparing opening balance for accounting software to be developed by Implementation Vendor. 	
2.	General Ledger	<ul style="list-style-type: none"> • The system should have Ability to define chart of account for the company • The system should have no restriction of the arrangement or the number of accounts • The system should Allow grouping of general ledger account for the purpose of account management • The system should Allow creating general ledger accounts in batch mode using external interface • The system should have ability to post transaction from other modules to online mode based on such predefined criteria. • The system should allow creation and posting of journal entries online or in batches • The system should allow definition of recurring transactions and periodicity of recurrence. • The system should Create these automatic transaction based on predefined criteria • The system should allow to create reversal of journal vouchers with date definition for reversal Automatics reversal of vouchers based on predefined criteria • The system should allow definition of certain GL accounts in a way that individual transactions can be tracked based on its open status, e.g. Security deposits, clearing accounts, etc. • The system should have Option to capture due dates for such security deposits and query/ reports to highlight deposit/ advances which are due for repayment. • Flexibility to define rules for automatic clearing of such accounts and clearing of open items based on such criteria. • The system should allow cash accounting with multiple cash points for a single or multiple cash GL accounts • The system should have Ability to define banks, bank accounts within the system 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • Should allow uploading of bank statements • The system should allow the manual entry of bank statements into the system • The system should allow defining the criteria for bank reconciliation and carries out bank reconciliation based on pre-determined criteria. • The system should allow entry to incoming cheques for current as well as future period and segregation based on dates possible. • The system should allow to view and print cheque deposit statement for a day. • The system should capture value date for cheque deposited and payment • The system should enable calculation of interest based on value dates captured in the system • The system should have flexibility to write certain validation rates to support business rules which are not supported directly by standard product feature • The system should have built in maker checker concept for approval of documents by supervisory authority • The system should allow listing of all transaction for particular document type in books of accounts • The system should have Ability to query all accounts and transactions on line for current and previous periods including previous fiscal years • System should have flexibility in definition of transaction fields that are displayed in such query/ report based on requirements without any programming efforts. • The system should have ability to drill down from balance to individual transactions for any account. • The system should allow classification of expenses on the basis of predefined parameters. E.g. Telephone number, Vehicle number etc. • Generated error reports in case of rejections or any errors at the time of data transfer using batch mode. • The system should allow defining multiple formats of annual accounts (i.e. Balance sheet and profit and loss account) at the same time. • The system should have ability to take these annual accounts at legal entity level, division, etc. 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should allow to take comparative balance sheet, profit and loss account, trial balance where a corresponding period which can be selected by user 	
3.	Costing	<ul style="list-style-type: none"> The system should have ability to define cost centers based on internal reporting requirements The system should allow grouping of cost centers in a tree structure at least upto 5 levels The system should allow transfer of cost from one cost center to another cost center On ad-hoc basis – manual transaction online and On predefined criteria including specific amount, percentage or formula In case of formula, the system should have flexibility to change formula with an effective date The system should have flexibility to transfer cost pertaining to specific expense head only The system should have flexibility to retain origin information of cost even after transfer of costs The system should have availability of sender and receiver cost center information at all the time The system should have flexibility to define departments, divisions, zones/wards, etc. as profit centers The system should allow transactions to flow from cost centers, general ledger accounts to profit centers. The system should have ability to extract profit and loss account and balance sheet for each profit center 	
4.	Budget Execution & Control	<ul style="list-style-type: none"> The system should have ability to support user-defined budget availability controls to specify which accounts do not allow actual exceed budget or otherwise The system should Support various types of budget reservations such as budget blocking (where one can block a percentage of budget funds for a fixed price before releasing it later), budget reservation (temporary reservation of budget at purchase requisition time or other user-defined intervals), budget commitments (where funds are committed due to purchase or project obligations). The system should support the monitoring of various budget types such as original budget, supplementary budget, budget carry-forward 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<p>(unutilized budget amounts carried forward from previous years), budget transfers.</p> <ul style="list-style-type: none"> • The system should have facility of Online tracking of expenditures vis-à-vis budget at any level. • The system should have facility of Online enquiry of budget availability for a department / expense head • The system should have facility of Automatic rejection of expenditure booking within the system if the cumulative expenditure amount is beyond the budget • The system should have Option to send an e-mail to the concerned department requesting the expenditure if the cumulative expenditure exceeds the budget • The system should have Support for "budget availability" check and creation of Purchase Commitment during Purchase Requisition or Purchase Order entry. • The system should have availability of an online approval mechanism for expenditure sanctions of all types of requests through estimation sheets for a schemes/works, purchase proposals; supply orders/work orders etc. • Validating expenditure sanction proposals with the budgets for the scheme/work Forwarding the sanction proposal to the appropriate authorities, e.g. under • secretary finance, in case an expenditure is to be incurred beyond the financial powers of the departmental secretaries or incurring expenditures beyond the budget • The system should have flexibility to categorize an expenditure as 'Plan', 'Non-Plan', depending upon whether the expenditure is to be incurred against a scheme or otherwise 	
5.	Budget Inquiry & Reporting	<ul style="list-style-type: none"> • The system should have flexibility to report against different versions like budget estimate, revised estimate, etc. for the year. • The system should have facility for online inquiry of different versions for combination of region, department, office, and expenditure heads. • The system should have ability to print the budgets in desired format. • The system should have ability to export the budget data into text or excel format that can be used by the publisher for publishing. 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should support budget version analysis report showing differences between different versions of a budget. • The system should have budget versus actual expenditure report for all or a selected set of departments and expenditure heads for the current year as well as the previous ones • The system should have availability of a user-friendly reporting tool that allows data to be reported in a spreadsheet format. The system should allow users to drill down online from the spreadsheet to more detailed information. • The system should support budget and actual expenditure inquiry or reporting by a department should be restricted to the data pertaining to that department only. The authorized budget users such as the Budget Officer and the officials of the budget section should however have complete access. 	
6.	Budgeting	<ul style="list-style-type: none"> • The system should support flexible budget planning via top-down, bottom-up or a combination of both. • The system should support flexible budgeting for different funds and their sub-levels within the multidimensional fund hierarchy. • The system should support budgeting for other types of funds such as Fiduciary Funds (to account for Moneys held in the capacity of trustee, custodian for the public). Pension Trust Funds, Expendable Trust Funds (to account for Moneys from a donor or external entity which has to be expended for a restricted purpose), etc. • The system should support status tracking for budget preparation and collaboration. • The system should facility to automatically upload into the system the budget estimates provided by all the departments in a template • The system should support budget dimensions such as: Fund, Function (Sector), Programme Activity/Sub-activity, Project/sub-project, Responsibility / sub-responsibility / Cost Center, Object (Account code), etc. • The system should Provide flexible budget hierarchy to define budgeting level (what level should be budgeted), account posting level (level where accounting entries will be posted) and budget availability control level (budget level where active budget availability checks are performed). 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should Ability to provide for Revenue and Expense Budgets (can be based on last year's actual performance or approved budget as an initial version for budget planning) as well as Capital or Development Budgets. • The budget preparation screens should be secured and be accessible by a select group of authorized budget users only such as the Budget Officer, Budget Section personnel in Finance Department etc. • The system should have Online availability of budgeting instructions and guidelines for the budget users • The system shall be role-based and have built-in workflow to manage the activities of budget preparers, reviewers, and approvers. • The workflow shall include budget submission, review, and reject functionality Facility for direct manual entry of amounts for individual budget items apart from formula builder and percentage revaluations • The system should have Ability to consolidate budgets of various departments, regions, branches into one budget • The system should Provide budget vis-à-vis actual comparison on on-line basis as well as periodic intervals • The system should have budget definition and control in an integrated on line manner at the time of procurement • The system should have Flexibility to change budget figures during a fiscal year / period • Approximately 600 users are involved in annual planning and budgeting activities. 	
7.	Funds Management	<ul style="list-style-type: none"> • PF, Non contributed PF and Pension, Sinking Funds – Special Funds Management 	
8.	Cash Management	<ul style="list-style-type: none"> • Investment Accounting: The system should Help to make decisions about financial investments and borrowings with information about cash shortages and surpluses in the short term • All conventional investment instruments such as fixed term deposits, commercial papers, and securities are covered by the system. • The processing of the instruments should be fully supported from trading through back office to accounting; 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The resulting cash flows from these transactions should be shown in the system and update the cash position real-time 	
9.	Account Payable-General	<ul style="list-style-type: none"> The system should allow creation of vendors in the system and vendor codes can be Payment terms, discount terms, payment methods The system should have TDS related information The system should have Legal status of the vendor such as corporate, non-corporate etc. The system should allow creation of vendor codes in an online mode as well as in a batch mode The system should allow to define payment terms in following scenarios: Standard payment term of payment due after specific no. of days, Payment term where discount is offered as interest component for early, Payment term which allows retention money The system should allow blocking of specific vendors so that transactions with such vendors cannot be entered The system should allow linking of many vendors to capture group exposure/transaction volume The system should allow linking of vendors with customers in case a company is both vendor as well as customer The system should allow creation of vendors' financial data independent of purchase and materials related data A unique vendor code can be used for all the divisions, branches, multiple legal entities based on the requirement The system should allow to define various TDS rates, works contract tax rates in the system and attach relevant rates to vendors based on the applicability The system should allow clearing of vendor transactions by matching two or more open debit and credit items The system should allow to segregate and track vendor transactions into: normal invoices and payments, advance payments to vendors, bank guarantee, letter of credit to vendors 	
10.	Account Payable – Accounting and Vendor credit processes	<ul style="list-style-type: none"> The system should allow invoice processing With respect to a Goods Receipt Note (GRN) in the system and service entry note in case of a service vendor 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have expense voucher where vendor is credited without PO/GRN in the system Supports typical 3 way match (PO, GRN, Vendor invoice) bill passing process The system should have Ability to prompt/automatically deduct all deductible charges such as TDS, works contract tax, surcharge on these taxes at the time of vendor bill processing The system should have Ability to automatically account for all these deductions based on pre-determined criteria Defaults master data information of vendor during invoice processing The system should have 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. Triggers commitment and updates budget on issue of purchase orders for goods/services The system should have Ability to track duplicate invoice based on vendor code and invoice number In case of labour bills the system should have ability to check individual time asset 	
11.	Account Payable – Payment Processing	<ul style="list-style-type: none"> The system should have automatic payment processing based on predefined parameters The system should allow payment for following scenarios: advance payment ad-hoc, Advance payment only against purchase orders, Payment against one or multiple invoices - matching amount, Payment against one or multiple invoices - partial amount, Payment against one or multiple invoices – ad-hoc amount The system should have ability to capture and report capital and revenue advances separately The system should have Ability to block certain vendors invoices so that they cannot be paid unless cleared by appropriate authority The system should have flexibility to process payment of all invoices at one go, however, strictly on due date basis Based on the process, posts accounting entries in bank accounts as well as vendor accounts 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • Takes cognizance of TDS requirements and deducts TDS whenever necessary • The system should allow maintenance of Cheque stationery and tracking of Cheque based on available stationery and usage • The system should allow printing of cheques for various banks Option of sending payment details to banks in a soft copy format so that payment processing can be carried out by a bank • The system should have Option of cheque printing by banks on transfer of payment instruction and updating of cheque nos. back in the system • The system should allow printing of payment advice along with Cheque which may be sent across to vendors along with their payment. • The system should ensure updating of cheque register on printing of Cheque as well as update the payment voucher with details of Cheque no. • The system should have flexibility to update Cheque register in case cheques are issued manually, cheques are destroyed, damaged etc. 	
12.	Accounts Receivable-General	<ul style="list-style-type: none"> • The system should allow creation of customers (for various demand and collection related activities) in the system and customer codes can be Numeric, Alphanumeric • Customer numbers should be generated by the system If required customer codes can be manually assigned • The system should capture critical customer information such as Name and address, key person at vendor company, TAN No, PAN No, ST Regn. No, Bank account details, payment terms, discount terms, payment methods, TDS related information, Legal status of the customer such as corporate, non-corporate etc. • The system should allow to segregate and track vendor transactions into: normal invoices and payments, Advance payments to Vendors, Guarantees, Security deposits from customers, bank guarantee, letter of credit to customers 	
13.	Accounts Receivable-Invoicing & Collection	<ul style="list-style-type: none"> • The system should allow to create manual/system invoices for customer charges • The system should allow creating invoices in batch mode so that invoices can be uploaded into system from external file/database. The 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<p>system should have automatic invoice no. generation by the system</p> <ul style="list-style-type: none"> • The system should allow posting of debit notes/credit notes in the system both manually, or in a batch mode thru an external file/database • The system should allow entry of payments in any of the following ways: manual cash/cheque receipt, Batch upload from an external file/database, electronic upload through system checks like bill number • The system should allow clearing of open invoices, other items on entry of payment against those items • The system should ability to clear multiple debit, credit line items in one single transaction • The system should ability to segregate customer transactions and automatic accounting parameters based on: payment against invoice – partial payment or complete payment, payment for other charges such as maintenance, repair, non-revenue payments such as security deposit from customers, capital receipt from customers such as connection charges, Excess payments compared to outstanding invoices 	
14.	Assets Accounting	<ul style="list-style-type: none"> • The system should have facility to capture all the assets description. • System should have all the functionality for asset sale. • The system should generate all the reports related to assets accounting. 	
15.	Payroll Accounting	<ul style="list-style-type: none"> • Payroll will be processed for all employees of Department. Total employees are around 32, 279. • The system should allow to maintain and update employee's salary/ wage structure • The system should allow to maintain track changes made to structure • The system should capture employee's bank account number and bank details • The system should allow to define different salary or wage classes and scales • The system should allow to define different salary or wage classes and scales • The system should allow defining unlimited no. of new heads of pay or new heads of deduction at a later date to accommodate any changes in the salary structure / wage structure due to internal changes or statutory changes 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should allow to capture cost center of each employee and salary or wage data can be allocated to various cost centers Unlimited number of salary /wage types and bases • The system should allow to define standard and branch /division or location specific salary/wage types • The system should allow to define designation/ grade specific salary or wage type • The system should allow transfer of attendance records to payroll system in batch mode or manually • System should be able to categorize the deductions namely tax, deductions on uniform, deduction on advance taken, loans from company or external organization, payments for any other purposes to external org. (like LIC premiums), etc. • The system should allow defining multiple deduction heads. E.g.: under taxes, it may be profession tax, income tax, any other tax, surcharge on IT, etc. • The system should have provision of supporting loan details/advances taken e.g. amount taken, tenure, amount of each installment • The system should have Provision to set loan and advances re-payment schedule with an option to modify the same • The system should have provision to levy deduction (for a user defined period) on items issued to employee e.g. Uniform, deduction of loan or advance installment • The system should have provision to monitor for due dates for payment of amounts taken as interest/advance, loan availed according to a user defined payment schedule. • The system should have provision to print salary/wage slips as per user define format providing details of emoluments and deductions • Option of exporting salary/wage slip in desired format • The system should have provision to carry forward negative salary./ wage of an employee to the next payroll cycle subject to specific authorization • The system should have provision to consolidate salary/wage bill groups, slabs, seniority, etc. 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should have provision for Global editing of wage records (For e.g.: if conveyance allowance has increased uniformly across grade levels then a single update in the salary/ wage Master will drill down to the individuals in that category) • The system should have provision for on-line and batch payroll statements • Selection of salary / waged by departments, locations, grade or bank through which payment will be processed • Should allow for Pro rata calculations • Wage payments by electronic system/Bank /Post orders/Cheque/Cash • Unlimited number of salary/wage statements per month • Should be able to generate employee-wise records of unpaid wages/salary • Should be able to calculate arrear payment automatically once the details of arrears payments are fed • Should allow for employees to claim allowances as per the approved salary structure • Should allow to carry forward claims to next fiscal year and tracking of exemptions based on the Income tax rules • Print and export to a file payroll journal by month /period/cumulative /previous years • In the case of full and final Settlements, the final salary/wage is to be generated upon receipt of clearances as per the HR module. Calculations for gratuity benefits to be done as per user definitions and added to the settlement package • In case of final settlement, the system should stop processing salary for that employee • The system should have provision to stop payment for employees who are marked as absconding • Employee Self-service- System should provide employee self service to all employees so that each employee, using login credential, can access payroll module and carry out day to day activities like leave request, payslip downloading, claim request, etc. 	
16.	Tax Handling	<ul style="list-style-type: none"> • The system should have provisions to incorporate commission /tax structure using tables that support complex calculations based on flat rate, percentage, slabs and a combination of them. 	

S.No.	Modules and Functions Covered		Functionality	Integration Requirements
			<ul style="list-style-type: none"> The system should have provision to make required amendments to the structure based on the amendment in finance bill / salary structure of company The system should have provision to provide investment declaration by individual employees and entry of same either online by employees or by a centralized team or uploading all individual declaration. The system should have provision for Calculation of projected TDS by the system based on an employee's remuneration, structure, and investment declaration filed by the employee. The system should have provision for taking a print, file output of the tax projection per employee,. The system should have Provision of entry of actual investments by employee, central team or upload of individual declarations recalculations of tax liability in case of retrospective change in salary after considering provisions of Sec. 89 of the Income Tax Act. The system should have provision to calculate TDS The system should have provision to manually deduct TDS amount The system should have provision to generate TDS Certificates The system should have provision to generate form 16, form 16 B, form 16AAA, and form 24 The system should have ability to book TDS amounts and set off against total TDS liability The system should have provision to consolidate TDS certificates and issue a single one at the end of a define period The system should have provision for Automatic calculation of the tax liability at source The system should have provision for Income tax statement per employee / all (actual or previous years) Capability to analyze the transactions based on user definable and dynamic parameters 	
17.	Double Entry Accounting System	General	<ul style="list-style-type: none"> The system should facilitate employee / department to place online claim request (reimbursements). Each claim should have a unique identification no. 	

S.No.	Modules and Functions Covered		Functionality	Integration Requirements
			<ul style="list-style-type: none"> The system should facilitate to search bills or claims on basis of unique id, date, department or any other necessary parameters. The system should facilitate to view the bill raised by vendor and should able to link bill details with Purchase/ work order (if any) The system should facilitate the user to view the status of bill raised or claim submitted The System should allow online transfer of funds from one A/C to another The system should have facility to generate and print cheque The system should have facility to search either by the Challan No, receipt No, cheque No, amount, date of receipt and date of Challan The system should have facility to capture the different mode of receipts like DD/cheque/cash, etc. 	
		Entry of collections into Account books	<ul style="list-style-type: none"> The system should have facility to prepare Challan online. The system should have workflow based system as per working process of function. The system should have facility to maintain cash and bank book and should allow reconciliation as per bank statements The system should have facility to prepare the Accounts and should maintain the registers like Cash Book, Income etc. The system should allow departments to update all taxes, fees, fines etc. collected head wise The system should have provision for timely notification and generation of report for timely action for financial documents. 	
		Entry of expenditure of ULBs	<ul style="list-style-type: none"> The system should have facility for ULBs to prepare the expenditure online as per format. System should have interface with e-tending module. The system should have workflow process as per function. System should have facility to prepare comparative statements The system should have facility to generate the bill. The system should have facility to audit the bill. The system should have facility to prepare the monthly account 	interface with e-tending module

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
18.	MIS Reports	<ul style="list-style-type: none"> • The system should maintain the details/ report invoice/bill no, date of receipt, work order no, Bill amount, bill passing date, Challan number etc. • The system should maintain the details/ report Claim no, claim amount, employee no, payable towards A/C head etc. • The system should maintain the details/ report Funds received under tender fee, license fee, fines imposed, Government budget, earnest money, etc. • The system should maintain the details/ report financial documents like Bank guarantee, LC, Security deposits etc. • The system should maintain the details/ report Details about the GPF A/Cs of all employee • The system should have facility generate reports on expenditure (ULB-wise, head-wise etc.) • The system should have facility generate reports on budget allocated / spent (ULB wise). • The system should able to generate the any other fixed format and Ad-hoc reports as desired. • The system should generate the following reports <ul style="list-style-type: none"> ○ Due date wise analysis of vendor accounts ○ Ageing analysis of vendor line items ○ Vendor account trial balance ○ Vendor account line item details ○ Vendor account details segregated into: ○ Vendor account balances and transactions per vendor control account ○ Allows regrouping of vendor balances based on debit/credit balances ○ Ability to view/print all the above vendor account and line item reports per branch, division, location etc. ○ Availability of details of payments made before due date and corresponding cash discount earned ○ Allows to extract details of purchase orders, GRNs invoices, accounting documents of individual vendors ○ Statement of account for the purpose of obtaining confirmations from customers on balance and transactions ○ Due date wise analysis of customer accounts ○ Ageing analysis of customer line items 	

S.No.	Modules and Functions Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> ○ Buckets for ageing can be freely defined by user based on requirements ○ Ageing can be taken on the basis of both, invoice date and due date ○ Invoices and payments ○ Advances paid to vendors ○ LCs and bank guarantees to vendors ○ Ability to view/print all the above vendor account and line item reports per ward, division, allowed to customers ○ Ability of details of payments made before due data and corresponding cash discount allowed to customers ○ Ability to provide details of payments segregated into on time payment, early payment and delayed payment 	

2.6 Personnel Management System

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
1.	General		<ul style="list-style-type: none"> • The system should capture all the details required for functioning of establishment branch. • The system should capture all the details of employee like Name, Address, Education Qualification, Previous Employment, Phone Numbers / Contact Information, Date of birth, Work Experience, Languages known, Family Information, Employee photo, Signature, Passport / PF number, Bank account information, Employee class – (permanent employees, temporary employees, contract workers, project teams), Employee category (SC/ST/OBC/Others), Location (HO/zone/ward/branch), Department, Job code/designation, Grade/cadre, Job history covering details of appointments, Promotions, transfers, Deputation, temporary transfers, Increments, Date of pay rate change, Date of joining, Date of probation/confirmation, Date of termination/retirement, Union 	Integration with workflow and document management system.

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
			Information (if applicable), Compensation data including components of pay, Compensation of pay for calculation of gratuity and pension etc.	
2.	<ul style="list-style-type: none"> Employee Services (All employees of Department shall use ESS facility.) 	Promotion of Staff	<ul style="list-style-type: none"> The system should have provision for online movement of the file for promotion from concerned branch to the Establishment branch. The system should have provision for checking the credentials of the service details in portal system and forwarding it online. The system should have the workflow system as per function of the process. System should have facility of generating the digitally signed promotion letter. System should have provision to synchronize service book and salary register on generation of promotion letter 	Integration with workflow and document management system.
		Transfer of Staff	<ul style="list-style-type: none"> The system should have the facility to raise online request for transfer through portal which will be routed through the workflow management system for approval. The system should have the workflow system as per function of the process. The system should have the facility to generate the relieving letter on approval and this will be forwarded to the employee. The system should have facility in system for automatically updating the details of the employee in the system 	Integration with workflow and document management system.
		Sanction process of the Leaves	<ul style="list-style-type: none"> The system should have facility of applying for leave through the system. The same will be forwarded through the workflow management system for approval. The system should have facility to automatically update the service book In case the leave is paid or unpaid along with salary details. 	Integration with workflow and document management system.

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
		Assured Career Progress Scheme	<ul style="list-style-type: none"> The system should have facility to recommend people in the online system for ACP scheme. The system should have facility to accept/reject the proposal. The system should have facility in for generating digitally signed acceptance on final approval. 	Integration with workflow and document management system.
		Employment in case of the death	<ul style="list-style-type: none"> The system should have provision for making online recommendation in the system for employment by the branch. The system should have online workflow system for the movement of the recommendation. The payroll system and other modules will be used to validate and give final approval. The system should have facility for Issuance of appointment letter and facility to add a particular post with required credentials and appoint the applicant to that post. 	Integration with workflow and document management system. Interface with payroll
		Recruitment of Staff	<ul style="list-style-type: none"> The system should have facility to post the details of the vacancy in the portal. The system should have provision for applicants to make online application in the system against the vacancy posted. The system should have required workflow as per function of the process. The system should have provision to inform the candidates by email/SMS based alerts after the selection process is over. The system should have the provision for publishing the same in the portal. 	Integration with workflow and document management system. Interface with Mailing & Messaging System and SMS application
		Punishment of Staff	<ul style="list-style-type: none"> The system should have provision to make online reporting of the misdeeds and forwarding the same to concerned officer. The system should have facility to appoint IO & PO. The system should have provision to issue show cause notice & order after the approval and validation of the same with the respective branch. 	Integration with workflow and document management system.

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
		Maintenance of Annual Confidentiality Report	<ul style="list-style-type: none"> The system should have provision to fill up the ACR report in the online system and forward it through the competent authorities in the workflow. The system should capture all the details as required by the process. 	Integration with workflow and document management system.
3.	Payroll & Pension	Payment of Salary	<ul style="list-style-type: none"> The system should have facility to generate the payroll of employee. The system should be integrated with accounts & finance. The system should have facility that all the associated system must be updated automatically. There will be pre-audit and online verification of the same. The system should have facility to issue & print Cheques in accordance with the payroll system Subsequently, in the later stage, salary should be transferred to the bank account of the employee through e-Payment There are approximately 32,279 employees. 	<p>Integration with workflow and document management system.</p> <p>Integration with Accounts & Finance</p>
		Sanction of Staff Retirement Benefits (Pension)	<ul style="list-style-type: none"> The system should have ability to pay an employee from more than one Department and split salary and benefits among Departments, including retirement benefits The system should have ability to report retirement deductions by employee. For Widow, Dependent, Old Age and Handicap Scheme, there must be provision to apply and approve it online. For pension matters the personnel management system and accounts must be integrated. There must be provision in system to route the pension application in the portal for approval. The system should have facility for Proper audit of reports to make pre audits regarding the pension and retirement benefit calculation. There are approximately 13000 pensioners. 	<p>Integration with workflow and document management system.</p> <p>Integration with Accounts & Finance</p>

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
4	MIS	Reports	<ul style="list-style-type: none"> • The system should generate reports relating to Payroll register • The system should generate reports relating to Deductions register/Tax Register • The system should generate report related to Salary Change • The system should generate Performance Report Appeals • The system should generate reports related to Grievances (status, date of event and final ruling) • The system should generate reports related to Workers compensation status • The system should generate reports related to Disciplinary actions (paid/unpaid, etc.) • The system should generate reports related to Future leave approval (e.g., approved, deferred, rejected) • The system should generate reports related to Leave status (vacation, sick, injury or any other user definable field) • Should generate reports related to tracking of pension cases, bill pay, etc. 	

2.7 General Administration System

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
1	General		<ul style="list-style-type: none"> • This system should be linked with workflow system & systems for Directorate, Secretariat and DDRs. • The system should capture all the details are required by function of the process. 	Integration with workflow and document management system.
2	Legal Matters	Handling of court cases	<ul style="list-style-type: none"> • The system should be a Centralized Web based system for the entire Punjab Local Government catering to cases of various ULBs • The system should maintain the ULB-wise details of cases. These will be the fixed details for a particular case and should include court name, lawyer name, dates of hearing, start date, etc. 	<ul style="list-style-type: none"> • Interface with Mailing & Messaging System and SMS application • Integration with workflow and document management system.

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
			<ul style="list-style-type: none"> • The system should assign the unique id to each cases • The system should maintain the details about the documents submitted or evidences used by the Inquiry Commission. It should have the facility to upload the scanned or soft copy of documents (evidences) against the case id. • The system should generate to the concerned party and concerned ULB Officials for dates of next hearing, meeting with lawyer, etc. • The system should maintain the records of each proceeding and it will be linked to the respective case id. The system would maintain records of the cases along with the details of summons and lawyer appointed for each case. • The system should Maintain the details about the empanelled lawyers • The system should allow the ULBs to keep track of their cases and provide access to respective cases and its details – online • The system should have facility to find which lawyer is dealing with which case, how many number of cases with ULB/person dealing with case and what is the result of the case. In general the system should be able to generate the complete case history. • Approximately 600 legal cases/RTI cases will be managed in the system. 	
3	e-Procurement	Estimating and tendering for development works	<ul style="list-style-type: none"> • The system should have provision to prepare the estimate file and routing it in document management system. • On approval, there must be provision in system for uploading the same in the portal and subsequently it needs to be integrated with the e-tendering system. • For tendering in Council, the system must have provision for retrieving the data of each road which is assigned an id in the system. • Integration with e-procurement application which is developed separately. 	<ul style="list-style-type: none"> • Integration with workflow and document management system. • Integration with Accounts & Finance

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
		Payment of development work	<ul style="list-style-type: none"> The system should have provision to raise online application for bill. The system should have provision to enter site inspection details/report in the system which will be further evaluated in the workflow by ACE, CE, DC (LA), etc. The system should facilitate ULBs for payment of work bill through e-payment 	
4	RTI Module	Supply of information under RTI Act	<ul style="list-style-type: none"> The system should have provision for online filing of RTI application. The system should have facility for Auto-routing of the application to the PIO /APIO and the concerned branch. The system should facilitate the concerned branch to generate the report in the system and after payment and subsequent verification by PIO/APIO, the digitally signed copy to be handed over. 	Integration with workflow and document management system.
5	Secretarial Function	Preparation of Agenda & Scheduling the meeting	<ul style="list-style-type: none"> The system should have facility to schedule meetings and send notifications for the same. The system should have the facility to prepare the agenda for meeting. The system should have workflow system as per defined process for collection of agenda points from various branches of the ULBs, consolidation, modification & approval of Agenda. The system should have facility to update proceeding of meeting. The system should have facility to send the notifications to all concerned person through email/SMS for the important meetings. The system should have facility for asking/entering clarification. The system should have facility for entering the details and maintaining information for other secretarial functions as per the requirement of ULBs & Head Quarter of Local Government Department. 	<ul style="list-style-type: none"> Integration with workflow and document management system. Interface with Mailing & Messaging System and SMS application
6	MIS	Dashboard & MIS at various level	<ul style="list-style-type: none"> Reports related to payment of bills against work. Reports related to Tendering process and RTI Reports of pending court cases ULB wise case status reports 	

S.No.	Modules	Functions Covered	Functionality	Integration Requirements
			<ul style="list-style-type: none"> • Reports of finding verdict of closed cases against a particular section of the law, etc. • The system should able to generate the any other fixed format and Ad-hoc reports as desired. • Approximately 600 users will use MIS system. 	

2.8 Document Management System

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
1	General	<ul style="list-style-type: none"> • The system should assign unique id to every document uploaded • The system should have a facility to create, store, view and update the document • The system should have a facility to assign the view and edit rights for existing document by the creator • The system should have a facility to scan upload the documents • The system should have facility to index the submitted documents for referencing the file no and transactions • The system should have facility to Store the index such that data can be easily converted into logical file/ set • Different pages of the document should be stored as a single set. It should assign the image no to the pages of the single document. However system should be able to retrieve the complete document as a single set. • The system should assign note and annotation to the uploaded document for further reference of any other documents if required. • The system should allow the documents to be referenced to the concerned file number. • The system should have facility of archiving the document with time and date stamp. • The system should have facility to import and export email, print and encrypt the document • The system should have a facility to manage the version of the documents and dockets by means of time, user and date stamps • The system should allow user to search information (within document) by keying keywords, and page no# 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should have Search facility to locate documents or Folders. • The system should allow combined search on Profile, Indexed and Full Text Search. • The system should allow search for documents or folders on document or folder profile information such as name, created, modified or accessed times, keywords, owner etc. • The system should support the view of thumbnails for the pages in the documents • The system should allow extensive Audit-trails at user, Folder levels. • The system should allow Audit trails on separate actions, and between specific date/times. • The system should have Document Repository for managing information. • The system should have facility for Organizing documents into hierarchical storage like Folders and Subfolders for management and classification of information • The system should provide easy filing and indexing for quick retrieval • The system should Define approval matrix for all departments and activities • The system should be able to view the names of the people above and below them in the workflow hierarchy • The system should allow the user to assign or initiate tasks/ file to the concerned staff • The system should allow each task should be assigned unique identification no for further tracking • The system should allow the concerned authority to query on the status of task. At the same time other person should be able to reply on the same query • The system should allow to approve or to reject the file. On rejection system should ask for reason for rejection. • The system should allow to edit the file till it is not approved by the concerned authority, and maintain the edition history • The system should generate the notification to the concerned members in approval matrix for required action • The system should follow the hierarchy of approval and file should not be visible in the member's account unless it gets the prior approval from the concerned authority in the chain who is supposed to perform action first 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> • The system should generate regular alerts about pending work items. • The system should allow originator to view the status of the file and with whom request is pending • The system should escalate the case to supervisor in case the required action is not taken by the concerned authority within the timeframe • The system should allow Reviewers to add comments and attach reference documents to the reviewed document. • The system should documents to be digitally signed by approvers • The system should provide search function to locate tasks by name, date, status, users, and other parameters • Process Definition Tool: A graphical or textual tool for defining the business process. Each activity in the process is associated with a person or a computer application. Rules are created to determine how activities progress across the workflow. • Rules based decision making: Rules for each step to determine how workflow-related data is to be processed, routed, tracked and controlled; e.g. a rule might generate e-mail notification when a condition has been met. Another rule might implement conditional routing of documents and tasks based on the content of fields • Document Routing: Accomplished by passing a file or folder from one recipient to another, as an e-mail attachment; or storing the document in and out of central repository • Work Lists: Allow users to quickly identify their tasks along with data such as due date, priority, etc. • Tracking and Logging of Activities: Information about each step to be logged. This might include start and completion times, person(s) assigned to work and current status of the activity. • Administration and Security: identify the users and respective privileges • MIS Reports: The system should maintain the details/report about, <ul style="list-style-type: none"> ○ Originator name, date of initiation, subject, etc. ○ Hierarchy structure for departments and activities ○ Approving authority like name, department, designation, etc. 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> ○ Report showing list of pending and closed activities in all workflows. • The system should store only index information in database while images should be stored in separate file server. DMS shall be designed for storing high volumes. DMS shall store image and binary document in a separate file server and not in RDBMS. • Approximately 6000 users will use Document Management System. 	
2	Approval of resolution of Municipal Councils	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The system should allow ULB to fill the case. • The System should facilitate to send resolution • The system should allow to make entry in MIS • The system should allow reviewers to add comments and attach reference documents to the reviewed document. • System should have a facility to receive the signed copy 	
3	Technical Sanction of project estimates > 30 lakhs of ULBs	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The System should facilitate to send report • The system should allow to verify the document • The system should allow receivers to add comments and attach reference documents to the reviewed document. • System should have a facility to receive the signed copy 	
4	Implementation & Monitoring of GoI sanctioned / State sanctioned project by PMIDC	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The System should facilitate to prepare report • The system should allow receivers to add comments • The system should facilitate receive the utilization report • The System should facilitate to make entry. 	
5	Appointment of Class 'C' staff of ULBs/Dept	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • System should facilitate publishing of Ads on portal • The System should facilitate send an email/SMS to the candidate. • The System should facilitate to record and send the list of selected candidates 	Interface with Mailing & Messaging System and SMS application
6	Promotion related of class 'C' staff of ULBs/Dept.	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • System should facilitate to prepare a list of post available • The system should facilitate to verify the list 	Interface with Personnel management System

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should have facility to check eligibility criteria System should allow approval of list. 	
7	Leave and NOC for Passport/foreign travel and other schemes for class 'C' staff of ULBs	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to forward the application The System should facilitate on a workflow based order 	Interface with Personnel management System
8	Technical sanction of plan by CTP	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to send the recommends to concerned case to the CTP The System should allow to receive the case by record keeper The system should allow receivers to add comments and attach reference documents to the reviewed document. 	Interface with Property Management System
9	Complaints and disciplinary actions of class 'C' staff of ULBs/Dept.	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to enter & receive the complaints The system should facilitate to enter the details and forward to Vigilance officer The system should facilitate to prepare enquiry report The system should facilitate to send the cases to PSLG The system should facilitate to send the serious cases to minister 	Interface with Personnel management system
10	Fund withdrawal and Distribution (Finance & Account Branch)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to prepare a report. The System should facilitate to send the report to PSLG The System should allow to review and send the report System should facilitate reviews and verification of the report. The System should send the document to state govt. The system should facilitate to receive the amount and send it to the PSLG. 	Interface with Accounts & Finance
11	Preparation of response and attending of court cases	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to prepare a response sheet. The System should facilitate review and make the comments The System should allow attaching the details. 	Interface with General administration

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The System should facilitate reviews and verification of the report. The System should have facility to send the document to Advocate general. 	
12	Conducting Election to notify president and members	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to prepare a summary sheet. The System should allow to review and send the report The System should send the document The system should facilitate to receive and add comments 	
13	Approval of resolutions and other aligned matters of corporation	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate the applicant to apply online The system should facilitate to upload the documents The system should facilitate to add recommendations The system should facilitate of issuance completion certificate The system should facilitate to receive the digitally signed certificate A system generated e-mail and SMS is also sent at the same time The system should facilitate to verify the report 	
14	Establishment work of category A and B of Municipal Corporation	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate the applicant to apply online The system should facilitate to send the report on work flow based management The system should facilitate to either prepare a new file or maintain the existing file and forwards it for further review The system should facilitate of issuance completion certificate The system should facilitate to prepare & communicate the decision to the concerned applicant. 	
15	Amendment / Relaxation of building bye laws /T.P Schemes / Change of land use	<ul style="list-style-type: none"> The system should facilitate receive the proposal The system should facilitate to examine and add comments The system should facilitate to Superintendent Superintendent checks and directs the notification to concerned assistant using Work Flow Management Solution The System should facilitate to send the report 	Interface with Property Management system
16	Amendment of Acts, Rules,	<ul style="list-style-type: none"> The system should capture all the details required for function of process. 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
	building bye laws of corporations	<ul style="list-style-type: none"> • The system should facilitate receive the proposal indication for amendment • System should facilitate to send notification to concerned assistant using Work Flow Management Solution • The system should facilitate to send documents into hierarchical level for approval. • The system should facilitate to examine and add comments • The System should facilitate to send the report 	
17	Facilities and powers of Mayors, Sr. Deputy Mayor, Dep. Mayor and Councilors	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The System should facilitate to receive the applications • The System should facilitate to enters the communication in the register • The System should facilitate to prepare report on the basis pat record • The system should facilitate verify and edit the document 	
18	Establishment work I.T for class A,B	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The system should facilitate to advertisements in portal • System should facilitate receive the application online • The system should facilitate to prepares a merit list of candidates • The system should facilitate to check and forward the document • The system should facilitate to prepare files and noting for background check • System should facilitate to send document for approval 	
19	Approval of schemes/Plots/Re serve Price/Resolutions	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The system should facilitate to receive the resolution • The system should facilitate to send the document • The system should facilitate to prepares files and views on resolutions 	
20	Notification of new development schemes	<ul style="list-style-type: none"> • The system should capture all the details required for function of process. • The system should facilitate to receive proposal file • The system should facilitate checks the Notification and sends it for verification • The system should facilitate to prepares file and put up after noting 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should facilitate checks & forwards the file 	
21	NOC from FCR for new schemes	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to send the file The system should facilitate to receive the file The system should facilitate to prepare file and puts up for review. System should facilitate workflow management solution The system should facilitate to FCR examines the draft letter and conveys the date of meeting 	
22	Permission for Issuing allotment letter/ Confirmation of draw/ auction	<ul style="list-style-type: none"> The system should facilitate to receive the passed resolution along with comments The system should facilitate to examine all resolutions & prepares recommendations with respect to laws/regulations The system should facilitate to examination & verification and send the document System should facilitate to prepare letters giving all the details as necessary The system should facilitate to sign the letter & Dispatch the letter to respective corporation. 	Interface with Improvement Trust system
23	Change of land use (Residential to commercial)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. System should facilitate receive & verify details of form The system should facilitate to uploads the building plan in the application The system should facilitate to pay the requisite fees through the web portal using payment gateway after filling the details System should facilitate for processing of the application The system should facilitate not to accept the incomplete building application as per the building by laws & requisite fees The system should facilitate to verify application as per checklist and receive application & fees The system should facilitate to calculate the charges 	Interface with Improvement Trust system
24	Waiving of non-construction fees (NCF) of plots	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to receive the application The system should facilitate to verify and to add comments System should facilitate to check eligibility of application The system should facilitate receive the signed document 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
25	Maintenance of information for Court cases	<ul style="list-style-type: none"> The system should have interface with General administration module. The system should capture all the details required for the function of the process. 	
26	Q & A of Vidhan Sabha	<ul style="list-style-type: none"> The system should facilitate to receive the questions The system should facilitate to examine and sought information from concerned quarter and put up file to concerned officer. The system should facilitate to verifies the file The system should facilitate to receive & prepare reply of the questions based the information 	
27	Record keeping of files	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to make the categorization of matured files/ proposal System should facilitate to prompt destruction of records. Approximately 300 users are involved in record keeping activities. 	
28	Complaints & actions against President, VP, Councilors	<ul style="list-style-type: none"> The system should facilitate to prepare a complaint letter The system should facilitate to receive the compliant letter and checks the concerned issue in detail. The system should facilitate to make recommendations regarding the action The system should facilitate to prepare the file The system should facilitate to prepare show case notice and upload in the system The system should facilitate to make recommendation regarding action based on the hearing The system should facilitate to sign the order issued 	
29	Approval of Policies of MC matter e.g. HT	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilities to prepare & receives draft of policies The system should facilities to examine the proposal amendment w.r.t existing Rule/Act The system should facilitate for verification The system should facilitate using the Workflow Management System The system should facilitate to prepare the memorandum. System should facilitate digital signing& issues notification relating to approval of policies relating to MC Matters 	
30	Approval of TP schemes	<ul style="list-style-type: none"> The system should capture all the details required for function of process. 	Interface with Property

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should facilitate to prepare Scheme details The system should facilitate to prepares the layout plan The system should facilitate to signs and Issues Notification regarding the scheme. 	management system
31	Appellate Authority of staff of MC and NP	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to fill up the requisite form. System should facilitate for preparation of necessary file The system should facilitate for review and verification 	
32	Meetings- Preparation and Participation	<ul style="list-style-type: none"> The System should facilitate to Prepare & receives the notice message for meeting The System should facilitate to record proceedings in database management system 	
33	RTI Coordination	<ul style="list-style-type: none"> The system should have interface with General Administration Module. The system should capture all the details required for functioning of the module. The system should have facility to pass/receive the information as desired. 	
34	Coordination for training	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilities to prepare & receive communication on training The system should facilities to make changes names (for training) if necessary. The system should facilitate send email notification or issued letter. 	Interface with Mailing & Messaging System
35	Rent Act Constitution implementation and amendment	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to send the resolution System should facilitate scrutinize and reviews the notes The system should facilitate to published in the online portal along with the govt. gazette 	
36	Establishment work of group A & B of directorates and DDRs	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to prepare & receive application from employee/concerned officer The system should facilitate to checked and examined. The system should facilitate to send the file in hierarchy for approval System should facilitate to issue digitally signed letter 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
37	Establishment work of sewerage board	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to prepare & receive application from employee/concerned officer The system should facilitate to verify and examine. The system should facilitate to put up the file on the MIS System should facilitate sending file in hierarchy for approval The system should facilitate to issue the digitally signed letter 	
38	Establishment work of PMIDC	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to prepare & receive application from employee/concerned officer The system should facilitate to checked and examined. The system should facilitate to send the file in hierarchy for approval System should facilitate to issue digitally signed letter 	
39	Providing Information for FM speech in budget session	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to prepare & receive letter from Finance Department The system should facilitate to examine and seek information from relevant department The system should facilitate to approve the file The system should facilitate to issue the digitally signed letter to Finance Department 	
40	Statistics and administrative report	<ul style="list-style-type: none"> The system should facilitate to seek information from other departments The system should facilitate to verify the information The system should facilitate to make compiled report based on information received. The system should facilitate to send the file in hierarchy for approval through MIS The system should facilitate to generate the unique registration number System should facilitate to approve the info sought The system should facilitate to verify and approve online. 	
41	Land acquisition for STP/Solid Waste	<ul style="list-style-type: none"> System should facilitate to examine and put up the file The system should facilitate to collect relevant paper from concerned quarter as per the provisions of Land Acquisition Act 1894 	Interface with Property management system

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The system should facilitate to receive all relevant papers and examine The system should facilitate to file to be checked and forwarded The system should facilitate to prepare draft for notification The system should facilitate to signs and notify 	Interface with Improvement Management System
42	Approval of installation of tube well in committers	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to receive application from employee/concerned officer The system should facilitate to send the file in hierarchy for approval through MIS The system should facilitate to examine and seek comment from sewage board The system should facilitate to give approval or reject letter issued 	
43	Enhancements/Exemption/Rebate of water and sewerage board charges	<ul style="list-style-type: none"> The system should capture all the details required for function of process. System should facilitate to the review of user's charges The system should facilitate to examine and prepare recommendations The system should facilitate to prepare file about the communication as the comment of sewage board The system should facilitate to modify as per the recommendation The system should facilitate to prepares the notification The system should facilitate to signs and notify the recommendations 	
44	Empanelment of lawyers	<ul style="list-style-type: none"> The system should capture all the details required for function of process. System should facilitate to apply for empanelment online The system should facilitate to receives application The system should facilitate to examines and prepares recommendations The system should facilitate to Issue letter after signature 	
45	Audit and accounts of sewage board	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to receive Audit report/ admin report The system should facilitate to examine the file The system should facilitate to approved file down marked online 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
46	Sanction of project fund from the state Govt.	<ul style="list-style-type: none"> The system should capture all the details required for function of process. System should have facility to make the proposal online. The system should have the required workflow as a part of function of process. The system should have the facility to issue the letter. 	
47	Coordination of other works of LG department	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to Send letter online System should facilitate to approved file to be down marked online The system should facilitate to examine and seek information from concerned quarter The system should facilitate to Check and approve System should facilitate to issues the Digital signed letter 	
48	Approval of Budget Estimates of ULB's(Class 2 & 3)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should have the facility to prepare & pass the estimate online and send the resolution. The system should have hieratical workflow system based on the authority along with facility of adding the comments. 	
49	Approval of minutes of the meeting of ULB's (Class 2 & 3)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to enter Minutes of Meetings (MoM) by the respective ULBs. System should facilitate to scrutinizes & reviews notes The system should facilitate to approve and send by an email notification. 	
50	Administrative Approval of Estimates of ULB's (Class 2 & 3)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should have the facility to prepare & pass the estimate online and send the resolution. System should have hieratical workflow system based on the authority along with facility of adding the comments. 	
51	Approval under section 52(2)(L) of Punjab Municipal Act 1911	<ul style="list-style-type: none"> The system should capture all the details required for function of process. System should facilitate to pass the resolution and declare expenditure as fix charge on the Municipal fund System should facilitate to scrutinize and review Notes The System should facilitate to approve the communication online 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
52	Correspondence with Govt. in respect of ULB's (Class 2 & 3)	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to send the documents to Regional Deputy Director System should facilitate approve the same and forward System should facilitate to scrutinize & review the notes The system should facilitate to approve the communication online 	
53	Recovery of arrears of ULB's	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to sends the cases for recovery of arrears under different heads The system should facilitate preparation of notices regarding recovery from the concerned party The system should facilitate to entry of these are maintained in the electronic system 	
54	Approval of Bye Laws of ULB's	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to send the resolution System should facilitate to scrutinize & reviews the notes The system should facilitate to published in the online portal along with the govt. gazette 	
55	Approval / disbursement of Pension to the retired employees of ULB's	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to sends the pension cases of its retired employees The system should facilitate to scrutinize and review The System should facilitate to approve the communication online 	
56	Approval of Medical Reimbursement Expenditure of employees of ULB's	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The system should facilitate to enter the details of the medical reimbursement bills of its employees after getting approval The system should facilitate to scrutinize and review the notes The System should facilitate to approve the communication online 	
57	Recording of the Annual Confidential Reports of the employees (Provincialized Cadre) of ULB's	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to send the details of the annual Confidential Reports of the employees of Provincialized cadre System should facilitate to scrutinize and review notes 	

Sl. No.	Functions and Services Covered	Functionality	Integration Requirements
		<ul style="list-style-type: none"> The System should facilitate to approve the communication online 	
58	Performing the function of Collector under PP Act, 1973	<ul style="list-style-type: none"> The system should capture all the details required for function of process. The System should facilitate to send the details of case for rent recovery and eviction under the Punjab Public premises & Land (Eviction and Rent Recovery) Act 1973 The System should facilitate to send prepared notice regarding recovery and eviction for the concerned party The System should facilitate to entry of these is maintained in the online 	

Attachment-3: List of ULBs and Areas

DDR wise list of ULBs

S.No.	ULB/ Offices	Type	Area of ULB (in Sq. Km)	Population as per 2011 census
1	Secretariat office	HQ	N/A	
2	Directorate	HQ	N/A	
3	PMIDC	HQ	N/A	
4	Municipal Corporation Amritsar	Municipal Corporation	139.00	1183000
5	Municipal Corporation Ludhiana	Municipal Corporation	159.00	1613878
6	Municipal Corporation Jalandhar	Municipal Corporation	101.43	873000
7	Municipal Corporation Bathinda	Municipal Corporation	110.00	285813
8	Municipal Corporation Patiala	Municipal Corporation	69.00	409000
9	Municipal Corporation S.A.S. Nagar	Municipal Corporation	23.86	164610
10	Municipal Corporation Moga	Municipal Corporation	18.21	148240
11	Municipal Corporation Phagwara	Municipal Corporation	24.00	117954
12	Municipal Corporation Hoshiarpur	Municipal Corporation	36.00	165560
13	Municipal Corporation Phathankot	Municipal Corporation	22.10	156725
DDR Jalandhar Region				
1	Kapurthala	MC Class I	19.47	96212
2	Nakodar	MC Class II	13.00	36905
3	Nawanshahr	MC Class II	14.00	24603
4	Banga	MC Class II	15.00	22868
5	Nurmahal	MC Class II	6.15	14655
6	Goraya	MC Class II	4.00	16466
7	Garhshankar	MC Class II	12.05	19210
8	Phillaur	MC Class II	7.50	24603
9	Dasuya	MC Class II	9.00	25173
10	Mukerian	MC Class II	6.19	29910
11	UrmurTanda	MC Class II	16.00	23413
12	S.P.Lodhi	MC Class II	10.00	16869
13	Adampur	MC Class III	8.20	17749
14	Alawalpur	MC Class III	8.00	8439
15	Kartarpur	MC Class III	10.00	26670
16	Shahkot	MC Class III	6.00	13285
17	Rahon	MC Class III	16.00	16798
18	Hariana	MC Class III	2.00	9536
19	Garhdiwala	MC Class III	2.00	7595
20	Shamchurasi	NP	2.00	4430
21	Bhogpur	NP	4.65	13400
22	Begowal	NP	7.00	10238
23	Dhilwan	NP	9.80	8158
24	Bhulath	NP	6.00	10544
25	Mahilpur	NP	6.56	11354
26	Balachaur	NP	6.00	21650
27	Talwara	NP	16.00	20540
28	Nadiala	NP	11.90	6733

S.No.	ULB/ Offices	Type	Area of ULB (in Sq. Km)	Population as per 2011 census
29	Mehatpur	NP	6.00	16000
30	LohianKhas	NP	4.00	10368
DDR Patiala Region				
31	Rajpura	MC Class I	25.00	92183
32	Nabha	MC Class I	18.00	66215
33	Sangrur	MC Class I	18.00	85304
34	Malerkotla	MC Class I	42.00	135320
35	Barnala	MC Class I	40.00	116454
36	Samana	MC Class II	6.00	54048
37	Patran	MC Class II	3.89	27964
38	Ahmedgarh	MC Class II	9.00	32304
39	Dhuri	MC Class II	5.50	55376
40	Lehragaga	MC Class II	6.50	22602
41	Sunam	MC Class I	19.39	64720
42	Kharar	MC Class II	27.13	74589
43	Kurali	MC Class II	11.50	23039
44	Zirakpur	MC Class II	14.50	93951
45	Sanaur	MC Class III	5.50	21201
46	Banur	MC Class III	8.50	18712
47	Longowal	MC Class III	4.00	18071
48	Bhawanigarh	MC Class III	6.00	22323
49	Tapa	MC Class III	9.00	23166
50	Bhadaur	MC Class III	15.00	18596
51	Bhadson (New ULB)	MC Class III	4.50	7269
52	Dhanaula	MC Class III	15.00	19488
53	DerraBassi	MC Class III	32.00	26347
54	Ghagga	NP	3.00	10157
55	Ghanaur	NP	5.50	6767
56	Cheema	NP	10.00	11619
57	Dirba	NP	6.00	16947
58	Khanauri	NP	5.00	14101
59	Moonak	NP	5.50	18145
60	Handiaya (New ULB)	NP	3.00	12509
61	Lalru	NP	44.00	35766
62	NayaGaon	NP	13.59	50755
63	Amargarh	NP	6.08	7339
DDR Amritsar Region				
64	Gurdaspur	MC Class I	10.85	75514
65	Batala	MC Class I	36.00	158000
66	Jandiala Guru	MC Class II	16.50	29890
67	Tarn Taran	MC Class II	12.05	66719
68	Patti	MC Class II	12.00	40708
69	Dhariwal	MC Class II	2.50	16774
70	Dina Nagar	MC Class II	14.36	23981
71	Sujanpur	MC Class II	11.00	28359

S.No.	ULB/ Offices	Type	Area of ULB (in Sq. Km)	Population as per 2011 census
72	Qadian	MC Class III	5.50	23630
73	FatehgarhChurian	MC Class III	3.50	13084
74	Dera Baba Nanak	MC Class III	2.50	6328
75	Sri Hargobindpur	MC Class III	5.50	8600
76	Majitha	MC Class III	6.27	14502
77	Rayya	NP	10.00	14581
78	Ramdas	MC Class III	2.50	6404
79	Ajnala	NP	13.00	20035
80	Khemkaran	NP	5.00	12351
81	Bhiki Wind	NP	5.00	13500
82	Raja Sansi	NP	4.50	13568
DDR Ludhiana Region				
83	Khanna	MC Class I	26.75	128130
84	Jagraon	MC Class I	14.00	65174
85	Nangal	MC Class I	18.04	41167
86	Gobindgarh	MC Class I	21.50	82286
87	Samrala	MC Class II	6.68	19680
88	Raikot	MC Class II	10.61	28728
89	Doraha	MC Class II	18.00	25385
90	Ropar	MC Class II	11.00	56041
91	Morinda	MC Class II	0.00	24013
92	Sirhind	MC Class II	45.00	57874
93	Payal	MC Class III	8.57	8150
94	Anandpur Sahib	MC Class III	3.00	16265
95	BassiPathana	MC Class III	10.00	20182
96	Amloh	MC Class III	9.00	14619
97	Machiwara	NP	3.50	24909
98	Maloud	NP	4.00	7828
99	Sahnewal	NP	5.00	22503
100	MullanpurDakha	NP	2.50	16350
101	Chamkaur Sahib (New ULB	NP	13.98	13924
102	Noorpur Bedi	NP	1.5	5561
103	Kiratpur	NP	9.00	7500
104	Khamano	NP	7.27	10128
DDR Bathinda Region				
105	Mansa	MC Class I	21.70	82903
106	Muktsar	MC Class I	45.00	117085
107	Malout	MC Class I	20.00	81627
108	Rampura Phul	MC Class II	21.00	51360
109	BhuchioMandi	MC Class II	4.00	14904
110	Goniana	MC Class II	13.00	15217
111	Maur	MC Class II	14.00	31841
112	Raman	MC Class II	9.00	22548
113	Bhudhlada	MC Class II	6.00	26070
114	Gidderbaha	MC Class II	11.92	45317

S.No.	ULB/ Offices	Type	Area of ULB (in Sq. Km)	Population as per 2011 census
115	Kotfatta	MC Class III	7.00	7415
116	Sangat	MC Class III	1.00	2809
117	Baretta	MC Class III	6.00	17438
118	Talwandi Sabo	MC Class III	12.00	21310
119	Bhikhi	NP	4.50	17311
120	Sardulgarh	NP	8.00	19213
121	BhagataBhai (New ULB)	NP	8.00	14523
122	Bariwala	NP	5.00	8669
123	Bhai Roopa	NP	1.37	14407
124	Boha	NP	3.96	11817
125	Chaunke	NP	3.22	8973
126	Khota Guru	NP	1.84	9962
127	Lehra Mohabat	NP	3.31	9717
128	Muluka	NP	1.43	12000
129	Mehraj	NP	2.03	11112
130	Mundia kalan	NP	2.61	9135
131	Nathana	NP	0.75	7800
132	Rampura	NP	0.95	7459
133	Joga	NP	3.1	10836
134	KotShamir	NP	1.24	10094
135	Ballianwali	NP	1.73	7769
DDR Ferozepur Region				
136	Ferozepur	MC Class I	14.00	110091
137	Jaitu Mandi	MC Class I	9.00	37489
138	Abohar	MC Class I	23.07	145358
139	Fazilka	MC Class II	11.07	76017
140	Faridkot	MC Class II	15.00	73936
141	Kotkapura	MC Class II	17.25	92040
142	Jalalabad	MC Class II	7.56	38970
143	Guru Harsahai	MC Class II	3.50	17179
144	Zira	MC Class II	18.00	37485
145	TalwandiBhai	MC Class III	7.80	18007
146	Baghapurana	MC Class III	6.00	25648
147	Dharamkot	MC Class III	4.00	19131
148	Mamdot	NP	15.00	12000
149	Nihal Singh Wala	NP	6.50	10440
150	Kot-isee-khan	NP	4.50	12908
151	Arniwala	NP	4.33	2400
152	Makhu	NP	7.52	14664
153	Mudki	NP	4.00	10413
154	Mallanwala	NP	5.00	16217
155	BadhniKalan	NP	4.00	6777
Improvement Trust				
156	IT Patiala	Improvement Trust	N/A	
157	IT Malerkotla	Improvement Trust	N/A	

S.No.	ULB/ Offices	Type	Area of ULB (in Sq. Km)	Population as per 2011 census
158	IT Nabha	Improvement Trust	N/A	
159	IT Samana	Improvement Trust	N/A	
160	IT Rajpura	Improvement Trust	N/A	
161	IT Barnala	Improvement Trust	N/A	
162	IT Sangrur	Improvement Trust	N/A	
163	IT Ludhiana	Improvement Trust	N/A	
164	IT Khanna	Improvement Trust	N/A	
165	IT Nangal	Improvement Trust	N/A	
166	IT Nawansahar	Improvement Trust	N/A	
167	IT Ropar	Improvement Trust	N/A	
168	IT Jalandhar	Improvement Trust	N/A	
169	IT Hoshiarpur	Improvement Trust	N/A	
170	IT Kapurthala	Improvement Trust	N/A	
171	IT Kartarpur	Improvement Trust	N/A	
172	IT Phagwara	Improvement Trust	N/A	
173	IT Abohar	Improvement Trust	N/A	
174	IT Faridkot	Improvement Trust	N/A	
175	IT Fazilka	Improvement Trust	N/A	
176	IT Moga	Improvement Trust	N/A	
177	IT Bathinda	Improvement Trust	N/A	
178	IT Amritsar	Improvement Trust	N/A	
179	IT Batala	Improvement Trust	N/A	
180	IT Pathankot	Improvement Trust	N/A	
181	IT Gurdaspur	Improvement Trust	N/A	
182	IT Taran Tarn	Improvement Trust	N/A	
183	IT Kotkapura	Improvement Trust	N/A	

List of Municipal Corporations

Sr. No	Name of Municipal Corporation
1	LUDHIANA
2	AMRITSAR
3	JALANDHAR
4	PATAILA
5	BATHINDA
6	MOHALI
7	PATHANKOT
8	PHAGWARA
9	MOGA
10	HOSHIARPUR

List of Municipal Councils

Sr. No	Name of Class-1 Municipal Council	Constituency
1	KHANNA	KHANNA
2	JAGRAON	JAGRAON
3	NANGAL	ANANDPUR SAHIB

Sr. No	Name of Class-I Municipal Council	Constituency
4	GOBINDGARH	AMLOH
5	GURDASPUR	GURDASPUR
6	BATALA	BATALA
7	KAPURTHALA	KAPURTHALA
8	RAJPURA	RAJPURA
9	NABHA	NABHA
10	SANGRUR	SANGRUR
11	MALERKOTLA	MALERKOTLA
12	SUNAM	SUNAM
13	BARNALA	BARNALA
14	KHARAR	KHARAR
15	ZIRAKPUR	DERA BASSI
16	DERA BASSI	DERA BASSI
17	MANSA	MANSA
18	MALOUT	MALOUT
19	MUKTSAR	MUKTSAR
20	FEROZEPUR	FEROZEPUR CITY
21	ABOHAR	ABOHAR
22	FAZILKA	FAZILKA
23	FARIDKOT	FARIDKOT
24	KOTKAPURA	KOTKAPURA

Sr. No	Name of Class-II Municipal Council	Constituency
1	JANDIALA GURU	JANDIALA
2	DINA NAGAR	DINA NAGAR
3	DHARIWAL	QADIAN
4	SUJANPUR	SUJANPUR
5	TARN TARAN	TARN TARAN
6	PATTI	PATTI
7	NAKODAR	NAKODAR
8	NURMAHAL	NAKODAR
9	PHILLOUR	PHILLOUR
10	SULTANPUR LODHI	SULTANPUR LODHI
11	DASUYA	DASUYA
12	MUKERIAN	MEKERIAN
13	URMUR TANDA	URMUR
14	GARSHANKAR	GARHSHANKAR
15	NAWANSHAHR	NAWAN SHAHAR
16	BANGA	BANGA
17	SAMRALA	SAMRALA
18	RAIKOT	RAIKOT
19	SAHNEWAL	SAHNEWAL
20	DORAHA	PAYAL
21	ROOP NAGAR	RUPNAGAR
22	MORINDA	CHAMKAUR SAHIB
23	SIRHIND-FATEHGARH SAHIB	FATEHGARH SAHIB
24	SAMANA	SAMANA
25	PATRAN	SHUTRANA
26	AHMEDGARH	AMARGARH
27	DHURI	DHURI

Sr. No	Name of Class-II Municipal Council	Constituency
28	LEHRAGAGA	LEHRA
29	KURALI	KHARAR
30	RAMPURA PHOOL	RAMPURA PHUL
31	BHUCHO MANDI	BHUCHO MANDI
32	GONIANA	BHUCHO MANDI
33	MAUR	MAUR
34	RAMAN	TALWANDI SABO
35	BUDHLADA	BUDHLADA
36	GIDDERBAHA	GIDDERBAHA
37	GURUHARSAHAI	GURU HAR SAHAI
38	ZIRA	ZIRA
39	TALWANDI BHAI	FEROZEPUR RURAL
40	JALALABAD	JALALABAD
41	JAITU	JAITU
42	BAGHAPURANA	BAGHA PURANA
43	DHARAMKOT	DHARAMKOT

Sr. No	Name of Class-III Municipal Council	Constituency
1	MAJITHA	MAJITHA
2	RAMDAS	AJNALA
3	QADIAN	QADIAN
4	SRI HARGOBIND PUR	SRI HARGOBINDPUR
5	DERA BABA NANAK	DERA BABA NANAK
6	FATEHGARH CHURIAN	FATEHGARH CHURIAN
7	KARTARPUR	KARTARPUR
8	ALAWALPUR	ADAMPUR
9	ADAMPUR	ADAMPUR
10	HARIANA	SHAM CHAURASI
11	GARDHIWALA	URMUR
12	SHAMCHURASI	SHAM CHAURASI
13	RAHON	NAWAN SHAHAR
14	BALACHAUR	BALACHAUR
15	PAYAL	PAYAL
16	ANANDPUR SAHIB	ANANDPUR SAHIB
17	BASSI PATHANA	BASSI PATHANA
18	AMLOH	AMLOH
19	SANAUR	SANAUR
20	BANUR	RAJPURA
21	LONGOWAL	SUNAM
22	BHAWANIGARH	SANGRUR
23	TAPA	BHADAUR
24	BHADAUR	BHADAUR
25	DHANAULA	BARNALA
26	KOTFATTA	BATHINDA RURAL
27	SANGAT	BATHINDA RURAL
28	BARETA	BUDHLADA

Sr. No	Name of Nagar Panchayat	Constituency
1	AJNALA	AJNALA
2	RAYYA	BABA BAKALA
3	RAJA SANSI	RAJA SANSI

4	KHEMKARAN	KHEM KARAN
5	BHIKHIWIND	KHEM KARAN
6	SHAHKOT	SHAHKOT
7	BHOGPUR	ADAMPUR
8	LOHIAN KHAS	SHAHKOT
9	GORAYA	PHILLOUR
10	MEHATPUR	SHAHKOT
11	BHULATH	BHULATH
12	DHILWAN	BHULATH
13	BEGOWAL	BHULATH
14	NADALA	
15	TALWARA	DASUYA
16	MAHILPUR	GARHSHANKAR
17	MACHIWARA	SAMRALA
18	MALoud	PAYAL
19	MULLANPUR DAKHAN	DAKHA
20	CHAMKAUR SAHIB	CHAMKAUR SAHIB
21	KIRATPUR SAHIB	ANANDPUR SAHIB
22	NURPUR BEDI	RUPNAGAR
23	KHAMANO	BASSI PATHANA
24	GHAGHA	SHUTRANA
25	GHANAUR	GHANAUR
26	BHADSON	NABHA
27	CHEEMA	SUNAM
28	DIRBA	DIRBA
29	KHANOURI	LEHRA
30	MOONAK	LEHRA
31	HANDIAYA	BARNALA
32	NAYAGAON	KHARAR
33	LALRU	DERA BASSI
34	TALWANDI SABO	TALWANDI SABO
35	BHAKTA BHAIKA	RAMPURA PHUL
36	MALUKA	RAMPURA PHUL
37	KOTHA GURU	RAMPURA PHUL
38	MEHRAJ	RAMPURA PHUL
39	BHIKHI	MANSA
40	SARDULGARH	SARDUL GARH
41	BARIWALA	MUKTSAR SAHIB
42	MAKHU	ZIRA
43	MUDKI	FEROZEPUR RURAL
44	MALLANWALA KHAS	ZIRA
45	MAMDOT	FEROZEPUR RURAL
46	BADHNIKALAN	NIHAL SINGH WALA
47	NIHAL SINGH WALA	NIHAL SINGH WALA
48	KOT ISE KHAN	DHARAMKOT
49	KOTSHAMIR	
50	LEHRA MOHBAT	
51	BALIANWALI	
52	BHAIROOPA	
53	RAMPURA	
54	CHAUKE	
55	BOHA	

56	NATHANA	
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Attachment-4: Minimum Bill of Materials

PMIDC envisages that the entire server hardware would be installed in a virtualized environment. The minimum number of cores expected for each server type is given below. Bidder should propose their architecture of configuring these servers as part of their solution. Below is the minimum Bill of Materials which must be provided by Supplier:

Data Center and Near DR Hardware

S. No.	Servers	Suggested Virtualization (Yes/No)	Minimum Cores of Logical Server	Minimum Cores of Physical Server	Units	
					DC	NDR
1	Database Server	Yes	30	30	2	1
2	DW/BI Server	Yes	15	30	2	1
	eForms/Work Flow/Integration		8			
3	Application Server		15			
	Portal/Web Server		15			
4	Directory/DNS/DHCP/others Server	Yes	8	15	2	1
	Content Management Server		7			
5	Backup Server	Yes	6	15	1	1
	Antivirus Server		6			
6	Development/QA/Testing/Training	Yes	15	15	1	-
7	EMS Server	Yes	As per solution	15	As per solution	-

Note: Supplier is required to propose EMS solution as 'Bundle of service" i.e. including hardware, software, training, technical resource deployment, service & support for required warranty period.

S. No.	Component	Units	
		DC	NDR
1.	HSM	2	1
2.	SAN	1	1
3.	SAN Switches	2	2
4.	Tape Library	1	1
5.	Server Load Balancer	2	1
6.	APT Solution	2	1
7.	Internal Firewall	2	1
8.	External Firewall	2	1
9.	IPS	2	1
10.	Core Switch	2	1

S. No.	Component	Units	
		DC	NDR
11.	Internet Router	2	1
12.	WAN router	2	1
13.	KVM Switch over IP	2	1
14.	Blade Chassis	As per Solution	
15.	Rack 42 U	As per solution	
16.	DMZ Switch	2	1
17.	Display LED 42" for NOC	6	0
18.	Desktops for NOC	6	1

DR on Cloud

S. No.	Servers	vCPU	RAM (GB)	Hard Disk (GB)
1	Database Server	32	128	600
2	DW/BI Server	16	64	300
	eForms/Work Flow/Integration	8	64	150
3	Application Server	16	64	300
	Portal/Web Server	16	64	300
4	Directory/DNS/DHCP/others Server	8	64	150
	Content Management Server	8	48	150
5	Backup Server	As per solution		
	Antivirus Server	As per solution		
6	Storage	-	-	15 TB

Note:

1. DR solution should be scalable on demand.
2. Supplier has to provision for connectivity between PAWAN (Punjab SWAN) and DR.

Application Software & System Software at DC, DR and Near DR

S. No.	Components	QTY
1.	COTS product (Enterprise license or license for 6000 users) including ESS for all employees-- <i>{applicable if COTS product is being proposed}</i>	As per solution
2.	EMS Software	As per solution
3.	Backup Software	As per solution
4.	Database Software +BI (Enterprise License)	As per solution
5.	Directory Software + SSO	As per solution
6.	DC/DR Management Software	As per solution
7.	Portal Server Software (Enterprise License)	As per solution
8.	Mobile Application Software	As per solution (If applicable)
9.	Workflow and Integration Software	As per solution

S. No.	Components	QTY
10.	Virtualization Software	As per solution
11.	Security Event Correlation and Log Management Solution	As per solution
12.	Enterprise Content Management System	As per solution
13.	Antivirus Software	As per solution
14.	OS Servers	As per solution

Note: Licenses required for DR shall be procured by Supplier. Quantity of licenses shall be clearly mentioned in proposed bill of material by Supplier. Supplier has to ensure the provisioning of network and security at DR as per the solution proposed.

Manpower at DC and Near DR (onsite and full-time for entire contract duration)

S. No.	Manpower	DC (No.)	NDR (No.)
1	Database Administrator	2	-
2	System Administrator	1	1
3	Networking Administrator	1	-
4	Security Lead	1	-
5	Support Staff	2	1

Manpower at Project Management Team (onsite and full-time for entire contract duration)

S.No.	Manpower	Numbers
1.	Program Manager	1
2.	Project Manager (Hardware, Software, Service delivery)	3
3.	Application Development & Integration Lead	1
4.	Domain Specialist	1
5.	Quality Manager	1
6.	Training and Change Management Lead	1

Helpdesk for Employees & Sewa Kendra Operators at State Level

S. No.	Description	Numbers
1.	Central Manager	01
2.	Helpdesk Seats (includes Manpower with all necessary infrastructure to meet SLAs) from 8AM to 8PM	10

Manpower Requirement for Operation and Maintenance at ULBs and other offices (Onsite and full-time for entire Operation and Maintenance duration)

S.No.	Component	Numbers
1.	Application Implementation Support Staff	22

Attachment-5: Broad Specifications

5.1 Enterprise Servers (30 Cores Servers)

S. No.	Make & Model - (To be filled by the Supplier)	Compliance (Yes/No)
Form Factor	Blade	
Platform	UNIX/Linux/Windows	
Architecture	RISC/EPIC/X-86	
Processor	Minimum 30 cores with preferably 4 socket processors	
Cache	Minimum 12 MB on-chip cache per processor and the highest in the offered configuration.	
Memory	8.00 GB/per core	
Memory Type	DDR4 SDRAM	
Others	<ul style="list-style-type: none"> Raid controller capable of providing RAID 0 and 1 configurations with 1 Gb Cache. Minimum 2*300 GB SAS HDD At least 2 Ports available for USB and Network Dual ported 8Gbps Fiber Channel HBA/CNA. There should be High Availability for FC/FCOE traffic. At least 2 Port 10G Ethernet ports/FCOE capabilities. There should be High Availability for Ethernet/FCOE Should have minimum 2 PCI/PCIe slots/ PMC O/S licenses as per solution should have internal/external/virtual DVD ROM drive. UL, FCC Certifications Virtualization software should be of high end Class and supports <p>Dynamic movement of resources like Memory, IO, Cores across logical servers without reboot of source (except in case of reducing the resources) & target logical servers. Virtualization technology must ensure that failure in one logical server must not affect other logical servers.</p>	

5.2 Other Servers (15 Cores Servers)

	Make & Model - (To be filled by the Supplier)	Compliance (Yes/No)
Form Factor	Blade	
Platform	UNIX/Linux/Windows	
Architecture	RISC/EPIC/X-86	
Processor	Minimum 15 cores with preferably 2 socket processors.	
Cache	Minimum 12 MB on-chip cache per processor and the highest in the offered configuration.	
Memory	8.00 GB/per core	
Memory Type	DDR4 SDRAM	
Others	<ul style="list-style-type: none"> Raid controller capable of providing RAID 0 and 1 configurations. 	

Make & Model - (To be filled by the Supplier)		Compliance (Yes/No)
	<ul style="list-style-type: none"> Minimum 2*300 GB SAS HDD At least 2 Ports available for USB, Serial, Network. Dual ported 8Gbps Fiber Channel HBA/CNA. There should be High Availability for FC/FCOE traffic. At least 2 Port 10G Ethernet ports/FCOE capabilities. There should be High Availability for Ethernet/FCOE. Should have minimum 2 PCI/PCIe slots/ PMC. Should have internal/external/virtual DVD ROM drive. UL, FCC Certifications O/S licenses as per solution. Virtualization software should be of high end Class and supports <p>Dynamic movement of resources like Memory, IO, Cores across logical servers without reboot of source(except in case of reducing the resources)& target logical servers.</p>	

5.3 SAN Storage

Make & Model - (To be filled by the Supplier)		Compliance (Yes/No)
Operating System & Clustering Support	The storage array should support industry-leading Operating System platforms including: Windows Server 2008, Windows 2012, Vmware, Sun Solaris, HP-UX, IBM-AIX, OpenVMS and Linux.	
Capacity & Scalability	<p>1. The Storage Array shall be offered with total 40TB usable Capacity.</p> <p>A) 10% usable capacity under RAID 5 (7D+1P) using SSD drives</p> <p>B) 40% usable capacity under RAID 5 (7D+1P) using 300GB 15K RPM HDD</p> <p>C) 50% usable capacity under RAID 5 (7D+1P) using 900GB 10K RPM HDD</p> <p>2. Storage shall be scalable to minimum of 400 TB using 900GB drives.</p>	
Cache	<p>1. Offered Storage Array shall be given with Minimum of 32GB cache in a single unit and shall be scalable to 64GB without any controller change.</p> <p>2. Cache shall be dynamically managed for both Read and Write operations.</p>	
Architecture & Processing Power	Controllers should be active-active with load balance across controllers and automatic failover of I/Os in case of any issue like controller failure. The system should support functionalities like Thin Provisioning, Data Tiering etc.	
No Single point of Failure	Offered Storage Array shall be configured in a No Single Point of failure including Array Controller card, Cache memory, FAN, Power supply etc.	
Disk Drive Support	Offered Storage Array shall support 6Gbps dual-ported 300 / 450 / 600 / 900 /1200GB hot-pluggable Enterprise SAS hard drives, Minimum of 400GB SSD Drives along with SAS MDL 1TB / 2TB / 3TB / 4TB drives.	

Make & Model - (To be filled by the Supplier)		Compliance (Yes/No)
Raid Support & Virtualization	Offered Storage Subsystem shall support Raid 0, 1, 1+0, 5 and Raid 6.	
Data Protection	In case of Power failure, Storage array shall have de-stage feature to avoid any data loss.	
Host Ports, Back-end Ports and Volumes	<p>1. Offered Storage shall have minimum of 12 host ports for connectivity to servers running at 8Gbps speed and shall be scalable to 16 host ports without any controller change.</p> <p>2. Offered storage shall have two additional IP ports for the storage based replication.</p> <p>3. Offered storage shall have minimum of 16 SAS lanes running at 6Gbps speed and shall be scalable to 32 SAS lanes or equivalent backend throughput without any controller change.</p>	
Global Hot Spare	<p>5. Offered Storage Array shall support distributed Global hot Spare for offered Disk drives.</p> <p>2. Global hot spare shall be configure as per industry practice.</p>	
Performance and Quality of Service	<p>1. Shall have capability to use more than 30 drives per array group or raid group for better performance.</p> <p>2. Storage shall be provided with Performance Management Software.</p> <p>3. Offered storage array shall support quality of service for critical.</p> <p>4. Quality of service engine shall allow to define minimum and maximum cap for required IOPS / bandwidth for a given logical units of application running at storage array.</p> <p>5. It shall be possible to change the quality of service Response time, IOPS, bandwidth specification on basis of real time.</p> <p>6. Offered Storage array family shall support more than 200,000 IOPS at less than 5ms response time. OEM Vendor should provide documents/ undertaking for the same.</p>	
Thin Provisioning and Space Reclaim	<p>1. Offered storage array shall be supplied with Thin provisioning and Thin Re-claim to make the volume thin for an extended period of time for complete array supported raw capacity.</p> <p>2. Thin Re-claim (Zero Page reclaim) inside storage subsystem shall be automatic in nature and there shall be no need to run any utility inside storage for same.</p>	

Make & Model - (To be filled by the Supplier)		Compliance (Yes/No)
	<p>3. For effective capacity utilization, thin reclaim maximum unit shall be 8KB/16KB. Vendor shall provide the documentary proof for same.</p> <p>4. Offered storage array shall be tightly integrated with virtualization software so that Eager zero disks layout can be used with thin provisioning and thin re-claim.</p>	
Maintenance	Offered storage shall support online non-disruptive firmware upgrade for both Controller and disk drives.	
Snapshot / Point in time copy / Clone	<p>1. Offered Storage shall have support to make the snapshot and full copy (Clone) on the thin volumes if original volume is created on thick or vice-versa.</p> <p>2. The storage array should have support for controller-based snapshots functionality for pointer-based snapshots (At-least 256 copies for a given volume),</p> <p>3. Storage array shall have functionality to re-claim the space from Thin Provisioned Deleted snapshot automatically. Vendors shall provision at-least 20% additional space over and above the actual requirements, if space re-claim from thin provisioned deleted snapshot is not possible automatically.</p>	
Storage Array Configuration & Management Software	<p>1. Vendor shall provide Storage Array configuration and Management software.</p> <p>2. Software shall be able to manage more than one array of same family.</p> <p>3. All required licenses for storage management software shall be provided from day one.</p>	
Storage Tiering	<p>1. Offered storage shall support dynamic migration of Volume from one Raid set to another set while keeping the application online.</p> <p>2. For effective data tiering, Storage subsystem shall support automatically Policy based Sub-Lun Data Migration from one Set of drive Tier to another set of drive tier.</p>	
Remote Replication	<p>1. The storage array should support hardware based data replication at the array controller level across all models of the offered family.</p> <p>2. Replication shall support incremental replication after resumption from Link Failure or failback situations.</p>	

5.4 Tape Library

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
1. Shall support Native data capacity of 120TB (uncompressed) expandable to 300TB (2.5:1 compressed).	
2. Shall be offered with Minimum of Two LTO6 FC tape drive. Drive shall support encryption	
3. Shall be offered with minimum 48 Cartridge slots.	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Tape Library shall be further scalable to 120 slots and 6 LTO-6 drives either within the same frame or by cascading another frame.	
Offered LTO4 drive in the Library shall conform to the Continuous and Data rate matching technique for higher reliability.	
Offered LTO4 drive shall support 160MB/sec in Native mode and 400MB/sec in 2.5:1 Compressed mode.	
Offered Tape Library shall provide 8Gbps native FC connectivity to SAN switches.	
Offered Tape Library shall have partitioning support so that each drive can be configured in a separate partition.	
Offered Library should be provided with license for encryption management and should offer software based key management or hardware base encryption key management solution.	
Tape Library shall provide web based remote management.	
Tape library shall support Barcode reader and mail slot.	
1. Tape Library shall have GUI Panel	
2. Shall have option for redundant power supply	

5.5 SAN Switch

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Minimum Dual SAN switches shall be configured where each SAN switch shall be configured with 24 ports scalable to 48 ports.	
Required scalability shall not be achieved by cascading the number of switches and shall be offered within the common chassis only	
Should deliver 8 Gbit/Sec Non-blocking architecture with 1:1 performance for up to 24 ports in an energy-efficient fashion	
Should protect existing device investments with auto-sensing 4, 8, and 16 Gbit/sec capabilities.	
The switch shall support different port types such as F_Port and E_Port	
Should provide enterprise-class availability features such as redundant and hot pluggable components like power supply and FAN	
Non-disruptive Microcode/ firmware Upgrades and hot code activation.	
The switch shall provide Aggregate bandwidth of 768 Gbit/sec end to end.	
Switch shall have support for web based management and should also support CLI.	
The switch should have USB port/remotely via SSH/Telnet, for firmware download, support save, and configuration upload/download	
Offered SAN switches shall be highly efficient in power consumption. Bidder shall ensure that each offered SAN switch shall consume less than 125 Watt of power.	
Switch shall support POST and online/offline diagnostics, including RAS trace logging/ Syslog/equivalent, environmental monitoring, non-disruptive daemon restart, FC ping and Path info (FC trace route), port mirroring (SPAN port)."	
Offered SAN switch shall support services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QOS zones to expedite high-priority traffic	

The switch shall be able to support ISL trunk up to 128 Gbit/sec between a pair of switches for optimal bandwidth utilization and load balancing.	
SAN switch shall support to restrict data flow from less critical hosts at preset bandwidths.	
It should be possible to isolate the high bandwidth data flows traffic to specific ISLs by using simple zoning	
The Switch should be configured with the Zoning and shall support ISL Trunking features when cascading more than 2 numbers of SAN switches into a single fabric.	
Offered SAN switches shall support to measure the top bandwidth-consuming traffic in real time for a specific port or a fabric which should detail the physical or virtual device.	
The SAN Switch should support option to configure the switches with alerts based on threshold values for temperature	

5.6 KVM Switch and Console Terminal

Make & Model Offered - (To be filled by the Supplier)		Compliance (Yes/No)
Type	Digital (Over IP capability)	
Display	Minimum 17" TFT	
Max. Resolution Support	Full HD	
Form Factor	1U	
KVM Cable	Combo KVM cable and/or DVI cable	
Keyboard/Mouse	104 keyboard/Touch pad	
Operation Temperature	0-40 degree Celsius	

5.7 Server Load Balancer

Make & Model Offered - (To be filled by the Supplier)		Compliance (Yes/No)
Architecture		
Should be appliance based solution with high performance purpose built hardware with 8 GB RAM, 4/8x10/100/1000 copper and 2*10G SFP+ interfaces		
Should have minimum 3M concurrent connections & scalable to 4M on same device and system throughput of 10Gbps.		
Able to synchronize configurations at run time and boot time, connection-states and persistence to provide stateful-failover of applications.		
Able to be deployed in both Active-Standby and Active-Active setups with N+1 clustering support.		
Able to detect system failure or shutdown/reboot, and perform failover to ensure high availability.		
Able to perform failover based on hardware failure, system failure, SSL accelerator failure, switch board failure, network failure and gateway failure.		
Should support built in failover decision/health check conditions including, CPU overheated, system memory, process health check, unit failover, group failover and reboot		
Able to be deployed in a single arm (single subnet) network topology environment.		
Supports XML-RPC messages from third party applications or devices to modify configuration of the load balancer.		
Able to support links aggregation (802.3ad) and LACP (Link Aggregation Control Protocol)		

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Delivery	
Able to load balance ANY IP based application.	
Able to support both TCP and stateless UDP (User Datagram Protocol) applications.	
Able to support load-balancing algorithms such as round-robin, ratio , persistent ip, hash ip, hash cookie, shortest response	
Extensible policies (epolicies) scripts support to implement business logic on network without changes in application code.	
Able to support content based application monitoring, such as HTTP/HTTPS, FTP (passive/active), POP3, IMAP, SIP, SMTP, telnet, RADIUS, LDAP (with TLS or over SSL)..	
Ipv6 Gateway with SSL accelerator	
IPv6 and SSL accelerator should be high performance dedicated appliance based solution (not integrated on load balancer). The proposed solution must integrate with application load balancing appliances for IPv6 migration and SSL acceleration of business applications.	
Able to support mixed combinations of IPv6 and IPv4 virtual addresses and nodes.	
Able to support IPv6-IPv4 and IPv4-IPv6 translations. Proposed solution must be IPv6 ready logo phase-2 certified	
Able to support Ipv6 routing protocols.	
Able to provide integrated SSL termination/acceleration, and SSL re-encryption to the servers.	
Should provide Secure online application delivery using hardware-based high performance SSL acceleration with minimum of 3Gbps SSL throughput and 5,000 2048 bit SSL TPS (transaction per second) not connection per second (CPS).	
Able to aggregate multiple connections to a single server side connection.	
Able to transform HTTP1.0 to HTTP1.1 for server connection consolidation.	
Able to support integrated rate shaping to allocate bandwidth and priority to specific applications.	
Able to support multi-store caching of static and dynamic web content (RFC2616).	
Security & Management	
Able to support DoS mitigation through connection proxy.	
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.	
Able to support packet filtering based on layer 3 to layer 7 information.	
The centralized management appliance should have extensive report and logging with inbuilt TCP dump like tool and log collecting functionality. Should have 4GB RAM and 4*10/100/1000 copper interfaces	
Should support role based access control with different privilege levels for configuration management and monitoring of individual appliance or multiple appliances.	

5.8 Router (Internet)

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Router Architecture: The router architecture should have following features	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Modular Chassis	
Interface Support Required: The router architecture should have following features	
Ethernet LAN Ports -> 4 x 10/100/1000 Mbps. It should support additional Gigabit Ethernet modules i.e. both 10/100/1000 or SFP type	
E1 V.35/G.703 Ports ->1 port with MLPPP support	
Console Port -> 1	
Memory Required:	
Minimum RAM Required -> 1GB	
Minimum Flash Memory Required * -> 1GB	
* For the Supplier who's Router does not match the Flash memory requirement, should ensure to provide adequate memory to accommodate all OS features required at present or in future.	
Performance Requirements for 64 byte packet -> Minimum 750 Kpps	
Router Functional Requirements	
QoS ->ToS, CoS, Queuing, prioritizing, Resource Reservation Protocol (RSVP)	
NAT -> NAT, PAT	
Should support multiple levels of access control for the management and troubleshooting	
Protocol Support Required: RIP, BGP4, Policy based Routing, PPP, OSPF Version 2 as per RFC 1583 / RFC 1793, and should have Support for IPV6. Re-distribution of routes from on Routing protocol should not be a bottleneck. All the above features should be provisioned in the router from day 1.	
Router should support features like MPLS, L2 VPN, L3 VPN etc.	
Congestion Management: The router should have proper congestion management to eliminate Network congestion when the link is overloaded. Random Early Detection, Weighted Fair/priority Queuing, IP precedence or DSCP.	
IP Multicasting: Type Forwarding -> MBGP/PIM-DM/PIM-SM	
Accounting: The following accounting features should be supported:	
Packet & Byte Counts	
Start Time Stamp & End Time Stamps.	
Network Time Protocol	
Input & Output interface ports.	
Type of service, TCP Flags & Protocol	
Source & Destination IP addresses	
Source & Destination TCP/UDP ports	
Security Requirements: The offered router should have following security features:	
Support for Standard Access Lists to provide supervision and control.	
SNMP Access through implementation of Access Lists on the router to ensure SNMP access only to the SNMP manager or the NMS workstation	
SNMP access through the use of SNMP with MD5 authentication.	
Multiple Privilege Levels for managing & monitoring	
Support for Remote Authentication User Service (RADIUS) and AAA	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Management Features :	
The offered router should have the following Management Features:	
The Router shall support Telnet, SSH, Console access.	
The router shall support FTP or TFTP for easy software upgrades over the network.	
Network Management services shall be provided using open standards based protocols like SNMP V2/V3	
Configuration Management: The Router shall support configuration management through the command line interface. GUI based software configuration utility shall be provided. Support of configuration on web interface shall be available.	
Event and System logging: Event and system history logging functions shall be available. The Router shall generate system alarms on events. Facility to put selective logging of events onto a separate hardware where the analysis of log shall be available.	
Pre-planned scheduled Reboot Facility: The Router shall support the preplanned timed reboot to upgrade their hardware to a new software feature and plan the rebooting as an off-peak time.	
Power: Internal Redundant Power supply 230 V AC 50 Hz,	
Mounting:	
The offered router should be 19" rack mountable	
Accessories:	
Should come with all necessary power cords, adapters, data cables, connectors, CDs, manuals, brackets accessories, wire managers, etc., required for installation and commissioning of the equipment.	
The routers should be either EAL2/EAL3 or NDPP certified by Common criteria lab	
The routers should be RoHS compliant	

5.9 Firewall

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Hardware Feature	
The Firewalls should be Hardware based, Reliable, purpose-built security appliance with 6 Nos. of 10/100/1000 Base Tx interfaces and 10G & 1G fibre connectivity.	
Should be redundant supporting Active/Active & Active/Standby Firewall for High Availability & Scalability	
Firewall Throughput of minimum 7 Gbps	
IPSEC 3DES Throughput of Up to 1400 Mbps	
Concurrent Sessions of at least 4,50,000	
IPSec VPN Peers of up to 2000	
Virtual Interfaces (VLANs) support for at least 200 VLANs for forming Secure server Farms and DMZs	
Software Features	
Application Security Services	
The Firewall should have Integrated specialized inspection engines for protocols like HTTP, FTP, DNS, SNMP, ICMP, NFS, H.323, SIP, RTSP and many more	
The Firewall should provide advanced inspection services to detect and optionally block instant messaging, peer-to-peer file sharing, and other applications tunneling through Web application ports	
Inspection or through ALG for H.323, SIP based voice and multimedia streams	
To provide TCP stream reassembly and analysis services to help detect attacks that are spread across a series of packets	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Network Containment and Control Services	
Inbound and outbound access control lists (ACLs) for interfaces, time-based ACLs, and per-user or -group policies for improved control over network and application usage	
Powerful reporting and troubleshooting capabilities that help enable collection of detailed statistics on which ACL entries are triggered by network traffic attempting to traverse a security appliance in integration with an external NMS	
Rich dynamic, static, and policy-based NAT and PAT services	
Secure Connectivity Services	
IPSec VPN services for up to hundreds of simultaneous remote devices	
Support for Internet Key Exchange (IKE) and IPsec VPN standards.	
High-Availability Services	
Support for Active/Active & Active/Standby failover.	
Support for bidirectional state sharing between Active/Active failover pair members for support of advanced network environments with asymmetric routing (PBR) topologies, allowing flows to enter through one Firewall appliance and exit through the other, if required	
Support for Synchronizing all security association state information and session key material between failover pair members	
Support to perform software maintenance release upgrades on the Firewall failover pairs without affecting network uptime or connections	
Intelligent Networking Services	
Support for multiple virtual interfaces on a single physical interface	
Comprehensive OSPF dynamic routing services	
Capability to forward DHCP requests from internal devices to an administrator-specified DHCP server, helping enable centralized distribution, tracking, and maintenance of IP addresses	
Support for NTP to provide convenient method for synchronizing the clock on the firewall appliance with other devices on a network	
Flexible Management Solutions	
Support for Built-in Management Software for simple, secure remote management of the security appliances through integrated, Web-based GUI	
Should provide a wide range of informative, real-time, and historical reports that give critical insight into usage trends, performance baselines, and security events in integration with external NMS.	
Accessible through variety of methods, including console port, Telnet, and SSHv2	
The firewall should be RoHS compliant	

5.10 WAN Router

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Architecture:	
Should have support for Data, Voice & Video services.	
Should be chassis based & modular architecture for scalability	
Should have power supply redundancy. There should not be any impact on the router performance in case one of the power supplies fails.	
All interface modules, power supplies should be hot swappable/OIR for high availability	
Should support hardware based VPN (3DES/AES) Encryption	
Should support Firewall features.	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Interface Required	
Should have min. 4 Ports E1 ports	
Minimum 4* 10/100/1000 Mbps or Gig Copper Ethernet ports for WAN and LAN	
One dedicated Fast Ethernet port/ Serial console port for management	
Should have supports for DES, 3DES, and AES IPSec encryption	
Minimum 3 spare Service Slots after fully populating all the cards as per the requirement	
Performance:	
Shall support high performance traffic forwarding with con-current features like Firewall and encryption.	
Forwarding Capacity shall be a minimum of 750 Kpps (considering 64byte packet size)	
Shall support variety of interfaces like G.703, E3, , Ethernet Interfaces – 1Gbps, 10/100 Mbps	
Should have support for MLPPP	
Should have integrated IP Services like GRE tunneling, ACLs, IPSEC VPNs, VPN , Firewalling, NAT	
Should have IPSec performance of 150-Mbps	
Should have at least one USB ports.	
Shall support Voice traffic optimization with features like LFI, cRTP	
Should have minimum of 1GB of RAM and 1GB of Flash Memory and should be upgradeable.	
High Availability	
Shall support, On-line insertion and removal for cards, fast reboot for minimum network downtime, VRRP or equivalent	
Shall support storage of multiple images and configurations	
Protocol Support from day-1	
Should have Routing protocols like IS-IS, RIP ver1 & RIP ver2, OSPFver2, BGP4	
Should have Multicast routing protocols IGMPv1, v2 (RFC 2236), PIM-SM (RFC2362) and PIM-DM	
Should support IPv6 routing protocols like RIPng, OSPFv3 etc.	
Shall support MPLS Provider /Provider Edge functionality. MPLS VPN, MPLS mVPN (Multicast VPN), VRF Services, MPLS TE (Fast re-route), Inter-AS VPNs	
Support for Load balancing Protocol like ECMP	
QoS Features:	
Shall support the following	
Classification and Marking: Policy based routing, IP Precedence,	
Congestion Management: WRED, Priority queuing, Class based queuing	
Traffic Conditioning: Committed Access Rate/Rate limiting	
Signaling: RSVP for Bandwidth reservation	
Sub interface QoS.	
Link efficiency mechanisms: cRTP, LFI, MLPPP.	
Shaping and Policing for QoS	
Security Features:	
GRE Tunneling, NAT, L2TP or equivalent tunneling, without any major performance impact.	
IPSEC Site-to-Site and Remote Access VPNs. Hardware based encryption. Any Office to Any other office, dynamic establishment of VPNs so that the configuration & management of IPSEC VPNs becomes easier. IPSEC VPNs should be able to carry data, voice, video	
Firewall features	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
MD-5 route authentication for RIP, OSPF and BGP	
SNMPv3 authentication, SSHv2	
AAA support using Radius	
DoS prevention DDoS protection	
IP Access list to limit Telnet and SNMP access to router	
Shall support multi-level of access.	
Multiple privilege level authentications for console and telnet access through Local database or through an external AAA Server.	
Time based or Dynamic ACLs for controlled forwarding based on time of day for offices	
Multi-media support:	
Shall support Voice pass-through	
Shall support, SIP pass through	
Voice based QoS	
Debug, Alarms & Diagnostics:	
Support for monitoring of Traffic flows for Network planning and Security purposes	
Display of input and output error statistics on all interfaces	
Display of Dynamic ARP table	
Trace-route, Ping and extended Ping	
Should have capabilities for SLA monitoring for metrics like delay, latency, jitter, packet loss or NQA or Equivalent	
Management	
Shall have support for, CLI, Telnet and SNMPv3,SSH	
Embedded RMON support for four groups – history, statistics, alarms and events	
Should have to support Out of band management through Console / external modem for remote management.	
The routers should be either EAL2/EAL3 or NDPP certified by Common criteria lab	
The routers should be RoHS compliant	

5.11 Core Switch

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Hardware	
1. Core switch should have features as under:	
a) High back plane speed (700 Gbps or more) and should have non-blocking wire rate architecture	
b) Active switching bandwidth should be 700 Gbps with offered modules/platform.	
c) The forwarding rate should be scalable to 390 Mpps for both IP V4 and IP V6	
d) Should have 8 X 10 Gig SR distributed across over 2 line cards/modules. Should have 80 x 10/100/1000 Mbps Ethernet ports Should have 48 x 1000 BaseSX ports	
e) Should have at least two spare slots after fully populating as per the requirement	
2. Should have redundancy at various levels:	
a) Should have redundant Power Supply	
b) Should have redundant Switching engine. The required switching & routing performance should not degrade with failure of primary switching and routing	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
3. Chassis should support 10G Technology	
4. Support for 30,000 MAC addresses and 100K IP routes and 1000 multicast routes.	
5. Layer 2 Features:	
Layer 2 switch ports and VLAN trunks	
IEEE 802.1Q VLAN encapsulation	
Support for at least 4000 Active VLANs.	
Dynamic Trunking Protocol (DTP) or equivalent VLAN Trunking protocol	
802.1s,802.1w,IGMP snooping v1/v2/v3	
Port trucking technology across line cards	
6. Layer 3 Features from day 1	
RIPv1, v2, OSPF, BGP-4, IGMP v3, PIM, SSM, DHCP relay, HSRP/VRRP,IGMP filtering on access and trunk ports, UDLD or equivalent, Spanning Tree protocol 802.1s, Spanning-tree root guard,802.1w, 802.3ad, IPv4 & IPv6 in hardware	
7. Standards	
Ethernet : IEEE 802.3, 802.3u,803.3z,802.ab,802.3ae	
IEEE 802.1D,802.1w,802.1s,802.1p,802.1Q,803.ad	
RMON I standards	
8. High Availability	
Shall support On-line insertion and removal for cards	
Shall support fast reboot for minimum network downtime	
Shall support stateful switch-over so that CPU forwarding is not impacted on account of active CPU failure	
Shall support storage of multiple images and configurations	
Shall support link aggregation using LACP as per IEEE 802.3ad	
Shall support VRRP or equivalent	
On power up the platform should use built-in system monitoring & diagnostics before going online to detect failure of hardware.	
9. Protocol Support	
Shall support IPv6 features	
Shall support RIPng/ Equivalent OSPFv3 for IPv6	
Shall support Routing protocols like RIP ver1 (RFC1058)&2 (RFC 1722 and 1723), OSPF ver2 (RFC2328), BGP4 (RFC1771)	
Multicast routing protocols support : IGMPv1,v2 (RFC 2236), PIM-SM (RFC2362) and PIM-DM	
10. QoS	
802.1p class of service (CoS) and differentiated services code point (DSCP) field classification	
Switch should support priority queuing, WRED, Packet classification, marking etc.	
Should support 8 queues per port in hardware	
11. Security Features:	
Shall support multi-level of access	
SNMPv3 authentication	
SSHv2	
AAA support using RADIUS and/or TACACS, which enable centralized control of the switch and restrict unauthorized users from altering the configuration	
Per port broadcast, multicast and unicast storm control to prevent faulty end stations from degrading overall system performance.	
Private VLANs (PVLANS) or equivalent	
IP Access list to limit Telnet and SNMP access to router	
Multiple privilege level authentication for console and telnet access	
Dynamic Host Configuration Protocol (DHCP) snooping	

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Standard and extended ACLs on all ports or equivalent	
12. Switch Management	
Shall have support for Web based management, CLI, Telnet and SNMPv1, 2c,v3	
Imbedded RMON support for four groups – history, statistics, alarms and events	
Should support AAA features through RADIUS and TACACS+	
Should support multiple levels of administration roles to manage and monitor the device.	
Should support Network Time Protocol.	
Should be able to send and receive syslog and SNMP traps from devices.	
Should support pre-scheduled system reboot facility for management ease.	
Shall support Out of band management through Console	
The routers should be RoHS compliant	

5.12 L3 DMZ Switch

Make & Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Hardware Architecture	Multiple traffic services (Data, voice, video)
	Internal/External Redundant Power Supply
	1 x 24 Ports GE (10/100/1000Mbps)
	Switch should support 2 X 10 Gig ports for uplink
	High back plane speed minimum 120 Gbps
	Forwarding rate should be minimum 65 Mpps
L2 Features	Layer 2 switch ports and VLAN trunks
	IEEE 802.1Q VLAN encapsulation
	Support for at least 300 VLANs.
	Dynamic Trunking Protocol (DTP) or equivalent
	VLAN Trunking Protocol or equivalent
	802.1s, 802.1w
	Minimum 12 K Mac addresses
IP Routing Protocols	IGMP snooping v1 and v2, v3
	Static IP Routing
	OSPF
	RIP
L3 features	Hot Standby Routing Protocol/VRRP
	ICMP support, IPv6 Support
Security	Standard and extended ACLs on all ports
	Dynamic Host Configuration Protocol (DHCP) snooping
	AAA and RADIUS authentication enable centralized control of the switch and restrict unauthorized users from altering the configuration.
	Secure Shell (SSH) Protocol and Simple Network Management Protocol Version 3 (SNMPv3) to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.
Manageability & Upgradation	Switch needs to have console port for administration & management
	Must have support SNMP v1, v2, v3
	Management using CLI, GUI using Web interface
	FTP/TFTP for upgrading the operating System
	Minimum 32 supplant of 802.1x per port

Make & Model Offered - (To be filled by the Supplier)		Compliance (Yes/No)
Standards	IEEE 802.1x support	
	IEEE 802.3x full duplex on 10BASE-T and 100BASE-TX ports	
	IEEE 802.1D Spanning-Tree Protocol	
	IEEE 802.1p class-of-service (CoS) prioritization	
	IEEE 802.1Q VLAN	
	IEEE 802.3 10BASE-T specification	
	IEEE 802.3u 100BASE-TX specification	
Physical	19" Rack mountable with support for stacking for upto 2 switches with minimum stack bandwidth of 40 Gbps and single IP management.	
	All necessary power cords, adapters, data cables, connectors, CDs, manuals, brackets accessories, wire managers, etc. should be provided	
	The routers should be RoHS compliant	

5.13 Enterprise Portal Server

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Support for Web-based administration that can monitor portal components such as HTTP /HTTPS server, Portal Cache, etc. and maintain portal configuration files.	
Should provide single information view of the data coming from multiple sources such as web service, XML, MS-SQL source, Web Pages and Spreadsheets. This would need ability to connect to multiple sources, defining rules and filtering conditions	
Should provide ability to clip any website to encourage re-use of already available content.	
Should have support for centralized, web based user provisioning ensuring single definition of users, roles, groups and access rights.	
Architecture should support either.NET or Java platform or both.	
Should deliver content based on user attributes or preferences	
Should have support for Personalization of home page using drag & drop functionality	
Portal solution should be based on next generation Web 2.0 portal framework built specifically for componentized Web 2.0 services. It can be easily integrated with other web 2.0 services like wikis, blogs and other Collaboration functionalities like Communities, Project-based tasks (Creation & Management) etc.	
Portal Solution should be able to manage portal content using web content management from common content management repository.	
Search should support content, keywords, Full text & people search.	
Should provide or easily integrable with other BI or analytics offerings to track portal/community traffic, searched keywords, system response time, document downloads, user turnover, visit duration, etc.	
Should provide ability to surface data provided by packaged and custom applications like ERP..	
Should provide support for Digital certificates and Secure Interface for confidential transactions as required.	
The Solution should provide aggregation features to integrate various portlets/webparts/ adapters.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should support multiple languages.	
Should provide browser-based tools that would let business-level portal managers intelligently assemble, configure, and manage enterprise portals. The administration tools should provide granular control	
Should provide the ability to change a site's user interface. Users shall be able to customize the placement of books, pages and portlets /webparts, or the look and feel of their personal pages.	

5.14 Directory Software

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should provide support for X.500 naming standards and should support PKI for logon and authentication.	
Support for integrated LDAP compliant directory services to store information about users,	
Should support features for health monitoring and verifying replication.	
Should provide support for modifiable and extensible schema.	
Should support multi-master directory service replication features, Directory Server should be scalable and should have multi-master & multi-site capabilities.	
Should support security features, such as support for smart cards, public key infrastructure (PKI), and x.509 certificates.	
The Object types supported should include: Users Object Type; Groups (Security & Distribution Groups which can be static or dynamic); Foreign Users (Non-employees/Business partners etc.); Printers, Containers for purposes of grouping, administration and policy control	
Search capability to query all directory objects.	
Should support recovery of a Single Object as well as the entire directory.	
Loss of a single directory server should not affect ability for users to logon.	
Should support that password reset capabilities for a given group or groups of users can be delegated to any nominated user.	
Should support that user account creation/deletion rights within a group or groups can be delegated to any nominated user.	
Should support that group membership management within a group can be delegated to any nominated user.	
Should support multiple password and account lockout policies for different set of users.	
Should be extensible & should have capability to be extended for custom development.	
Support for integrated LDAP compliant directory services to store information about users,	
Object types supported should include: Users Object Type; Groups (Security & Distribution Groups which can be static or dynamic),	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should provide the audit capability to log old and new values when changes are made to objects and their attributes; should provide delete protection for directory objects.	
Should support the deployment of a read only additional directory server which may be deployed in a different location so as to prevent any changes from the other location.	
Directory Architecture: should have at least 2 servers for load balancing and ensuring high availability.	

5.15 Intrusion Prevention System (IPS)

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
IPS should be available as a plug-n-play appliance.	
IPS should support open source as the underlying operating system	
Monitoring interfaces operate at layer 2, thus requiring no IP address or network reconfiguration.	
The appliance have inspected throughput of 2 Gbps for all kinds of ecommerce and web traffic.	
The appliance monitors upto 4 inline segment and has 8 10/100/1000 interfaces for the same.	
The appliance should have separate dedicated 10/100/1000 Mbps interface for management console. None of the monitoring ports should be used for this purpose.	
The IPS should be deployable in the following modes: Passive or IDS mode, Inline Protection Inline Simulation	
IPS vendor should have its own original threat intelligence analysis center and is not overly dependent on information available in the public domain.	
IPS should detect and block all known, high risk exploits along with their underlying vulnerability (not just one exploit of that vulnerability).	
IPS should detect and block zero-day attacks without requiring an update.	
IPS should employ full seven-layer protocol analysis of over 150 internet protocols and data file format.	
IPS should operate effectively and protect against high risk, high impact malicious traffic via default out of box configuration, should be able to block more than 1100 attacks by default.	
IPS should perform stateful packet inspection	
IPS should detect and block malicious web traffic on any port.	
Does TCP stream reassembly?	
Does IP defragmentation.	
Does Protocol anomaly detection	
Does Bi- directional inspection	
Detects attacks within protocols independent of port used	
Does Heuristics	
Does RFC Compliance	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Does Protocol tunneling	
IPS should do attack recognition inside IPv6 encapsulated packets	
IPS should do active blocking of traffic based on pre-defined rules to thwart attacks before any damage is done.	
Accurately detects intrusion attempts and discerns between the various types and risk levels including unauthorized access attempts, pre-attack probes, suspicious activity, DoS, DDoS, vulnerability exploitation, brute force, hybrids, and zero-day attacks.	
Allows full policy configuration and IPS sensor control via encrypted communications with remote management system.	
Can enable/disable each individual signature.	
Supports assigning of ports to custom applications.	
Filters traffic based on IP address or network range, protocol, and service in support of organizational security policy to allow/disallow specific types of activity between hosts.	
Should support Active/Passive OR Active/Active for the appliance, the HA should be out of the box solution and should not requires any third party or additional software for the same	
IPS should notify console of unit interruption. The console should receive alert and/or provide additional notification to administrator should any component become non-operational or experience a communications problem.	
IPS Management console should support high availability.	
IPS should support granular management. Should allow policy to be assigned per device, port ,VLAN tag, IP address/range	
IPS centralized management console should manage all the IPS solution components	
Management Console should be able to integrate and correlate with vulnerability assessment solution of the same brand/ third party.	
IPS should offer variety of built-in responses including console alerts, database logging, email notifications, SNMP traps, offending packet captures, and packet captures.	
IPS should offer Includes built-in reports. The console should be capable of producing graphical metrics and time-based comparison reporting.	
IPS vendor should have 24/7 security service update and should support real time signature update.	
IPS vendor product models should have been tested/certified for EAL/NSS/Tolly/ICSA.	

5.16 eForms Software

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should offer dynamic, intelligent XML electronic forms that comply with industry open standards (like xform 1.1 or HTML5) and should support open standards based implementation	
Provides a single envelope for all XML components regarding presentation, business logic, data, and attachments to help ensure a complete transaction record.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
XML e-forms should enable multiple and overlapping digital signatures on a single electronic form to ensure the integrity of the record, via multiple signature technology such as clickwrap, authenticated clickwrap, PKI based digital certificate, digital signing pad (Interlink, Topaz, Wacom and WinTab1.1), and XML D signature.	
The xml e-Forms must achieve compliance with government regulations and policies, and must ensure that data captured in electronic forms is complete and accurate as an auditable business record.	
The xml e-Forms must bind the full context of any transaction (and steps within a transaction), including the templates presentation, data, logic, metadata, and supporting files (e.g., graphics, signatures, attachments), in one (single) comprehensive electronic file	
The xml e-Forms must have facility to avoid non-repudiation and must locked down the entire e-Forms with absolute assurance of document integrity relative to signatures and related data	
e-Forms should provide the online and offline capabilities to the citizen for filling and saving the data locally which can be uploaded once connected to the internet.	
The e-Forms should enable high compression to reduce size of electronic forms	
e-Forms should support operations with multiple languages in Unicode	
e-Form must provide ability to invoke integrate via REST API	
The Form designer tool must provide the user to design re-usable form parts, which can be assembled to create newer form quickly without duplicating efforts.	
The Forms thus designed once should be able to render in the Offline and Online mode without any changes in the form definition or design	
The Forms designer tool must be able to save the design form as pure xForms v1.1 compliant form or XFDL form	
e-Form should build great looking web applications through web 2.0 user interface and modern widgets and themes	
e-Forms should be COTS/Bespoke	
e-Form should able to synchronize the offline/Online e-Form data to the host RDBMS in automode	

5.17 Security Event Correlation and Log Management Solution

The event correlation forms the core backbone for monitoring of the IT infrastructure and log management for historical analysis of log data. The solution should have the following features.

Sr. No.	Make & Model - (To be filled by the Supplier)	Compliance (Yes/No)
1.	The SIEM solution should be an appliance based solution (physical/virtual) totally managed by one OEM including all OS/software/database and other licenses. The underlying hardware should be at least quadcore for optimal performance.	
2.	All software updates and upgrades for the SIEM solution should be considered in the cost of solution for the AMC period.	
3.	The solution is required for log collection from all offered devices (networking/security/servers) and sustained correlated event capacity of 10,000 EPS with collectors working in high availability for zero data loss during log collection.	

Sr. No.	Make & Model - (To be filled by the Supplier)	Compliance (Yes/No)
4.	The solution should be able to collect raw logs in real-time to a Central log database from any IP device including: <ul style="list-style-type: none"> Networking devices(router/switches/voice gateways) Security devices (IDS/IPS, AV, Patch Mgmt., Firewall/DB Security solutions) Operating systems(Windows 2003/2008,Unix,linux,AIX) Virtualization Platforms(Microsoft HyperV, VMware Vcenter/VSphere 4.X, vDirector, Citrix) Databases(Oracle/SQL/MYSQL/DB2) 	
5.	Provide sample integration guides for each of the categories listed above	
6.	The collection devices should support collection of logs through Syslog, syslogNG, Checkpoint LEA, SNMP,ODBC, SFTP(for flat file) , CISCO SDEE, Windows Agent based(Snare)/ Agentless(WMI) and provide incident normalization and correlation at every collection appliance.	
7.	The collected logs should be stored in purpose built database used for storing IP related information.	
8.	The raw logs should be time stamped, compressed and encrypted before being written to the storage.	
9.	The SIEM Solution Database should use Write Once Read Many (WORM). Once the logs are written to the disk/database no one including SIEM or database/system administrator should be able to tamper the stored RAW logs.	

5.18 Enterprise Content Management System

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Ability to interface/integrate with standard software tools, graphing and charting tools	
Ability to retrieve/import images; image formats graphics; graphic formats etc.	
Ability to extract/retrieve/import content from databases	
Ability to interface with other platforms	
Ability to interface/ integrate with desktop publishing tools	
Ability for authors/contributors to create/save content directly into the repository (I.e. without a separate authoring tool, and without having to author content then import it into the repository)	
Ability to support standard note file automation as followed in the current system of ULBs file management	
Ability to define policies for documents such as active / retiral / archival / destruction of documents and records.	
Ability to access/collect/retrieve/import static and variable content components from multiple types of sources, including automated systems as well as individual contributors.	
Ability to access/collect/retrieve/import content using import utilities or other code modules, either user-invoked or invoked via an automated process, from LAN/WAN locations	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Ability to access/collect/retrieve/import content with automated scheduled script as well as user selection	
Ability to identify source of content, original as well as updates	
Ability to calculate/create/ cancellation/ modifications new content from existing components	
Ability to handle variable components: text, data, graphics, images, charts and graphs	
Ability to create/handle graphs, bar/pie charts from variable and historic data	
Ability to define templates as assemblies of components, and use templates to create document instances; graphical user interface	
Ability to compose complete layouts; layout formatting capabilities	
Ability to handle variable components in templates: vary in content, vary in size; effect on resulting document instances	
Ability to force page breaks	
Ability to embed business rules in template definitions, to vary resulting documents based on presence/value of specific content	
Ability to preview sample document from template definition	
Ability to import/convert existing templates	
Ability to have built-in functions: page numbering, header/footer sections, columns, etc.	
Ability to re-use components in templates/documents	
Ability to cross-reference components to templates/documents, and list the templates/documents a component is used in	
Ability to search templates/components/documents	
Ability to search templates/components/documents for replace & replace-all updates; ability to define search criteria for replace/replace-all	
Ability to show how each template/component/document relates to others in search results	
Ability to view actual templates/components/documents in search results: e.g., double-click to open	
Ability to populate templates from content components to create documents; user-invoked vs. automated	
Ability to combine/calculate/generate content when creating documents from templates	
Ability to verify documents; document preview	
Ability to refine/customize content on document instances without changing at template	
Ability to revise published documents	
Ability to output documents in various presentations formats, including (but not necessarily limited to): PDF, PowerPoint, Word, Excel, HTML, XML, RTF, etc. formats for commercial printers.	
Ability to deliver components/documents to intranet sites; internet sites; downloadable; editable vs. read-only	
Ability to print-ready output: output usable by commercial printing services	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Ability to generate color output	
Ability to have edit and dynamic page breaks	
Ability to optimize printing for graphics-intensive documents, for varying printer speeds	
Ability to enter attribute information about a template/component/document (including images and graphs): (title, subject, type, keywords/tags)	
Ability to generate attribute information such as author, date created, version, date modified/by whom; at component/document/template save	
Ability to search templates/components/documents for retrieval by author, title, date, type and other attributes, keywords/ tags, full text search, wildcard search, advanced search (AND, OR, NOT)	
Ability to do full-text indexing as well as attribute indexing	
Ability to construct search criteria with a wizard, not a query language	
Automatic inclusion of archives	
Ability to choose directories/sub-directories to search, including archives	
Ability to view	
actual template/component/document in search results: e.g., double-click to open, zoom in-out	
Ability to print/produce documents from search results	
Ability to store templates/components/documents/versions in folders or other container hierarchy	
Ability to organize templates/components/documents: by type, author, date created, etc.	
Ability to check-out and check-in for template/component/document	
Ability to check-in only by user who checked out the template/component/document	
Ability to lock-out or notification of checked-out status for templates/components/documents being updated	
Ability to store and recall versions of templates/components/documents	
Ability for user to decide to save a revision/update as a new version or replace existing version	
Ability to distinguish between versions	
Ability to compare versions and report differences	
Ability to rollback to a prior version	
Ability to archive templates/components/documents	
Ability for user to define purge criteria and/or retention periods	
Ability to audit trail: who changed what when, template/component/document history tracking	
Ability to route automatically and notify for review/approval: status tracking, electronic approvals, history, annotation, comments , etc.	
Ability to attach documents to workflows	
Ability for reviewers/approvers to add comments/annotate documents/components, highlight text, attach related docs/files	
Ability to depict graphically workflows end-to-end	
Ability to define workflows by document/project	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Ability to route to an outside entity via email	
Ability to automatically notify via email or system notification, to component and document owners when a component is changed, so that the owners know what documents to change	
Ability to support for workgroup collaboration; definition/scheduling of tasks/plans/projects; notifications to users of pending/due/overdue tasks	
Ability to track status of task/plan/project	
Ability to email templates/components/documents from the desktop	
Ability to define distribution lists/ mailing lists; ability to email to an outside entity.	
Ability to do ad hoc reporting: graphical user interface, wizard, selections vs. expressions	
Ability to track Template/component/document usage	
Ability to generate user-definable reports & pre-defined reports	
Ability to export report results; to multiple formats (e.g., Excel, .txt, HTML)	
Ability to preview reports	
Ability to save report instances to a shared or local drive, printer, etc.	
Ability to administer system at user level; e.g., set-up new templates, change existing templates and content sources, change output formats.	
Ability to have security level at Template/component/document	
Ability to create user roles, access levels definable by system admin	
Ability to uniquely identify each user	
Ability to restrict users having more than one concurrent connection	
Ability to store passwords in encrypted format	
Ability to identify inactive ID's	
Ability to support authentication mechanisms	
Ability to establish access control for confidential/highly restricted information	
Ability to use Digital Signatures for approval	
Ability of NAS/SAN support for high volume image/document storage/retrieval;	
Should support full indexing on documents containing word, tiff and pdf files	
Should support open environment and based on industry standards like J2EE, .NET and XML API for custom application development.	

5.19 Back-up Software

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Backup Solution should be available on various Operating System platform like, UNIX (SUN Solaris, HP-UX and IBM AIX, etc.), Linux, Netware, and Windows and etc. Should support clustered configurations of the backup application in a cluster i.e. backup application should failover as a highly available resource in a cluster.	
The backup software should be capable of doing full, incremental, differential, and other block level backups.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
The backup software should be capable of performing self-healing of backup indexes, which would include consistency checking on its indexes to verify if there is any corrupt data.	
The backup software should be able to encrypt the backed up data using 256-bit AES encryption.	
Software should have full command line support on above mention operating systems.	
Should have SAN support on above mention operating systems. Capable of doing LAN free backups for all platforms mentioned above.	
Should support "Hot-Online" backup for different type of Databases such as IBM DB2, Oracle, MS SQL, Sybase etc.	
Software should have an inbuilt feature for Tape to tape copy feature (cloning, within the tape library) to make multiple copies of the tapes without affecting the clients for sending tapes offsite as part of disaster recovery strategy.	
Should have the optional ability of staging the backup data on a disk and then de-stage to a tape based on the policy for faster backups.	
Should support NDMP backup to disk. The software should be capable of doing NDMP configuration through the GUI.	

5.20 Mobile Application Framework

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Platform/technology Support	
<ul style="list-style-type: none"> Shall support all versions/platforms/technologies/devices as per mGov Standards of Government of India 	
<ul style="list-style-type: none"> Should support the target packaging components like <ul style="list-style-type: none"> @ Mobile Website @ Hybrid App @ Native App @ Web App 	
Application Development	
Should support Eclipse tooling platforms	
Should support the ability to write code once and deploy on multiple mobile operating systems	
Should support drag-and-drop editor for building mobile UI applications	
Should support integration with 3rd party UI and form-based libraries	
Should support integration with native device API	
Should support utilization of all native device features	
Should support development of applications in a common programming language	
Should support integration with mobile vendor SDKs for app development and testing	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should support tooling environment on @Windows @Macintosh environments	
Should support HTML5, CSS3, JS features for smartphone devices (mainly applicable for hybrid framework since they have a browser of their own)	
Server	
Should support common protocol adapters for connection to back office systems (i.e. HTTP, HTTPS, SOAP, XML for format)	
Should support JSON to XML or provide XHTML message transformations	
Should support native push notifications for multiple mobile service providers	
Should support encrypted messaging between server and client gateways	
Should support the ability to log all messages that pass through the server	
Should support integration with backend server components on standard protocols like REST, SOAP, Web Services	
Should support multi-lingual and language internalization	
Should support clustering at the application level for high-availability and load-balancing	
Should support disaster recovery mechanisms for data recovery and business continuity	
Mobile Security	
Should support enterprise-wide SSO authentication with 3rd party LDAP repositories - for example like LTPA , SAML, Kerberos tokens	
Should support on-device encryption storage using AES256 and PKCS #5 - generated encryption keys	
Should provide facility to authenticate the user offline to provide security to data.	
Should support user authentication through 3rd party LDAP repositories	
Should support user role authorization to provide specific access rights to execute sensitive transactions with enterprise identity and access management solutions	
Should support client to middleware server over HTTPS communication channel to prevent data leakage and maintain information integrity and privacy	
Should support authentication tokens as HTTP headers or cookies	
Should support data encryption for on-device data storage	
Messaging with Device Client	
Should support messaging with server for multiple mobile operating systems	
Should support encrypted messaging between server and client components	
Should support encrypted storage of applications and application data	
Should support flexible API framework to build offline apps and enable offline usage	
Application Management	
Should support remote disabling and removal of applications	
Should support remote application distribution	
Should support remote application updates for the web HTML resources	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Should support silent direct updates for the web HTML resources	
Should support customization of user notifying messages when app versions are to be disabled in the future	

5.21 Workflow Management System (BPM)

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Business Process Management	
BPM platform should have the functionality of the design, implementation, simulation, optimization and re-deployment of business processes.	
BPM platform should have the functionality of public mailboxes allocation and management of group work tasks.	
BPM platform should be supported to carry out simple (review, approve) the business processes.	
The graphical interface should have the option interface for analyst's business process (easy) and designers of business processes (with the functionality to implement).	
BPM platform should have the functionality to escalation and prioritization of tasks.	
BPM platform should have the functionality to automate tasks using Java and XML Web Services.	
BPM platform should have the functionality of tracking the status of active tasks.	
BPM platform should have the functionality to store all user actions undertaken in processing tasks (audit log).	
BPM platform must have the functionality to view statistical reports on work assignments.	
BPM platform must be able to react to system events such as timers or entering a new document in the system.	
BPM platform must have the possibility of conditional branching in business processes.	
BPM platform must have a parallel routing functionality in business processes.	
BPM platform should have the functionality to automatically initiate business processes based on system events such as receipt of the content (objects).	
BPM platform must have the functionality to hold the events in the process for synchronizing the activities of the external systems.	
BPM platform must support the design and organization process with sub process.	
The BPM platform must support multiple document attachments in the process.	
BPM platform must have process that can access and update data in the database.	
BPM platform must have support for manual and automated processing point.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
BPM platform must have the functionality to route tasks to multiple users and systems simultaneously.	
BPM platform should have the functionality for processing tasks to the next step in the business process.	
BPM platform should have a tool to monitor who and what is done in a particular item of business processes and when the task completed.	
BPM platform should have the functionality that allows messages from external systems can run the business process.	
BPM platform must support the functionality to integrate with tools for managing the rules.	
BPM platform should have the functionality that enables business process change at any time without affecting the operation of end users.	
BPM platform should have the functionality to send e-mail alert users to predefined events: reminders of deadlines, exceptions in the process, reaching a critical point (milestone).	
BPM platform should be out of the box functionality for simulation and analysis of business processes.	
BPM platform should have the functionality to easily design and use of Web 2.0 user interface for processing tasks.	
The application should have a graphical interface for modeling business processes.	
Applications for modeling and simulation of business processes to be thick/thin clients/browser based.	
Tool for modeling the process should have functionality that they have the ability to reuse the defined process clause or sub-process.	
Tool for modeling the process should allow end users to design processes without the need for programming.	
The application should have the functionality to view the mailbox with working tasks to carry out specific user (Inbox) or groups of users (Queue).	
The application should ensure that tasks can be seen only by those users / groups who do have security rights.	
The application should have the functionality so users can view all active processes that he started.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
The application should have the functionality of the monitoring tasks to the processes for which the user has defined specific security rights. The application process should be presented graphically with a history of tasks and worked with the current status.	
The application should allow users to view documents and / or directories that are attached to the process.	
The application should allow users to make check in / out documents that were attached to the process.	
The application should provide an overview and update fields that are defined for the task.	
The application should have the functionality to end-user displays instructions on how to perform a specific task.	
The application should have the functionality that the user can see which are the key point is reached in a particular process.	
Application should be able to end-user task refocus on someone else.	
The application should have the functionality that users can work assignments from the public to switch to a private compartment tray.	
The application should have the functionality for adding and changing participants of the process until the process is active.	
Applications must have tool for simulation of business processes using the same graphical interface as a tool for process modeling.	

5.22 Integration System (SOA)

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
General	
The ESB shall be able to run on a 64-bit platforms like Linux/Unix/ Windows etc.	
The ESB should be built on top of reliable messaging solution with integrated managed file transfer support	
The ESB should occupy smaller memory and disk footprint and should be easier to install and configure	
The ESB should be PaaS enabled and support private/public cloud configurations	
Integration	
ESB should support leading database	
The ESB should support sensor & device Integration	
Mediation and Transformation	
The ESB shall allow logical definition and operation on the message content	
The ESB should not be dependent on the database for processing of the messages	
The ESB should provide a diverse protocol support including JMS 1.1, TCP, SSL, UDP, STOMP, NMS, MQTT, AMQP 1.0	
The ESB product should be able to process raw binary formats like ISO8583	
The ESB should support industry standard Data Format Description Language for non-XML message modelling.	
The ESB should not mandate transform of the messages to XML format for its processing	
The ESB should support Data Format Description Language an open- standards language for modelling text and binary data	
THE ESB shall at least support XSLT, XQUERY/XPATH based message enrichment.	
THE ESB shall support message mapping without the need for coding and shall support visual mapping.	
THE ESB shall handle static, content-based and rule-based message routing	
ESB should be able to handle poison message as the processing is failed the message should be declared as poison message	
ESB should support various messaging patterns e.g. synchronous, asynchronous, pub/sub, multicast, etc.	
Administration	
THE ESB shall support exporting and storing of the configuration and deployment artefacts in a third party Version Control tool.	
THE ESB shall provide web based graphical user interface for administration and configuration.	
Development	
THE ESB shall provide accounting and statistics data information that can be collected to record performance and operating details of the integration components' execution.	
The ESB should provide development and testing of the flows in the IDE	
The ESB should provide eclipse based single integrated development environment for development, test and deployment and debug.	
The ESB should provide access to database via ODBC and JDBC	
THE ESB shall support logging of messages without the need for coding.	
The ESB should provide Prebuilt developer patterns to simplify the provision of integration services	
HA	
The ESB should support failover without any 3rd party OS clustering technologies	
Quality Of Service	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
General	
The ESB shall be able to run on a 64-bit platforms like Linux/Unix/ Windows etc.	
The ESB should be built on top of reliable messaging solution with integrated managed file transfer support	
The ESB should occupy smaller memory and disk footprint and should be easier to install and configure	
The ESB should be PaaS enabled and support private/public cloud configurations	
Integration	
The ESB should support workload management including traffic shaping for protecting backend resources	
The ESB product should provide Transaction support natively without the need for any other external product	
The ESB should provide robust transaction control capabilities	
THE ESB shall support automatic restart and recovery	
The messaging component within THE ESB shall have the ability to persist and retransmit data in case of a failed transaction.	
Security	
THE ESB shall support these aspects of security: Authentication and Authorization	
THE ESB shall support access to specific functionality, restricted by user roles or identities.	
THE ESB shall support encrypted transmission of messages	
The ESB web graphical interface should support role based access control mechanism.	

5.23 Enterprise Management System (EMS)

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Functional and technical requirements (DR servers & DR networks can be monitored from primary site)	
The Enterprise & Network Management System should be used to manage all enterprise resources with a solution that encompasses the heterogeneous networks, systems, applications, desktops and databases present in the system from primary datacenter site. It should have the capability to consolidate all the information to one console with a support for providing a Web interface. Proposed solution should have seamless integration and should be recognized by industry analysts like Gartner\Forrester\IDC.	
The EMS should discover systems, network devices and provide the topology. This capability allows for a complete inventory of all visible IT resources. The inventory scanning process should be able to discover any custom IT resources.	
It should have a centralized helpdesk system based on ITIL with call logging, notification, resolution and knowledge base facility.	
User Interface	
EMS should provide a Graphical User Interface which is user-friendly to depict all the IT infrastructure and applications, making IT management much more intuitive.	
The EMS should offer a Web browser interface. The Web browser interface should enable management of IT resources via Internet or Intranet access or through Dial Up/remote access.	
Event Management	
The EMS should offer a unique solution to the problem of managing exception events. It should correlate and filter events from different types of IT resources, and pinpoint the root cause of a problem.	
This event manager should also permit integrating custom applications with the EMS. It should be used to integrate not only management applications, but also general business applications to make them easier to manage. With event filtering and correlation, multi-level managers and agents, automatic corrective measure, the EMS should provide comprehensive event management capabilities. It should eliminate the clutter of spurious alarms and simplify the management of complex IT infrastructure.	
It should help to notify through cell phone and email, of various/selective events occurring in the enterprise.	
Software Distribution for (Desktop Management)	
The software distribution function should provide flexible and scalable delivery, installation, and configuration of software.	
The software distribution should support customizable distribution schedules, alternate methods, heterogeneous network protocols, diverse operating systems including UNIX, and both push and pull distribution modes.	
Compression should be supported while distributing the software across WAN.	
Furthermore, its integration with the event management functions of the EMS should provide complete tracking, logging, and automated correction of failures during the delivery and installation process. In addition, its integration with the security functions of the EMS should enable administrators to deliver software with peace of mind.	
It should be possible to store images of desktops and push images from the software delivery server.	
Network & Server Management	
The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Network Fault Management system must provide network topology map for discovering snmp network devices like router and switches and provide unified alarm interface for monitoring	
It should proactively analyze problems to improve network performance.	
The Network Management function should have extensive reporting facility, providing the ability to format and present data in a graphical and tabular display	
The Network Management function should collect and analyze the data. Once collected, it should automatically store data gathered by the NMS system in a database. This enterprise-wide data should be easily accessed from a central location and used to help with capacity planning, reporting and analysis.	
The Network Management function should also provide information on performance of Ethernet segments, including capacity utilization and error statistics for the segment and the top-contributing hosts, WAN links and routers.	
Alerts should be shown on the Event Management map when thresholds are exceeded and should subsequently be able to inform Network Operations Center (NOC) and notify concerned authority using different methods such as SMS, emails, etc.	
It should be able to automatically generate a notification in the event of a link failure to ensure proper handling of link related issues.	
The proposed solution must use advanced root-cause analysis techniques Out of the box for comprehensive analysis of network faults. The system must deduce the root cause of the problem and in topology it should visually pinpoint single impacting device as well as other impacted devices.	
The system should provide capability to measure & report on response time for common TCP/IP applications using test on routers: HTTP, HTTPS, DNS, FTP, SMTP, SNMP, POP3 and ICMP.	
Proposed fault management should be able to discover MPLS links between MPLS routers for isolating problems of link failure due to provider backbone failure or CE mpls router failure.	
Network Traffic Analysis tool must support Flow monitoring and traffic analysis and available as out of the box functionality.	
Network traffic analysis system must keep and report on unique hosts and conversations per day for each monitored interface	
The solution must provide the following flow based metrics : Rate utilization, Byte count, Flow count, IP hosts with automatic DNS resolution, etc.	
Network performance management system should be able to auto-calculate resource utilization baselines for the entire managed systems and networks and allow user to set corresponding upper and lower threshold limits.	
System should be able to monitor Quality of Service (QoS) parameters configured to provide traffic classification and prioritization for reliable traffic transport. Solution should be able to discover and model configured QoS classes and policies & behaviors	
The proposed system should be able to auto-calculate resource utilization baselines for the entire managed systems and networks and allow user to set corresponding upper and lower threshold limits. Baseline setting should be as follows out-of-the-box. For a daily/weekly/monthly Health report, the baseline should be defined.	
The Proposed Performance Management must provide charts for all kinds of essential Health Reports.	
The System should be able to monitor Quality of Service (QoS) parameters configured to provide traffic classification and prioritization for reliable traffic	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
transport. The solution should be able to discover and model configured QoS classes, policies and behaviours.	
<p>The Systems and Distributed Monitoring (Operating Systems) of EMS should be able to monitor:</p> <p>Processors: Each processor in the system should be monitored for CPU utilization. Current utilization should be compared against user-specified warning and critical thresholds.</p> <p>File Systems: Each file system should be monitored for the amount of file system space used, which is compared to user-defined warning and critical thresholds.</p> <p>Log Files: Logs should be monitored to detect faults in the operating system, the communication subsystem, and in applications. The function should also analyze the files residing on the host for specified string patterns.</p> <p>System Processes: The System Management function should provide real-time collection of data from all system processes. This should identify whether or not an important process has stopped unexpectedly. Critical processes should be automatically restarted using the System Management function.</p> <p>Memory: The System Management function should monitor memory utilization and available swap space.</p> <p>Event Log: User-defined events in the security, system, and application event logs must be monitored.</p> <p>Support for monitoring & reporting on Service Response monitoring test for common application like http, https, tcs, ftp, ldap,smtp,pop3,dns,dhcp within Datacenter</p>	
Reporting	
The Reporting and Analysis tool should provide a ready-to-use view into the wealth of data gathered by Management system and service management tools. It should consolidate data from all the relevant modules and transform it into easily accessible business-relevant information. This information, should be presented in a variety of graphical formats can be viewed interactively (slice, dice, drill down, drill through).	
The tool should allow customers to explore the real-time data in a variety of methods and patterns, and then produce reports to analyze the associated business and service affecting issues.	
Provide Historical Data Analysis: The software should be able to provide a time snapshot of the required information as well as the period analysis of the same in order to help in projecting the demand for bandwidth in the future.	
SLA Monitoring	
<p>EMS should integrate with the application software component of portal software that measures performance of system against the following SLA parameters:</p> <p>Response times of Portal</p> <p>Transaction handling capacity of application server in terms of number of concurrent connects</p> <p>Uptime of Servers at SDC</p> <p>Meantime for restoration of equipment and Services at SDC</p> <p>Network Specific SLAs</p> <p>System Specific SLAs</p> <p>Application Specific SLAs</p> <p>End-to-End Service Based SLAs</p>	
The proposed service management system should provide a detailed business service dashboard view indicating the health of each of the departments / offices in the organization and the health of the services they rely on as well as the SLAs.	
The system should provide an outage summary that gives a high level health indication for each service as well as the details and root cause of any outage.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
The system must be capable of managing IT resources in terms of the business services they support, specify and monitor service obligations, and associate users/Departments/ Organizations with the services they rely on and related Service/Operational Level Agreements.	
The SLA monitoring component of the EMS should be under the control of the authority that is nominated to the mutual agreement of Purchaser & the Supplier, so as to ensure that it is in a trusted environment.	
Helpdesk Management	
The proposed ITIL-based Helpdesk Management System must provide the following features:	
The proposed helpdesk solution must provide flexibility of logging, viewing, updating and closing incident manually via web interface. The web interface console would also offer power-users tips.	
Each incident must be able to associate multiple activity logs entries via manual update or automatic update from other enterprise management tools.	
The proposed helpdesk solution must be able to provide flexibility of incident assignment based on the workload, category, location etc.	
Each escalation policy must allow easy definition on multiple escalation levels and notification to different personnel via window GUI/console with no or minimum programming.	
The proposed helpdesk knowledge tools solution must provide grouping access on different security knowledge articles for different group of users.	
The proposed helpdesk solution must have an updateable knowledge base for technical analysis and further help end-users to search solutions for previously solved issues.	
The proposed helpdesk solution must support tracking of SLA (service level agreements) for call requests within the help desk through service types.	
The proposed helpdesk solution must be capable of assigning call requests to technical staff manually as well as automatically based on predefined rules, and should support notification and escalation over email, web etc.	
The proposed helpdesk solution must integrate tightly with the Knowledge tools and CMDB and should be accessible from the same login window.	
The proposed helpdesk solution must allow the IT team to see the CI relationships in pictorial format, with a specified number of relationships on single window.	
The proposed helpdesk solution must have a built-in workflow engine. The proposed helpdesk solution must support Non-linear workflows with decision based branching and the ability to perform parallel processing. It should also have a graphical workflow designer with drag & drop feature for workflow creation and updates.	
The proposed helpdesk solution must have an integrated CMDB for better configuration management & change management process.	
Web Application Performance Management System	
The proposed solution must determine if the root cause of performance issues is inside the monitored .net/java based web application, in connected back-end systems or at the network layer from a single console view	
The proposed solution must proactively monitor 100%of real user transactions; detect failed transactions; gather evidence necessary for triage and diagnosis of problems that affect user experiences and prevent completion of critical business processes	
Solution should generate a graphical map of the complex transactions showing the path of the transaction across multiple application components. Map view should also highlight any triage to enable quick identification of the problem.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
The proposed solution must provide deeper end-to-end transaction visibility by monitoring at a transactional level and without deploying any software or agent at end user desktop. The solution must provide a single view that shows entire end-to-end real user transaction and breaks down times spent within the application components, SQL statements, backend systems and external 3rd party systems.	
The proposed solution must be able to provide root-cause probability graphs for performance problems showing the most probable root-cause area within application infrastructure.	
The proposed solution must provide real-time monitoring of resource utilization.	
The proposed solution must identify any changes to application configuration files (.xml, properties, etc.), File system or application code and be able to correlate changes to application performance dynamically in production environments.	
The proposed solution must proactively identify any thread usage problems within applications and identify stalled or stuck threads. The proposed solution must also monitor web services across multiple processes	
Solution must quickly create a baseline for performance over a period of time from the live production application.	
Solution should be able to see exactly what request was sent by the end users' browser sent and the response by the application, when a defect occurs.	
The proposed solution should allow access to performance data both using a Graphical user interface (GUI) and web based access and provide ability to monitor performance of applications up to the method level of execution (Java/.Net method) 24x7 in production environments with negligible impact on monitored application.	
The proposed solution should measure the end users' experiences & application performance based on unlimited web transactions & unlimited transactions type .Tool should not restrict monitoring end user experience based on number of transactions or transaction types considering future load on web application.	
The proposed system must be able to detect user impacting defects and anomalies and reports them in real-time. The proposed system must also be able to provide user usage analysis and show how user's success rate, average time and transaction count has changed over a specific period of time such as current week versus previous week.	
The proposed system must be able to pro-actively determine exactly which real users were impacted by transaction defects, their location and status.	
The proposed system must be able to provide the ability to detect and alert when users experience HTTP error codes such as 404 errors or errors coming from the web application.	
Assets Management for Desktops	
The Asset management module should combine advanced hardware and software scanning technology with efficient and open database design, and provide comprehensive information needed to manage IT assets.	
The software should collect hardware and software inventory across multiple platforms. It should have the capability to collect information from every device, on any platform i.e. windows, Unix & Linux.	
It should integrate with Service Desks and other system management tools for seamless operations	
It should support policy-based model that allows IT administrators to efficiently and concisely define entitlements, controlling the deployment of software.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
The software should maintain the configuration of all the hardware and software assets, track changes to the configuration and accordingly generate alerts depending on defined policies.	
The software should ensure that subsequent changes to policies and entitlements cause software and content to be automatically installed, changed or de-installed for all affected users and PCs.	
Integrated Network Configuration and Fault Management	
Network fault Management topology console should support secure device configuration capture and upload and thereby detect inconsistent "running" and "startup" configurations.	
Network fault Management topology console should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements like Capture running & startup configuration, Upload configuration , Upload firmware , Write startup configuration.	
Network fault Management topology console should display configuration changes differences in GUI showing modified, remove, masked lined from last captured network configurations for routers and switches. Also this should be able to identify which user has made changes or modifications to device configurations through Fault Management Tool.	
<p>The proposed Fault Management Solution must support integration with proposed help desk or trouble ticketing system in the following ways:</p> <p>Creates tickets when requested by Fault Management operators</p> <p>Automatically creates tickets based on alarm type</p> <p>Provides a link to directly launch a Service Desk view of a particular ticket created by alarm from within the Network Operation console.</p> <p>Helpdesk ticket number created for associated alarm should be visible inside Network Operation Console .It should be integrated in a way that Helpdesk incident can be launched once clicked on ticket number for associated alarm from within Network Operation Console.</p> <p>The proposed network fault management system should attach an asset identifier when submitting a helpdesk ticket. In case the asset is not found in the helpdesk database, it should be automatically created prior to submitting the ticket.</p>	
Application Performance Monitoring Software	
End User Experience Management	
Deployment & Ongoing Use	
Ease of integration into existing network infrastructure	
Deployment as a Virtual Machine on premises if needed	
No instrumentation needed in application for end user experience - understands end user behavior from a wire-only perspective	
Discovery of all sites, urls, requests and responses without requiring rules	
Ability to define and categorize traffic by any part of url, site, POST, Query, etc.	
Discovery of new sites and urls as soon as they show up on the wire	
Ability to store/deploy configuration and grouping rules as a simple file up/download	
Patch management over the web with appropriate user rights	
Security Officer role controlling ability to see/not see secure data	
Ability to deploy multiple collection points focused into a common analysis point	
Performance Impact / Overhead	
Zero performance impact to web site(s) for end user experience capture	
Ability to start/stop solution independent of the web site itself.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Works with network TAPs, SPANs from switches or load balancers, or can work with data provided by only Akamai or end-users running javascript, depending on the customer's need	
Business Transaction Detection & Discovery	
Ability to define custom errors based on any part of the request/response including HTTP content	
Ability to discover Usernames from any part of the authentication process - or later in the session if necessary	
Flexible Geographic Tracking, choosing client IP, X-Forwarded-For, or other user-defined value	
Automatic discovery of all key urls and the performance (host, network, end-to-end time) observed for each	
End-to-End Web Performance	
Real time application monitoring for applications based on various platforms like .NET , JAVA , etc.	
Sees every user all the time in real time	
Manages both real user and synthetic transactions with equal visibility	
Manages both end user and web service (SOAP/XML) visitors with equal visibility	
Captures end user visit data including ISP, Browser,	
Performance Behavior Learning & Anomaly Detection	
Automatic detection of what is normal for each key transaction on a web site	
Self-learning over time, automatically deprecating/de-weighting data over time	
Support new applications and services through enhanced scalability.	
Provides direct line-of-sight into impacted users during site-wide performance problems	
Considers number of impacted sessions as a key determinant in problem severity	
Permits drill-down into a customer-defined number of dimensions, across customer-defined dimensions	
Can produce a full session transcript around impacted users, showing all pages, with timings, errors and performance indicators as forensic detail for application development to understand the source of problems	
Permits the exporting of one or more sessions with an easy 'export' mechanism for trouble ticketing	
Performance Data Retention, Trending & Analysis	
Ability to keep both a near-term store and longer term store to serve different audiences	
Simple HTTP API's to take information to other interfaces both as summary or transcript data	
Simple integration with other event management solutions	
Diagnostic Data Capture & Granularity	
Records every request/response pair, including all objects delivered off origin or from Akamai	
Captures all security-permitted POST, Query, Cookie details visible on the wire	
Sessionizes the data for all end users and web services, joining data into transcripts showing the sequence and performance of all end users	
Deep dive application diagnostics	
Helps create custom dashboards based on unique customer requirements.	
Can manage portal components and component interactions from inside customer's portal applications.	
The solution should help monitor middleware components like websphere, weblogic, Process integration and systems like web access manager, transaction gateway, etc.	

Make and Model Offered - (To be filled by the Supplier)	Compliance (Yes/No)
Reduced Infrastructure foot-print with centralized dashboards and single pane of glass encompassing all APM data	
Provide a common agent for all Java app servers and automatic detection of application servers and versions	
Operations team must be able to deploy monitoring agent without extensive knowledge of the code or involvement of development team	
Must be able to deploy new applications without extensive manual reconfiguration of monitoring	
Support agile release methodology by providing automatic reconfiguration of monitoring when new application versions are deployed	
Must be able to deploy monitoring without extensive testing and tuning	
Provide a single view with application latency, application server resources and baselines for a captured transaction trace	
Automatic generation of Application Flow Map for the transaction topology and top level SQL, web service calls, messaging (MQ), etc.	
Ability to monitor users sessions getting HTTP errors and application exceptions and drill down to the cause in the application code	
Ability to identify which end user session was impacted by a specific application error and see the context	
Ability to share diagnostics data with development without giving them access to production monitoring system	
Proactive Application Operations correlation and analytics	
Generate predictive alerts based on application and business impact	
Automatically correlate real user events to application and infrastructure events and provide single console one-click access to these linkages	
Able to display business service models with real-time operational overlay from the user location to transaction to application tier to the infrastructure	
Provide a single pane of glass that illustrates graphically what end users are impacted (if any) by an infrastructure issue	
Provide a single pane of glass that illustrates graphically which application infrastructure components are contributing to an end user issue	

Note: Supplier is required to propose EMS solution as 'Bundle of service" i.e. including hardware, software, training, technical resource deployment, service & support for required warranty period.

5.24 Virtualization Software

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
1.	Virtualization software shall provide a Virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS for greater reliability and security and positioned as Leaders in the Gartner's Magic Quadrant atleast in any one year from last 4 years i.e. from year 2012 to 2016	
2.	Virtualization software shall integrate with NAS, FC, FCoE and iSCSI SAN and infrastructure from leading vendors leveraging high performance shared storage to centralize virtual machine file storage for greater manageability, flexibility and availability.	
3.	Following specified OS should be able to run on the virtualization software: Windows client, Windows Server, Linux (at least Red Hat, SUSE, Ubuntu and CentOS, Solaris x86)	
4.	Virtualization software should have storage defining capability according to requirement, which will enable rapid and intelligent deployment & placement of virtual machines based on SLA, availability, performance or other requirements and provided storage capabilities.	
5.	Virtualization software shall be able to dynamically allocate and balance computing capacity across collections of hardware resources aggregated into one unified resource pool with optional control over movement of virtual machines like restricting VMs to run on selected physical hosts.	
6.	Virtualization software should support connecting smart card readers to multiple virtual machines, which can then be used for smart card authentication to virtual machines.	
7.	Virtualization software should provide smart virtual machine disk placement and load balancing mechanisms based on I/O, CPU or memory which will help decrease operational effort associated with the provisioning of virtual machines and the monitoring of the storage environment.	
8.	It should provide QoS capabilities for storage I/O in the form of I/O shares and limits that are enforced across all virtual machines accessing a storage, regardless of which host they are running on. Use Storage I/O Control to ensure that the most important virtual machines get adequate I/O resources even in times of congestion. The feature should be available for FC, iSCSI and NFS storage datastores.	
9.	Virtualization software should provide network traffic-management controls to allow flexible partitioning of physical NIC bandwidth between different network-traffic types and allow user-defined network resource pools, enabling multi-tenancy deployment, and to bridge virtual and physical infrastructure QoS with per resource pool 802.1 tagging.	
10.	Allow virtual machines to directly access physical network and storage I/O devices enhancing CPU efficiency in handling workloads that require constant and frequent access to I/O devices.	
11.	The virtualization software should provide Simple and cost effective backup and recovery for virtual machines which should allow admins to back up virtual machine data to disk and this backup solution should have built-in variable length de-duplication capability.	
12.	The virtualization software should provide in-built Replication capability which will enable efficient array-agnostic replication of virtual machine data over the LAN or WAN. This Replication should simplify management enabling replication at the virtual machine level and enabling RPOs as low as 15 minutes.	

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
13.	The solution should support enforcing security for virtual machines at the Ethernet layer. Disallow promiscuous mode, sniffing of network traffic, MAC address changes, and forged source MAC transmits.	
14.	The solution should provide link aggregation feature (minimum 32 link aggregation groups per physical host)	
15.	The management software should provide means to perform quick, as-needed deployment of additional hypervisor hosts. This automatic deployment should be able to push out update images, eliminating patching and the need to schedule patch windows.	
16.	Virtualization management software console shall provide Interactive topology maps to visualize the relationships between physical servers, virtual machines, networks and storage. Also generate automated notifications and alerts, and can trigger automated workflows to remedy and pre-empt problems.	
17.	Should provide integration of 3rd party endpoint security to secure the virtual machines with offloaded antivirus and antimalware solutions inside the virtual machines.	
18.	Ability to provide support for both IPv4 and IPv6.	
19.	OEM to be able to provide direct support.	

5.25 Anti-Virus Solution

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
1.	Single Agent: Should be only single agent that combines all the critical components for total security on the endpoint. (Antivirus, Antimalware, Firewall, VPN Client etc.)	
2.	Personal Firewall: Firewall should block unwanted traffic, prevents malware from infecting endpoint systems, and makes them invisible to hackers.	
3.	Program Control with Program Advisor: Program Control ensures that only legitimate and approved programs are allowed to run on the endpoint. Program Advisor is a real-time Vendor knowledge base of over a million trustworthy applications and suspected malware used to automatically set the Program Control configuration.	
4.	Heuristic virus scan: Should Scan files and identifies infections based on behavioral characteristic of viruses	
5.	On-access virus scan :Should Scan files as they are opened, executed, or closed, allowing immediate detection and treatment of viruses	
6.	Deep scan: Should Scan Runs a detailed scan of every file on selected scan targets	
7.	Scan target drives: Should Specifies directories and file types to scan	
8.	Scan exclusions: Should Specify directories and file extensions not to be scanned	
9.	Treatment options: Should Enables choice of action agent should take upon detection of virus: Repair, rename, quarantine, delete	
10.	Intelligent quick scan: Should Check the most common areas of the file system and registry for traces of spyware	
11.	Full-system scan: Should Scans local file folders and specific file types	

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
12.	Deep-inspection scan: Should Scan every byte of data on the computer	
13.	Scan target drives: Should Specify which directories and file types to scan	
14.	Scan exclusions: should Specify directories and file extensions not to be scanned	
15.	Treatment options: Should Enable choice of action agents should take upon detection of virus: Automatic, notify, or confirm	
Browser Security		
16.	Should Support Internet Explorer latest versions IE10 or above	
17.	Should Support Mozilla Firefox latest version Firefox 34 or higher	
18.	Should Allow users the freedom to surf with full protection against malicious software that is automatically downloaded and phishing attempts	
19.	Should Support Signature & Heuristic Phishing Protection	
20.	Should Support Site Status Check	
21.	Should Support Centralized Browser Security Policy Management	
22.	Should Support Centralized Browser Security Event Logging & Reporting	
Management Platform Support		
23.	Operating systems: Should Support Windows Server 2012 or latest	
24.	Browsers: Should Support latest Version of Internet Explorer i.e. IE10 or above, latest Mozilla Firefox 34 or higher	
Client Platform Support		
25.	Should support offered operating system	
Gateway Security		
26.	Should provide fast protection at the gateway across multiple protocols for inbound and outbound web traffic	
27.	The solution should provide protection against malware threats on all Web 2.0 file transfer channels	
28.	The solution should offer in built URL filtering with flexible policy controls, and in-depth reporting and alerts (the URL filtering license is required)	
29.	The proposed solution should be licensed on user basis	
30.	Virus Gateway should have option to configure to respond to virus detection in several ways i.e. Delete the file, quarantine the file, Alert email	
31.	The solution should have advanced application control capabilities with ability to monitor and control usage by end-users spanning multiple applications	
32.	In terms of SMTP anti-spam scanning the solution should be capable of acting as mail relay or MTA by itself.	
33.	Should have facility to block files based on file extensions over HTTP, FTP, SMTP, POP3 as well as IMAP	
34.	The solution should be able to detect compromised endpoints by network fingerprinting and behavioral modeling and should be able to block these infected end points by resetting the connection attempts to their phone home sites.	
35.	System should classify traffic into protocols without relying on specific port numbers (for example, port 80 for HTTP)	
36.	The solution should support load balancing for scanning, so that the traffic which needs to be scanned can be load balanced across the boxes in the cluster	

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
37.	<p>Comprehensive Web reporting and alerting should be available out of box and should offer following reports:-</p> <ul style="list-style-type: none"> • Most accessed Web sites • Most active users • Spyware-infected computers • Most common malware • Network attacks • Infection sources <p>Reports should be available by IP address / user if active directory integration is done</p>	
Web Content Filtering		
38.	Should be an integrated solution within the firewall or a standalone hardware appliance.	
39.	web content filtering solution should work independently without the need to integrate with proxy server	
40.	Web based management through https and command line interface support	
41.	should have facility to block URL' based on categories	
42.	The proposed solution should be licensed per unit as against per user.	
43.	The solution proposed should support at least 45+ million URLs categorized into 60+ default website categories across 50 different languages and 100+ protocol applications.	
44.	URL Database should be updated regularly	
45.	Solution should have dedicated categories for Adult material, gambling, Instant messaging, proxy avoidance, spyware, malicious websites, Bots, phishing & keylogger	
46.	should have configurable parameters to block/allow unrated sites	
47.	should have configurable options to allow/deny access to web sites in case if the URL rating service is unavailable	
48.	should have options to customize the block message information send to end users	
49.	Should have facility to schedule the configurations so that non work related sites are blocked during office hrs. and allow access to all sites except non harmful sites during non-office hrs.	
50.	Should have facility to configurable policy options to block web sites based on content	
51.	The solution should provide capabilities to customize URL, either it is in the URL database or not, into user defined categories.	
52.	Should have configurable policy options to define the URLs what needs to be blocked.	
53.	should have configurable policy options to define the URL exempt list	
54.	The solution should be able to block spywares/adwares etc.	
55.	The solution should have options to block java applets, activeX as well as cookies	
56.	The solution should have options to configure in such a way that in case if the primary fails the secondary becomes active without manual intervention	
57.	The solution should have options to block download of files over internet based on file extension (e.g. *.avi, *.mpeg, *.mp3 etc.)	
58.	URL Filtering Features	

S.No.	Make and Model Offered - (To be filled by the bidder)	Compliance (Yes/No)
	<p>The solution should provide security related website categories to address specific security concerns include, but not limit to :</p> <ul style="list-style-type: none"> • Malicious Websites • Keyloggers • Phishing and Other Online Frauds • Spyware – including drive-by spyware download and back channel communication by spyware installed on local client. • Potentially Unwanted software • Bot Network • The solution proposed should have capabilities to block back channel • communication from spyware / keylogger infected machines to hacker host sites • The solution should have the ability to apply different policies to different users, • different client IP address and address range and different user groups • The solution should have the capability for Embedded URLs in selected search engines can also be filtered individually • The solution should support Time based Quota policies for URL categories, users, IP, networks, user groups etc. • The solution should have the ability for users to define “Regular Expressions” to precisely identify targeted URL. • Solution should have dedicated categories for Adult material, gambling, Instant messaging, proxy avoidance, spyware ,malicious websites, Bots, phishing , keyloggers • The solution should provide capabilities to customize URL, either it is in the URL database or not, into user defined categories. • The solution should provide options for Bandwidth optimization where users should be able to set Bandwidth Thresholds for URL categories or protocols • The solution should support risk classes for Security, Legal Liability, Productivity Loss, Bandwidth Loss and Business Usage at least so that predefined URL categories can be associated with these risk classes • Ability to collect certain uncategorized or security related URLs to feedback, improve URL categorization and security effectiveness • The solution should support display of web based block pages and the block pages should be customizable 	

5.26 DC/DR Management Software

Make & Model - (To be filled by the bidder)	Compliance (Yes/No)
The proposed solution should be in the form of a software which is rated/mentioned in independent analyst reports from Gartner/Forrester/IDC.	
The proposed solution must offer a workflow based management & monitoring capability for the real time monitoring of a DR solution parameters like RPO, RTO, replication status and should provide alerts on any deviations	
The proposed solution should be capable of reporting important health parameters like disk space, password changes, file addition/deletion etc. to ensure DR readiness and facilitate policy based actions for events with ability to cancel out polar events.	
The proposed should have inbuilt ready to use library of recovery automation action for heterogeneous databases and replication environment. This must significantly reduce custom development of scripts and speedy deployment of DR solutions.	
The proposed solution should facilitate both out-of-the-box and custom workflow based single-click switchover and switchback for DR drills for standard applications based on industry best practices	
The DR Management solution should have a managed lifecycle for all workflows from draft to final published version with version control and time stamp to ensure proper testing and troubleshooting of drill/recovery procedure.	
The proposed solution should be capable of doing pre-flight checks to ensure conditions are met to ensure a successful DR Drill or actual recovery	
The proposed solution should facilitate workflows for bringing up the applications and all the components it depends on at DR while it is up at primary site without pausing/stopping the replication	
The proposed solution should have granular, role based administration and should use existing Active Directory/LDAP for identity management without the need of its own, separate identity management database.	
The proposed solution should be capable of generating reports and email/SMS alerts on RPO deviation, RTO deviation and DR Drills from a centralized location and should provide a centralized dashboard for DR readiness	
The proposed solution should be able to manage hosts by either deploying agents or without deploying any agent and should seamlessly integrate with existing environment without the need to replace/change configuration including existing clusters.	
The proposed solution must support proposed platforms/operating systems with native high availability options. It must support both physical and virtual platforms.	
The proposed solution should have file level replication for associated application servers and DB log replication which is supported on the commonly used OS platforms and has inbuilt bandwidth compression.	
The proposed solution should have a file system analytics tool to give total file/directory count, typical replication time, time of last replication for a file, file size and time stamp.	
The proposed solution must have pre-packaged support for all popular databases Oracle, MSSQL, Sybase, PostGre SQL and DB2	
The DR Monitoring and Management software must be running successfully in at least 5 organization.	
The main management server of the proposed should have a mechanism to have a local HA and remote, real time replica to eliminate any single point of failure and should not have any impact on the production in case the main management server fails.	
The DR Management solution should have a reporting module which provides out-of-the-box BCP/DR readiness reports like BCP testing, DR Readiness, application	

Make & Model - (To be filled by the bidder)	Compliance (Yes/No)
readiness, DR Integrity etc. It should have an advanced reporting module which should be able provide custom reports which can be exported to popular reporting engines.	
The DR management solution should have inbuilt debugging and log capture with facility to view the logs from the web based GUI itself.	
The DR Management solution should have a validation tool to verify DC-DR equivalence for OS, databases and applications with both out-of-box and custom templates.	
The DRM solution should support converged infrastructure like Flexpod and should be available inside the converged infrastructure management interface like Cisco UCS director for facilitating workflow based drills and recovery.	

5.27 Hardware Security Module (HSM)

Sr. No.	Make & Model - (To be filled by the Supplier)	Compliance (Yes/No)
1.	Should support Windows/Linux/Unix	
2.	TCP/IP Network based appliance	
3.	Should comply to standards like FIPS 140-2 Level-3, CC EAL4+,ROHS,FCC part 15	
4.	Key Length Supported (1024 to 4096)	
5.	Public Key Algorithm RSA encrypt/decrypt, RSA sign/verify, ECC (Electric Curve cryptography)	
6.	Key Exchange Mechanism: DES / Triple DES, AES Algorithm	
7.	Hash/HMAC algorithm: MD5, SHA 1/ SHA 2/ SHA 256	
8.	Symmetric Algorithm : AES, DES, Triple DES	
9.	Compatibility: PKCS#11 , CAPI, OpenSSL, JCE/JCA	
10.	Private key generation and import: Archival and duplication mechanism to be specified. Give the procedure for key transportation from one HSM card to other HSM card.	
11.	EC Brainpool Curves (named and user-defined), Suite B	
12.	Algorithm Support and ARIA support	
13.	Published API for various above functionalities for integrating with the Application software	
14.	Signing speed : 5000 S/S	
15.	Remote Support for Authentication	
16.	Contents can be securely stored on Backup Tokens to simplify backup, cloning, and disaster recovery	
17.	Onboard key generation, Digital Signing & Verification process to be done inside the HSM only for better performance and security	

5.28 Database

Make & Model - (To be filled by the bidder)	Compliance (Yes/No)
Database Server should support multiple Server Operating Systems as the application can be accessed via multiple browsers. The Database should run on the any one of the Server Operating system & interoperable with multiple platforms like Unix, Linux & Windows	

Database should provide connectivity using native connectivity, JDBC, ODBC and connectivity to various technologies like .NET, ASP, Java etc.,	
Database Server should be capable of storing UNICODE data formats for multi-lingual language support especially Indian Languages.	
Database should have built-in parallelism, Backup & Recovery feature, Disaster Recovery Feature, recovery for tables, rows accidentally deleted, Queue Mechanism to transfer data across to other database.	
Supplier shall provide database with a full use enterprise license.	

5.29 Operating System

Make & Model - (To be filled by the bidder)	Compliance (Yes/No)
The operating system of the server shall be 64 Bit. The Operating System shall be of the latest version released by the OS vendor. The OS shall be supplied with media and complete documentation shall be provided for each server. The OS license shall be provided for each partition with separate independent instances of the OS in the server.	
The OS shall have standard features and networking support i.e. TCP/IP, NFS, NIS, CDE, BSD tools etc. Disk mirroring & stripping support shall be included. OS shall be given with the latest patches as applicable and OS should have minimum features like full binary compatibility across versions, online OS upgrades and online kernel patching/upgrades, standard GUI utilities for system administration, virtualization using soft partitioning with minimal or no performance overhead, online error detection and prevention of critical hardware components, provision to analyze system performance bottleneck in real-time, security features like built-in firewall, Role based access, Access control list, Process based privileges, TCP wrappers, IPSec, Smart card support, Pluggable Authentication modules and more. Vendor should provide clear reference to these features.	

5.30 Advanced Persistent Threats (APT) Protection

Make & Model - (To be filled by the bidder)	Compliance (Yes/No)
General Specs	
1. The proposed solution should support the native CEF/LEEF/Syslog for SIEM log integration	
2. The proposed solution should be able to detect the persistent threats which come through executable files, PDF files, Flash files, RTF files and and/or other objects.	
3. Upon detection of the threat, the proposed solution should be able to perform behavior analysis for advance detection	
4. Proposed solution should have event detection capabilities that should include malware type, severity, source and destination of attack.	
5. Solution should provide risk based alerts or logs to help prioritize remediation effort	
6. Solution should be deployed on premise along with on premise sandboxing capability	
7. The proposed solution should be able to store payload of the detected threats	
8. Solution should have ability to block/interrupt malicious communications in real time	

Make & Model - (To be filled by the bidder)		Compliance (Yes/No)
9.	Solution should have no limitation in terms of supported users and limitation should be accounted in terms of only bandwidth	
10.	The proposed solution should be able to support XFF (X-Forwarded-For) to identify the IP Address of a host in a proxy/NAT environment.	
11.	The proposed solution should support to monitor traffic from multiple segments like WAN, DMZ, Server Farm, Wi-Fi network, MPLS links etc. simultaneously on a single appliance.	
12.	The Proposed solution should be able to support up to 4 network segments/ports on a single appliance.	
13.	The proposed solution should be able to detect any suspicious communication from Customer's network infected machine to outside command and control centers	
14.	The Proposed solution should be able to detect communications to known command and control centers	
15.	The proposed solution should be able to identify and help Customer to understand the severity and stage of each attack	
16.	The proposed solution should have built in capabilities to add exceptions for detections	
17.	The proposed solution should have document vulnerabilities detection engine to assure analysis precision and analysis efficiency	
Malware Analysis		
18.	Solution should have multiple virtual execution environments within single appliance to simulate the file activities and find malicious behaviors for advanced threat detection.	
19.	Sandbox must support offered Operating System.	
20.	Solution must have the capability to analyze large files.	
21.	The proposed solution should be able to detect any malicious communication from Customer's network infected machine to outside command and control centers.	
22.	The Proposed solution should be able to detect Network Attacks and Exploits.	
23.	The proposed solution should have capability to scale out the when the bandwidth/increase in future. Solution should be rightly sized considering 3 years scalability in bandwidth	
24.	Solution must be capable of performing multiple file format analysis which includes but not limited to the following: LNK, Microsoft objects, pdf, exe files, compressed files, .chm, .swf, .jpg, .dll, .sys, .com and .hwp	
25.	The proposed solution should have an built-in virtual execution or sandbox detection engine for dynamic analysis	
26.	The proposed solution must provide the capability to exportable network packet files and encrypted suspicious files for further investigation.	
27.	The proposed solution have the capability to performs tracking and analysis of malware downloads and suspicious files	
28.	The proposed solution should support exporting of analysis results such as C&C server IP and malicious domain listing	
29.	The Proposed solution should have capabilities to detect Malwares targeted for end users in windows endpoint sandboxing environment as end user desktops are based on windows	
30.	The proposed solution should have capabilities to configure files, IP, URLs and Domains to Black list or white list	
31.	The proposed solution should have capabilities to configure separate notifications to the administrator or individuals based on specific events	

Make & Model - (To be filled by the bidder)		Compliance (Yes/No)
32.	The Proposed solution should be able to detect known malwares before sending suspicious files to Sandbox for analysis	
33.	The Proposed solution should be able to correlate graphically local APT attacks (Threat Level) with Global historical APT attacks (Threat Level)	
Report		
34.	The proposed solution should have an intuitive Dashboard that offers real time threat visibility	
35.	The proposed solution should provide reports with (but not limited to) HTML/CSV/PDF formats	
36.	The proposed solution should provide an intuitive Dashboard that offers real time threat visibility and attack characteristics.	
37.	The proposed solution should be able to schedule reports and also provide the flexibility to generate on-demand reports in daily/weekly/monthly/yearly or specific range (by day and time)	
38.	The proposed solution should support logging of important parameters like Source IP, Destination IP, ports, protocol, Domain, time stamp etc. of the attacks sessions.	
39.	The proposed solution should have the option to provide Investigative dashboard that is capable of displaying correlated graphical data	
40.	The proposed solution should be able to provide in-depth reporting including the level of risk, sandbox assessment, network activity analysis such as callbacks and a source tracking information.	
41.	The proposed solution should have capabilities to configure separate notifications to the administrator or individuals based on specific events	
42.	Authentication Administration and Configuration Requirement	
43.	The proposed solution shall support LDAP, Local Password authentication schemes	
44.	The proposed solution shall support Remote administration using SSH/HTTPS	
45.	The proposed solution shall support CLI, GUI/Web based Administration Console.	



अर्थः :-

ਸਾਹਿਬਦਾਸ ਦੀ ਸਿਸਟਮ	ਦਰਜਾ	ਟੈਂਟਾਕਰੀ	ਪੈਟ	ਸਿਸਟਮ ਕਰਾਮ
ਦਿਨਾਦਿਨੀ ਮਸਾਨ	125 ਕਰਕਾ ਕੁੱਟ ਮਿਲਕ ਸਟੋਰੀ ਮਸਾਨਾਂ ਤੋਂ ਦਿਨਾਦਾ ਮਸਿਯਾ ਲਈ	ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3	5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਕਾਕਾਉਂਡ ਕਲੋਕ ਤੇ ਉਸਾਰੇ ਕੇਕਰ ਲਈ ਟੈਂਟਾਕਰੀਆਂ। ਕੋਲਮੇਂਟ, ਪਹਿਲੀ ਮੋਸਿਲ ਨਾਂ ਹੋਰ ਮੋਸਿਲਾਂ ਲਈ ਅਤੇ ਪਲਾਟ ਦੇ ਬਾਕੀ ਕੇਕਰ ਲਈ ਦਿਨਾਦਾਂ ਦਰਾਂ ਦਾ 50% ਹੋਵੇਗਾ।
ਕੀਟ	500 ਕਰਕਾ ਕੁੱਟ ਰੁਪਾਟ ਸਟੋਰੀ ਤੋਂ ਕਾਪ	ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3	5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਕਾਕਾਉਂਡ ਕਲੋਕ ਤੇ ਉਸਾਰੇ ਕੇਕਰ ਲਈ ਟੈਂਟਾਕਰੀਆਂ। ਕੋਲਮੇਂਟ, ਪਹਿਲੀ ਮੋਸਿਲ ਨਾਂ ਹੋਰ ਮੋਸਿਲਾਂ ਲਈ ਅਤੇ ਬਾਕੀ ਕੇਕਰ ਲਈ ਦਿਨਾਦਾਂ ਦਰਾਂ ਦਾ 50% ਹੋਵੇਗਾ।
ਰਾਮਚਰ, ਮਸਾਨ ਕੋਲਮੇਂਟ ਆਦਿ (ਸਿਸਟਮੀ ਮਸਾਨੀਆਂ, ਰਾਮਚਰ ਮਸਾਨ, ਮਿਲਕ ਪੋਲਿਕ)	100 ਕਰਕਾ ਕੁੱਟ ਕਾਪ ਲੁੱਕ ਰੁਪਾਟ 100 ਕਰਕਾ ਕੁੱਟ ਤੋਂ ਕਾਪ 1000 ਕਰਕਾ ਕੁੱਟ ਕਾਪ ਲੁੱਕ ਰੁਪਾਟ 1000 ਕਰਕਾ ਕੁੱਟ ਤੋਂ ਕਾਪ ਲੁੱਕ ਰੁਪਾਟ	ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3 ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3 ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3	4/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 1.75/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 6/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 4/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਕਾਕਾਉਂਡ ਕਲੋਕ ਤੇ ਉਸਾਰੇ ਕੇਕਰ ਲਈ ਟੈਂਟਾਕਰੀਆਂ। ਕੋਲਮੇਂਟ, ਪਹਿਲੀ ਮੋਸਿਲ ਨਾਂ ਹੋਰ ਮੋਸਿਲਾਂ ਲਈ ਅਤੇ ਬਾਕੀ ਕੇਕਰ ਲਈ ਦਿਨਾਦਾਂ ਦਰਾਂ ਦਾ 50% ਹੋਵੇਗਾ।
ਮਸਾਨੀਆਂ, ਰਾਮਚਰ ਮਸਾਨ ਮਿਲਕ ਪੋਲਿਕ/ਮਿਲਕ ਪੋਲਿਕ ਆਦਿ	----- -----	ਸਾਰੇ ਟੈਂਟਾਕਰੀ ਲਈ ਸਾਰੇ ਟੈਂਟਾਕਰੀ ਲਈ	15/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 6/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਲਈ ਉਸਾਰੇ ਕੇਕਰ ਅਤੇ ਮਸਾਨੀਆਂ ਮੋਸਿਲ ਲਈ ਦਿਨ ਦਰਾਂ ਲਈ ਕੇਕਰ ਲਈ ਤੇ ਮਸਾਨੀਆਂ
ਟੈਂਟਾਕਰੀਆਂ	15 ਕਰਕਾ ਕੁੱਟ ਕਾਪ (ਕਿਨ੍ਹਾਂ ਮਸਾਨਾਂ ਨਾਂ ਕੇ ਮਸਾਨਾਂ ਕਾਪ)	ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3	6/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 4/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਲਈ ਉਸਾਰੇ ਕੇਕਰ ਲਈ ਮੋਸਿਲ ਲਈ ਟੈਂਟਾਕਰੀਆਂ। ਬਾਕੀ ਕੇਕਰ ਅਤੇ ਮਸਾਨੀਆਂ ਕਾਪ ਕੇਕਰ ਤੇ ਕੋਰੀ ਕੇਕਰ ਲਈ ਹੋਵੇਗਾ।
	16 ਕਰਕਾ ਕੁੱਟ ਨਾਂ ਰੁਪਾਟ ਤੋਂ ਕਾਪ ਕਰਕਾ ਕੁੱਟ ਕਾਪ (ਕਿਨ੍ਹਾਂ ਮਸਾਨਾਂ ਨਾਂ ਮਸਾਨਾਂ ਕਾਪ)	ਟੈਂਟਾਕਰੀ 1 ਟੈਂਟਾਕਰੀ 2 ਟੈਂਟਾਕਰੀ 3	5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 6/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 7/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	
ਉਸਾਰੇ ਕੇਕਰ (ਕੋਰੀ ਕੀ ਮਿਲਕ/ਮਿਲਕ ਕੁੱਟ) ਕਿਨ੍ਹਾਂ ਮਸਾਨਾਂ, ਕਾਪ ਕੇਕਰ	4000 ਕਰਕਾ ਕਾਪ ਕਾਪ 4000 ਕਰਕਾ ਕਾਪ ਤੋਂ ਕਾਪ	ਸਾਰੇ ਟੈਂਟਾਕਰੀ ਲਈ ਸਾਰੇ ਟੈਂਟਾਕਰੀ ਲਈ	5/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ 7.50/- ਰੁਪਿ ਪੁਰੀ ਕਾਕੁੱਟ	ਦਿਨ ਦਰਾਂ ਕਾਕਾਉਂਡ ਕਲੋਕ ਤੇ ਉਸਾਰੇ ਕੇਕਰ ਲਈ ਟੈਂਟਾਕਰੀਆਂ। ਕੋਲਮੇਂਟ, ਪਹਿਲੀ ਮੋਸਿਲ ਨਾਂ ਹੋਰ ਮੋਸਿਲਾਂ ਅਤੇ ਬਾਕੀ ਕੇਕਰ ਲਈ ਦਿਨਾਦਾਂ ਦਰਾਂ ਦਾ 50% ਹੋਵੇਗਾ।

ਸਿੰਗਾਂ ਸੇਵਾ-ਸਿਖੀਆਂ ਨੂੰ ਮੁਫਲ ਨਾਂ ਕੀਰਿਤ ਛੇਟ ਹੈ, ਹੋਰ ਇਸੇ ਅਨੁਸਾਰ ਹਨ।

- [illegible]

[illegible]

Attachment-7: Progress on Punjab Wide Area Network (PAWAN) Project

The State Government has already established Punjab State Wide Area Network (PAWAN) vertical connectivity to act as an intra-government network.

Current Status

All 22 Districts (with 16 Mbps bandwidth) and 172 SDM/Tehsils/Blocks (with 4 Mbps bandwidth) have been connected with Optical Fibre Cable (OFC). 850 horizontal offices are already connected with PAWAN network.

A dedicated 24x7 helpdesk has been established for complaint handling under PAWAN.

A Portal <https://pawan.Punjab.gov.in> has been made for complete information about PAWAN and complaint handling.

Hardware at District level has been strengthened to increase SLA requirements (i.e. 99.9%) keeping in view connectivity of Department of Excise and Taxation. All equipment have been installed in High availability mode to avoid single point of failure in PAWAN network till District level.

Horizontal offices of following Departments have been connected with PAWAN Network.

- e-Courts
- E-District
- CCTNS
- Treasuries
- Economic and Statistic Organization
- Election offices
- District Hospitals
- Excise and Taxation Technical Service Agency
- Transport Department
- Directorates/Boards/Corporations located at Chandigarh and Mohali.

Attachment-8: Indicative Number of transactions

Following information pertaining to transactions held during 2013 -14 should only be used for reference purpose. Since there may be case of missing information from some locations, Supplier should not consider given information for sizing of the solution including its scalability requirements.

Functional Area	Sr. No	Name of Service	Indicative no of transactions held during 2013-14					
			Patiala region	Ludhiana	Jalandhar	Amritsar	Bhatinda	Firozpur
Birth & Death Certificates	1	Registration of Birth	32942	22825		298	18601	25935
	2	Issue of Birth Certificate	0	31231		279	34654	90479
	3	Late Registration of Birth	0	3104		71	870	2237
	4	Name-correction in Birth Certificate	0	897		Nil	78	603
	5	Name Entry for Birth Registration	0	6704		Nil	3106	4805
	6	Registration of Death	0	4548		80	2911	6278
	7	Issue of Death Certificate	0	6987		60	8151	21088
	8	Name-correction in Death Certificate	0	14		Nil	5	71
	9	Late Registration of Death	0	314		nil	173	285
Water Supply & Sewerage		Total	32942	76624	0	788	68549	151781
	10	New Water Connection	0	781		nil	654	903
	11	Payment of Water Bill	0	11966973		nil	8857000	20369712
	12	Change of Title in Water Bill	0	127		Nil	50	214
	13	Approval of Water Disconnection	0	357		57	142	906
	14	Water Reconnection	0	126		Nil	0	32
	15	New Sewerage Connection	0	171005		210	943	2764

Functional Area	Sr. No	Name of Service	Indicative no of transactions held during 2013-14					
			Patiala region	Ludhiana	Jalandhar	Amritsar	Bhatinda	Firozpur
	16	Payment of Sewerage Bill	0	5556655		4442	6993000	10566049
	17	Change of Title in Sewerage Bill	0	70		Nil	36	89
	18	Approval of Sewerage Disconnection	0	26		Nil	45	31
	19	Sewerage Reconnection	0	0		Nil	0	0
	20	Assessment of Disposal Charges	0	13707000		Nil	0	0
	21	Water & Sewerage Bill Amendment	0	0		Nil	50	23.33
		Total	0	31403120	0	4709	15851920	30940723.33
Licenses & Permits	22	License for setting-up a Commercial Unit	0	1319		59	536	2527
	23	License for Slaughterhouse	0	0		Nil	4	22
	24	License for a Rickshaw	0	444		16	789	672
	25	License for setting up Communication Tower on Private Property	0	83			45	35107
	26	License for setting up Communication Tower on ULB Property	0	13			0	11
		Total	0	1859	0	75	1374	38339
	27	Renting / leasing of ULB properties	0	1251		Nil	968	989950
Rent & Fee Collection	28	Collection of rent / lease	3994.00	1472	1804.00	1569	7425	2587
	29	Collection of Tahebazari Fees	11409	2949	3259	6985	284	1045
	30	Annual Fee for Communication Towers on ULB Property	0	100013			156077	203000

Functional Area		Sr. No	Name of Service	Indicative no of transactions held during 2013-14					
				Patiala region	Ludhiana	Jalandhar	Amritsar	Bhatinda	Firozpur
Fire Safety Services			Total	15403	105685	5063	8554	164754	1196582
	31		Issue of NOC for Fire Safety	0	282		Nil	275	462
	32		Issue of Fire Call Report	0	327		1	308	279
			Total	0	609	0	1	583	741
Advertisement & Hoardings	33		Approval for Hoardings / Adv. Boards on private properties	0	616		Nil	135	47
	34		Contracting of Advertisement Sites with Relevant Media	0	1		Nil	0	502
			Total	0	617	0	0	135	549
Property Tax	35		Assessment and collection of Property Tax	39262	25552	48485	6665	17255	20754
	36		Issuance of TS-1 Certificate	3198	3590	2834	769	2971	7331
			Total		29142	51319	7434	20226	28085
Transport	37		Issue of Bus Pass (for buses operated by the ULB)	0	0		nil	0	0
Miscellaneous Functions	38		Verification of widows, elderly, handicapped, etc. for inclusion in appropriate Scheme	0	704		41	1158	2362
Land Acquisition	39		Approval of Enhanced Compensation		0		Nil	0	0
Sale of Plot/Flat	40		Payment of Regular Installment		370		Nil	0	145
	41		Payment from Defaulters		17		Nil	0	50

Functional Area	Sr. No	Name of Service	Indicative no of transactions held during 2013-14					
			Patiala region	Ludhiana	Jalandhar	Amritsar	Bhatinda	Firozpur
	42	Issuance of Possession Letters		5		Nil	0	2
	43	Issuance of Allotment Letters		2		Nil	0	0
	44	sanction of change of land use		1		Nil	0	0
		Total		395	0	0	0	197
Property Management	45	Sanction of Building Plan/Completion Plan		42		17	0	22
	46	Transfer of Property		286		Nil	0	35
	47	Permission for Mortgage of Property		18		Nil	0	5
	48	Approval for time extension		10		nil	0	15
	49	Penalty for violation of approved Plan or construction without Plan		21		Nil	0	0
		Total		377	0	17	0	77
RTI	50	Number of application received for Right to Information Act		420		12	0	52
RTS	51	Number of application received for Right to Service Act		385		346	0	113
Complaints	52	Number of Complaint for Collection & disposal of Solid Waste	0	3917			403	2468
	53	Spray / fogging for prevention of Air-borne Diseases	0	2115			614162	97
	54	Conducting fire rescue operation						

Functional Area	Sr. No	Name of Service	Indicative no of transactions held during 2013-14					
			Patiala region	Ludhiana	Jalandhar	Amritsar	Bhatinda	Firozpur
	55	Number of Complaint for stray dogs	0	16			3	23
		Total		2131	0	0	614165	120
	56	Challan for dumping dirt and garbage						
Fine/ Penalty	57	Penalty for stray cattle						
		Total		0	0	0	0	0

Attachment-9: Existing Birth & Death Module

Technology Used: ASP DOT net

Database: SQL Server 2008 R2

Operating System Client /Server Machines: Windows

Number of transaction performed: Approximately 60,000/ month

Functional Specification Requirement – Issuance of Birth / Death Certificate

1. Birth / Death certificate issuance module of e-District application should be linked to other service component appropriately as predefined –
 - Information component
 - Form availability component
 - Application receipt component
 - Payment component
 - Approval component
 - Rejection component
 - Delivery Component
 - Monitoring component
 - Status tracking component
 - Verification Component
2. The system should be able to identify the user logging into the system as per the login component
3. The system should be able to provide information to the citizens about the services both in public as well as private domain as per the 'Information component'
 - Web access to information content in public domain
 - E-District application access to information content
4. The system should be able to channel the service request as per the workflow demonstrated in the process map and explained in the process description section of the service
5. The system should be able to retrieve relevant service request form using 'form availability' component.
6. The system should allow the operator to fill in application form – online and offline on behalf of citizen availing the service as per the 'application receipt' component
7. The system should be able to generate a unique registration number while registering an applicant with the system as per the 'application receipt' component.
8. The system should allow the citizen to register themselves on the e-District application
9. The system should store all information of the registered users uniquely and provide access to such information only to the users or to the designated administrator.
10. The system should have all the standard feature of account management with the registered accounts – data management, record management, etc.
11. The system should allow the registered users to access and download the service request form
12. The system should allow the registered users to fill the service request form online as well as offline.
13. The system should allow the registered users / CSC operators / Suwidha operators / e-District cell operator to make changes in the details provided before submission of the service request.

14. The system should allow the registered users to attach scanned copy of the supporting documents with the service request form.
15. The system should tag all the attached supporting documents with the service request and allow retrieval of the attachments as and when the service request is accessed.
16. The system should allow the user (CSC / Suwidha / e-District cell / applicant) to remove attachment if so desired before final submission of the service request.
17. The system should generate a temporary ID against all service request made through the registered accounts.
18. The system should delete the temporary ID along with the service request after 7 days if the service request is not finalized at CSC and if the Unique Service Number is not generated against the temporary ID number.
19. The system should provide an interface for the CSC / Suwidha operator through which the service request made through registered users could be retrieved back.
20. The system should allow the CSC / Suwidha operators to view the details of the service request form as well as the supporting documents
21. The system should be able to integrate the photograph taken from the webcam with the service application request
22. The system should be able to come up with final confirmation screen indicating successful submission of service request
23. The system should be able to generate a Unique Service Request Number on successful submission of service request.
24. The system should be able to issue an acknowledgement receipt once the service application is registered with the system as per 'application receipt' component
25. The system should be able to map the payment details of the transaction with the kiosk and as well maintain all payment records for all the transactions made
26. The system should be able to identify the applicant uniquely based on this registration number for all future references
27. The system should be able to successfully forward the service request to Supdt. CMO / Computer Clerk (Dealing clerk at EOMC office) for fresh issuance of birth / death / Not Found Certificate
28. The system should allow Supdt. CMO / CC to forward application requests of outside data digitization range to dealing clerk
29. The system should allow Supdt. CMO / CC to check the DSN details of service request within digitized range from birth / death database
30. The system should dealing clerk (CMO / EOMC Office) birth / death to add remarks and details (If any) for outside digitization range cases
31. The system should send notification for remarks of dealing clerk (CMO / EOMC Office) to Supdt. CMO / EOMC as per defined workflow
32. The system should allow Supdt. CMO / EOMC to view remarks of dealing clerk (CMO / EOMC Office), add and upload remarks
33. The system should send notification for remarks of Supdt. CMO / EOMC to approving authority for issuance of Birth / Death / Not Found certificate
34. The system should allow approving authority to finally approve or reject with remarks using digital signatures.
35. The system should generate appropriate certificate as approved by approving authority. (Birth / Death / Not Found)

36. The system should be able to successfully forward the service request to Dealing Clerk (CMO / EOMC Office) for addition / correction / Late entry cases
37. The system should allow Dealing clerk (CMO / EOMC Office) to check the DSN details or service request within digitized range from birth / death database (Addition / Correction / Late entry cases)
38. The system should allow dealing clerk birth / death (CMO / EOMC Office) to add remarks and details (If any) for outside digitization range cases (Addition / Correction / Late entry cases)
39. The system should send notification for remarks of dealing clerk to Supdt. CMO / EOMC as per defined workflow (Addition / Correction / Late entry cases)
40. The system should allow Supdt. CMO / EOMC to view remarks of dealing clerk (CMO / EOMC Office), add and upload remarks (Addition / Correction / Late entry cases)
41. The system should send notification for remarks of Supdt. CMO to ADR as per defined workflow and remarks of Supdt. EOMC to EOMC (Addition / Correction / Late entry cases)
42. The system should allow ADR to view remarks of Supdt. CMO , add and upload remarks as per defined workflow (Addition / Correction / Late entry cases)
43. The system should send notification for remarks of ADR to approving authority (Addition / Correction / Late entry cases)
44. The system should allow approving authority to finally approve or reject the order with remarks using digital signatures.
45. The system should be able to check for the mode of delivery of the finally rejected document opted by the applicant at the time of filling the application.
46. The system should be able to route the approved order (addition / Correction / Late entry) along with application details to Supdt. CMO as per pre-defined workflow
47. The system should be able to route the application request for late entry service to dealing clerk CMO office for late entry service request for cases within one year
48. The system should allow the approving authority to give order for physical verification in case of late entry within one year cases
49. The system should give notification of order for physical verification to Dealing\clerk as per defined workflow of late entry cases
50. The system should allow the dealing clerk to take print out of the order for physical verification
51. The system should allow dealing clerk to add remarks as per the verification report received and therefore follow the defined workflow process
52. The system should be able to route the application request for late entry service to dealing clerk of concerned SDM for late entry service request for cases more than one year
53. The system should allow Dealing clerk, SDM to check the DSN details of service request from birth / death database
54. The system should allow dealing clerk to add remarks and details (If any) for Late entry cases
55. The system should send notification for remarks of dealing clerk to SDA as per defined workflow of Late entry cases more than one year
56. The system should allow SDA to view remarks of dealing clerk, add and upload remarks
57. The system should send notification for remarks of SDA to concerned SDM
58. The system should allow concerned SDM to finally approve or reject the order for late entry with remarks using digital signatures.
59. The system should allow Panchayat Secretary to digitize details of fresh registrations of birth and death on weekly basis.

60. The service request for issuance of fresh birth and death certificate should be accepted not before 10 days after date of registration.
61. After the order for addition / correction / late entry is approved by the approving authority the system should append the application details incrementally in the database for birth / death cases
62. The system should accept application requests for addition of name cases for not more than 15 years of date of birth
63. The system should be able to check for the mode of delivery of the finally rejected document opted by the applicant at the time of filling the application.
64. The system should be able to generate a Unique Document Number against the approved service request through digital signatures
65. The system should be able to save the finalized service request and allow its retrieval as per the delivery component.
66. The system should be able to check for the mode of delivery of the finally approved document opted by the applicant at the time of filling the application.
67. The system should allow the CSC / Suwidha Operator / e-District Cell to retrieve the finalized cases using the Unique Service Request Number
68. The system should allow the CSC / Suwidha Operator / e-District Cell to print the finalized service output.
69. The system should allow the CSC / Suwidha Operator / e-District Cell to finally close the service request.
70. The system should allow the applicant to track the application status at different stages as per the status tracking component.
71. The system be able to respond to SMS based query on status of the applicant as per the status tracking component
72. The system should be able to auto generate system based SMS messages at predefined points during service processing and send it to applicant (if the cell /mobile phone number has been provided during the service request process)
73. The system should be able to auto escalate service request to higher authorities in case defined SLAs are not met by the officials as per the auto escalation matrix.
74. The system should be able to auto generate process monitoring reports on specified time intervals and send it to relevant authorities as defined in the process
75. The system should provide access to designated authorities to monitor service request status / actionable / SLAs for a particular period by logging onto the system
76. The system should be able to send SMS to applicant in case of missing of final SLAs and status tracking.
77. The system should strictly adhere to CRUD matrix and allow access right accordingly
78. The system should be able to auto generate MIS report as defined and send it to the designated authority
79. The system should allow CSC operator / applicant to enter request date till 01/01/1900
80. The system should allow the designated authorities to generate customized report on defined criteria's
81. The system should be able to auto escalate the service request if the service levels are not met as defined in the service level description for the process
82. The system should follow the escalation matrix as defined for the process
83. The system should be able to maintain all records for the login sessions with date and time stamping

84. The system should be able to support the status tracking component as defined in the process map for status tracking
85. The system should be able to support the monitoring and reporting component as defined in the process map for monitoring and reporting
86. The system should refresh the page in case of failure in submission of service request
87. The system should be able to retrieve the all the records on the basis of Unique Service Request Number and Unique Document Serial Number
88. The system should be able to generated online notification to be sent to the subsequent actor once the current actor has submitted the service request after completion of action.
89. The system should not allow submission of service request either at the CSC / Suwidha / applicant or e-District cell if the mandatory fields of the application forms are not filled.
90. The system should time out the session if it is idle for more than ten minutes.
91. The system should return to main menu after print out of the receipt has been taken.
92. The system should allow all the actors to make changes in the action before submitting it back to application after completion of the required action on their part
93. The system should allow the HoD and DC to use digital signatures for signing the document – the system should follow the standard procedure for embedding digital signatures in the service output format
94. The system should be PKI enabled to accept digital signatures certificate for digital signing of the documents.
95. The system should consider the list of holidays for tracking the timelines of various approving authorities in the workflow.
96. The system should consider working days only when following service levels, process monitoring report, Management Information System, and auto-escalation matrix.

Attachment-10: Sample forms for digitization/scanning

Form-1

The Executive Engineer Water Supply & Sewerage Authority LUDHIANA.		
The applicant should hand over the application in the Local Office in the Sub Division in which sanction is required	APPLICATION & Dated AGREEMENT	Application Date..... CONNECTION
FOR SEWAR CONNECTION		
<p>I/We hereby do agree with the Municipal Corporation act for sewerage connection & I/We hereby further agree to pay for said connection in accordance with the relevant traffic and also to pay such other charges as become due to me/us to the corporation from time to time as rates laid down in the standard schedules of Corporation and I/we hereby declare that the said condition of the connection and charge & general charges has been ready by me/us to which I/We are bound. I further agree not to discharge any such waste which shall harm the sewer or block it in any way.</p>		
Name of the applicant		
Address.....		
Nos. of Seats.....		
Nos. of Urinals.....		
Description.....		
Locality.....		
Category of connection: Domestic/Industrial/Institution/Commercial.		
The connection and sanitary filling will be carried out by		
Name		
Address		Signature of the Applicant
<hr style="border: 0.5px solid black;"/> ACKNOWLEDGEMENT		
Received the application of.....		
as per S. No..... which should be quoted in further correspondence		
Signature & designation of the official receiving the application		

Form-2

Sachdeva

FORM A (BYE-LAW 5,2)

No. Dated.....
Application for a Private connection for water supply from the
distribution mains of the Municipal Corporation of Ludhiana

Name..... H. No.....
Mohalla.....

To
Executive Engineer Water Supply & Sewerage Authority
Municipal Corporation Ludhiana.

Sir,

I beg to request that a metered supply of water for domestic or other than domestic purpose may be sanctioned for the premises specified above & that the Municipal Corporation of Ludhiana will arrange to carry out the work. The particulars of the fittings required given below.

I undertake to act in respect of the said supply in conformity with the bye-laws and Rule made by the Corporation and also with such amended by-laws and rule as may by the Corporation from time to time for the regulation of connection of between private house or other premises and the water supply mains of the Corporation.

I agree that the Commissioner shall with or without notice have power to close or sever at any time the private service pipe to my premises if considers it advisable necessary to do so for any reason what so ever.

Yours faithfully,
(Signature of the owner or his recognised
agent of the premises specified above)

PARTICULARS OF PRIVATE CONNECTION

Approximate length & diameter of service pipe.....
No of diameter of taps..... on..... Diameter.....
Diameter of stop tap.....
Diameter of water meter.....
Position of meter and stop tap and how to protected.....
No. & details of sanitary fittings.....
Signature.....
..... ferrule complete Rs.....
..... galvanized water tubing.....
..... inches in diameter laid complete Rs.....
..... stop tap fixed complete Rs.....
..... meter installation charge only including box of cast iron wrought iron
of.....
No..... bib taps complete Rs.....
No..... clamps to wall Rs.....
No..... cutting through wall and repair Rs.....
Dated..... Total Rs.....

b

Attachment-11: Service Level Requirements

This describes the Service Level Agreements (SLAs) to be established for the Services offered by the Supplier to Purchaser. The Supplier shall monitor and maintain the stated service levels to provide quality service to Purchaser.

1. **Definitions:** Below is explained the definition of critical terms used in service level requirements.
 - (a) **"Scheduled Maintenance Time"** shall mean the time that the System is not in service due to a scheduled activity as defined in this SLA. The scheduled maintenance time would not be during 12X6 timeframe. Further, scheduled maintenance time is planned downtime with the prior permission of Purchaser.
 - (b) **"Scheduled Operation Time"** means the scheduled operating hours of the System for the month. All scheduled maintenance time on the system would be deducted from the total operation time for the month to give the scheduled operation time. The total operation time for the systems and applications within the DC and NDR site will be 24X7X365.
 - (c) **"System or Application downtime"** means accumulated time during which the System is totally inoperable within the Scheduled Operation Time but outside the scheduled maintenance time and measured from the time the Purchaser and/or its employees log a call with the Helpdesk team of the failure or the failure is known to the Supplier from the availability measurement tools to the time when the System is returned to proper operation.
 - (d) **"Availability"** means the time for which the services and facilities are available for conducting operations on the System including application and associated infrastructure. Availability is defined as:
$$\{(Scheduled\ Operation\ Time - System\ Downtime) / (Scheduled\ Operation\ Time)\} * 100\%$$
 - (e) **"Helpdesk Support"** shall mean the support center which shall handle fault reporting, trouble shooting, ticketing, related enquiries and other tasks as defined in Volume-I of the RFP.
 - (f) **"Incident"** refers to any event / abnormalities in the functioning of the System/Services that may lead to disruption in normal operations of the System including Application and other services as per scope of Implementation Vendor.
 - (g) **"Recovery Time Objective (RTO)"** refers to the maximum duration of time and a service level within which a business application/process must be restored after a disaster (or disruption) in order to avoid unacceptable consequences associated with a break in business continuity.
 - (h) **"Recovery Point Objective (RPO)"** refers to maximum interval of time during a disaster (or disruption), the quantity of data lost pertaining to that period is acceptable.
2. **Interpretations:** Interpretation of some important functionalities, activities and terms are explained below.
 - (a) The **working** hours are **9:00AM to 6:00PM** on all working days (Mon-Friday) excluding public holidays or any other holidays observed by Purchaser or concerned Office. However, Supplier recognizes the fact that it may require to work beyond the working hours on need basis or on Saturday/Sunday.
 - (b) "Non-Working Hours" shall mean hours excluding "Working Hours".
 - (c) 12X6 shall mean hours between 08:00 AM -8.00 PM on six days of week (Sunday excluded).
 - (d) If the operations at DC are not switched to NDR Site within the stipulated timeframe (Recovery

Time Objective), it will be added to the system downtime.

- (e) The availability for a cluster will be the average of availability computed across all the servers in a cluster, rather than on individual servers. However, non-compliance with performance parameters for infrastructure and system / service degradation will be considered for downtime calculation.
- (f) The SLA parameters shall be monitored on a monthly basis as per the individual SLA parameter requirements. However, if the performance of the system/services is degraded significantly at any given point in time during the contract and if the immediate measures are not implemented and issues are not rectified to the complete satisfaction of Purchaser or an agency designated by them, then the Purchaser will have the right to take appropriate disciplinary actions including termination of the contract.
- (g) A Service Level violation will occur if the Supplier fails to meet Minimum Service Levels, as measured on a quarterly basis, for a particular Service Level. Overall Availability and Performance Measurements will be on a monthly basis for the purpose of Service Level reporting. An "Availability and Performance Report" will be provided by the Supplier on monthly basis in the Purchaser's suggested format and a review shall be conducted based on this report. A monthly Availability and Performance Report shall be provided to the Purchaser at the end of every month containing the summary of all incidents reported and associated Supplier's performance measurement for that period.
- (h) Where required, some of the Service Levels will be assessed through audits or reports e.g. utilization reports, measurements reports, etc., as appropriate to be provided by the Implementation Vendor on a monthly basis, in the formats as required by the Purchaser. The tools to perform the audit will need to be provided by the Supplier. Audits will normally be done on regular basis or as required by the Purchaser and will be performed by the Purchaser or the any third party agencies appointed/designated by Purchaser.
- (i) EMS system shall play a critical role in monitoring the SLA compliance and hence will have to be customized accordingly. The 3rd party testing and audit of the system shall put sufficient emphasis on ensuring the capability of EMS system to capture SLA compliance correctly and as specified in this RFP. The selected Implementation Vendor must deploy EMS tool and develop additional scripts (if required) for capturing the required data for SLA report generation in automated way. This tool should generate the SLA Monitoring report in the end of every month which is to be shared with the Purchaser on a monthly basis. Purchaser may audit the tool and the scripts on a regular basis.
- (j) From date of Operational acceptance of sub-phase-1 pilot, SLAs pertaining to Operations and Maintenance Phase shall be observed. The SLAs may be reviewed on a quarterly year basis as the Purchaser decides after taking the advice of the Supplier, PMU and other agencies. All the changes would be made by the Purchaser in consultation with the Supplier.
- (k) A period of 3 months from date of operational acceptance of sub-phase 1 pilot is proposed as stabilization period. During this period SLAs, which are not affecting availability & operation of solution, will not be considered for any deduction in payment pertaining to stabilization period.
- (l) Supplier is required to coordinate with/support PAWAN operator and Purchaser for the SLAs which are impacted due to delay or non-availability of network (PAWAN). In case of delay or non-availability of PAWAN, score of such impacted SLAs would be mutually discussed and agreed.
- (m) The Supplier is expected to provide the following service levels. In case these service levels cannot be achieved at service levels defined in the tables below, it shall result in a breach of

contract and invoke the penalty clause. Payments to the Supplier are linked to the compliance with the SLA metrics laid down in the tables below. The penalties will be computed and calculated as per the computation explained. During the contract period, it is envisaged that there could be changes to the SLA, in terms of addition, alteration or deletion of certain parameters, based on mutual consent of both the parties i.e. the Purchaser and the Supplier.

- (n) Following tables outlines the key service level requirements for the system, which needs be ensured by the Implementation Vendor during the operations and maintenance period. These requirements shall be strictly imposed and either the Purchaser or a third party audit/certification agency shall be deployed for certifying the performance of the Supplier against the target performance metrics as outlined in the tables below:

Service Levels Requirements during Implementation and Operation & Maintenance Period

3. Resource Availability

This service level shall be based on the availability of the resources deployed full time on-site for the project as per agreed & finalised project plan.

S.No.	Leaves per month per resource	Deductions per resource
1.	1 day	Nil (One Leave allowed per month)
2.	Upto 3 days	INR 1000 per day
3.	Upto 5 days	INR 1500 per day
4.	More than 5 days	INR 2000 per day
<ul style="list-style-type: none"> The above penalties would be deducted from the amount payable to the Supplier for the actual deployment (i.e. on pro-rata basis for the number of days present in a month out of the number of days for which the presence was expected) of the resource. The penalties shall not include Saturdays and Sundays except for the ones specifically instructed by Purchaser in writing or through email. The penalties shall not be applicable if a temporary replacement is deployed for the days the resource is not present. However, penalties as given above shall be applicable if the temporary replacement is provided for more than 5 days in a month. In cases, wherever absence/temporary replacement exceeds 5 days in a month, prior written approval of Purchaser will be required. In case of any other emergency prior approval of Purchaser needs to be taken for the waiver of deduction under this penalty if the replacement needs to be provided more than 5 days. In such cases Purchaser may ask for necessary documentary proof (if required). 		

4. Submission of documents

Service Level Description	Measurement
Submission of Documents	As per timeline approved in project plan
	Severity of Violation: Medium
	This service level will be monitored and measured every month based on agreed and finalized Project plan
	Each week of delay in submission of document will be treated as one (1) violation.
	The total number of violations will be the cumulative number of violations in the payment period.

5. Capacity Building

Service Level Description	Measurement
Capacity Building	At least 80% of the trainees within the training program should give a top 3 rating on a scale of 5 level rating
	Severity of Violation: High
	This service level will be monitored and measured through feedback survey to be provided to each attendee within the program.
	If the training quality in the program falls below the minimum service level, it will be treated as one (1) violation.
	The total number of violations for the payment period will be the cumulative number of violations across all the programs in the payment period.

6. Data Migration

Service Level Description	Measurement
Data Migration	Error rate in a batch should be less than 1%.
	Severity of Violation: Medium
	This service level will be measured on a monthly basis. If the data migration

Service Level Description	Measurement
	service level falls below the minimum service level (i.e. 99% success rate in a batch), it will be treated as one (1) violation for the month.

Violations and Associated Penalties (From S. No. 4 to 6)

- (a) The primary intent of Penalties is to ensure that the system performs in accordance with the defined service levels. Penalties are not meant to be punitive or, conversely, a vehicle for additional fees.
- (b) **Penalty Calculations:** The framework for Penalties, as a result of not meeting the Service Level Targets are as follows:
- The performance will be measured for each of the defined service level metric against the minimum / target service level requirements and the violations will be calculated accordingly.
 - The number of violations in the reporting period for each level of severity will be totaled and used for the calculation of Penalties.
 - Penalties applicable for each of the high severity violations is 0.1% of total contract price excluding recurrent and reimbursable cost.
 - Penalties applicable for each of the medium severity violations is 0.05% of total contract price excluding recurrent and reimbursable cost.

Service Level Requirements during Operation and Maintenance Period

The Supplier Vendor shall adhere to all the project timelines for the implementation phase as defined above in this RFP. Failure to complete any project activity as per the agreed upon timelines may result in Liquidated Damages as defined in this RFP.

7. System Infrastructure and Application Availability and Performance:

- (a) **System Infrastructure-** This includes but not limited to:-
- Hardware, software, networking & security components supplied by Supplier at DC and NDR site
 - Helpdesk infrastructure & applications
 - Network bandwidth/connectivity provided by Supplier
- (b) **Application-** This includes but not limited to:-
- Application covering all modules
 - Interfaces and integration
 - Mobile Application
- (c) These service levels will be monitored on a monthly basis.
- (d) The below tables gives details on the Service Levels the Supplier should maintain.

Service Level Description	Measurement	
System Infrastructure Availability (Refer BOM for DC and NDR provided in Attachment 4 and any additional item(s) proposed by Supplier)	Availability of System Infrastructure shall be at least 99.9%	
	Severity of Violation: High	
	Availability over the quarterly period	Violations for calculation of penalty
	< 99.9% & >= 99.5%	1
	< 99.5% & >= 99%	2
	< 99%	3
	RTO shall be less than or equal to three (3) hours.	
	Severity of Violation: High	
	Each instance of non-meeting this service level will be treated as two (2) violation.	
	It will be measured during drill and/or actual case.	
	RPO (Recovery Point Objective)	
	Should be zero data loss in case of synchronous mode of replication between DC and BCP and less than 15 minutes in case of asynchronous replication)	
	Severity of Violation: High	
	Each instance of non-meeting this service level will be treated as three (3) violations.	
	It will be measured during drill and/or actual case.	
Application Availability	Availability of Application shall be at least 99.9%	
	Severity of Violation: High	
	This service level will be monitored on a monthly basis.	
	Availability over the quarterly period	Violations for calculation of penalty
	< 99.9% & >= 99.5%	1
	< 99.5% & >= 99%	2

Service Level Description	Measurement									
	< 99%	3								
Application Performance	<p>Average application response time during peak usage hours as measured from a client terminal shall not exceed 4 seconds.</p> <p>Severity of Violation: High</p> <p>The list of critical business functions and peak usage hours will be identified by the Purchaser during the design/implementation Phase.</p> <p>This service level will be monitored on a monthly basis.</p> <table><tr><td>Average application response time over the quarterly period</td><td>Violations for calculation of penalty</td></tr><tr><td>> 4 sec & <= 5 sec</td><td>1</td></tr><tr><td>> 5 sec & <= 6 sec</td><td>2</td></tr><tr><td>> 6 sec</td><td>3</td></tr></table>		Average application response time over the quarterly period	Violations for calculation of penalty	> 4 sec & <= 5 sec	1	> 5 sec & <= 6 sec	2	> 6 sec	3
Average application response time over the quarterly period	Violations for calculation of penalty									
> 4 sec & <= 5 sec	1									
> 5 sec & <= 6 sec	2									
> 6 sec	3									

8. Handholding Support: Helpdesk, Data Centre and NDR Site Support

- (a) **Level 1 Calls.** The failure to fix has an immediate impact on the Purchaser's ability to provide services, inability to perform critical service delivery and/or back-office functions or a direct impact on the organization.
- (b) **Level 2 Calls.** The failure to fix has an impact on the Purchaser's ability to service public, can cause service to degrade if not resolved within reasonable time frames.
- (c) **Level 3 Calls.** The failure to fix has no direct impact on the Purchaser's ability to serve its offices, or perform critical back-office functions.
- (d) This service level will be monitored on a monthly basis.
- (e) The below tables gives details on the Service Levels the Implementation Vendor should maintain.

Service Level Description	Measurement
Helpdesk Performance	<p>98% of the calls shall be answered within 45 seconds.</p> <p>Severity of Violation: High</p> <p>This service level will be monitored on a monthly basis.</p>

Service Level Description	Measurement	
	Performance over the quarterly Period	Violations for calculation of penalty
	< 98% & >= 90%	1
	< 90% & >= 80%	2
	< 80%	3
Helpdesk Performance	98% of the non-Implementation Vendor supported incidents shall be routed to the appropriate service provider within 30 minutes. Severity of Violation: Medium This service level will be monitored on a monthly basis.	
	Performance over the quarterly Period	Violations for calculation of penalty
	< 98% & >= 90%	1
	< 90% & >= 80%	2
	< 80%	3
Helpdesk Performance	90% of the Level 1 calls shall be resolved within 4 working hours from call received / logged whichever is earlier. However, the maximum resolution time for any incident of this nature shall not exceed 8 hours. Severity of Violation: High This service level will be monitored on a monthly basis.	
	Performance over the quarterly Period	Violations for calculation of penalty
	< 90% & >= 80%	1
	< 80% & >= 70%	2
	< 70%	3

Service Level Description	Measurement								
Helpdesk Performance	<p>90% of the Level 2 calls shall be resolved within 8 working hours from call received / logged whichever is earlier. However, the maximum resolution time for any incident of this nature shall not exceed 48 hours.</p> <p>Severity of Violation: Medium</p> <p>This service level will be monitored on a monthly basis.</p> <table> <tr> <td>Performance over the quarterly Period</td><td>Violations for calculation of penalty</td></tr> <tr> <td>< 90% & >= 80%</td><td>1</td></tr> <tr> <td>< 80% & >= 70%</td><td>2</td></tr> <tr> <td>< 70%</td><td>3</td></tr> </table>	Performance over the quarterly Period	Violations for calculation of penalty	< 90% & >= 80%	1	< 80% & >= 70%	2	< 70%	3
Performance over the quarterly Period	Violations for calculation of penalty								
< 90% & >= 80%	1								
< 80% & >= 70%	2								
< 70%	3								
Helpdesk Performance	<p>90% of the Level 3 calls shall be resolved within 16 working hours from call received / logged whichever is earlier. However, the maximum resolution time for any incident of this nature shall not exceed 72 hours.</p> <p>Severity of Violation: Low</p> <p>This service level will be monitored on a monthly basis.</p> <table> <tr> <td>Performance over the quarterly Period</td><td>Violations for calculation of penalty</td></tr> <tr> <td>< 90% & >= 80%</td><td>1</td></tr> <tr> <td>< 80% & >= 70%</td><td>2</td></tr> <tr> <td>< 70%</td><td>3</td></tr> </table>	Performance over the quarterly Period	Violations for calculation of penalty	< 90% & >= 80%	1	< 80% & >= 70%	2	< 70%	3
Performance over the quarterly Period	Violations for calculation of penalty								
< 90% & >= 80%	1								
< 80% & >= 70%	2								
< 70%	3								

Violations and Associated Penalties (From S. No. 7 to 8)

- The primary intent of Penalties is to ensure that the system performs in accordance with the defined service levels. Penalties are not meant to be punitive or, conversely, a vehicle for additional fees.
- A quarterly performance evaluation will be conducted using the quarterly reporting periods of that period.
- Penalty Calculations:** The framework for Penalties, as a result of not meeting the Service Level Targets are as follows:
 - The performance will be measured for each of the defined service level metric against the

- minimum / target service level requirements and the violations will be calculated accordingly.
- (ii) Penalties applicable for each of the high severity violations are two (2) % of respective quarterly payment to the Supplier.
 - (iii) Penalties applicable for each of the medium severity violations are one (1%) of respective quarterly payment to the Supplier.
 - (iv) Penalties applicable for each of the low severity violations is half percentage (0.5%) of respective quarterly payment to the Implementation Vendor.
 - (v) Penalties applicable for not meeting **a high (H) critical** performance target in two consecutive quarters on same criteria shall result in additional deduction of 5% of the respective quarterly payment to the Implementation Vendor. Penalty shall be applicable separately for each such high critical activity
 - (vi) Penalties applicable for not meeting **a medium (M) critical** performance target in two consecutive quarterly periods on same criteria shall result in additional deduction of 3% of the respective quarterly payment to the Implementation Vendor. Penalty shall be applicable separately for each such medium critical activity.
 - (vii) In case total of all penalties for not meeting any performance target exceeds more than 20% of respective quarterly payment in two consecutive quarters then Purchaser may terminate the Contract.