

CORRIGENDUM – ANNEXURE-C**PART - V****5.0 TECHNICAL & FUNCTIONAL REQUIREMENTS:**

The Bank proposes to procure Enterprise-wide license for implementing consolidated/centralized web-based CTS Solution, which will handle CTS clearing load of all three CTS-Grid regions (Southern, Western and Northern). The application will be implemented in web mode with role-based access to users located at various Branches/CTS Centres /Offices.

The CTS is expected to support a broad range of clearing products taking into account Banks requirements. The objective is to identify and finalize the functional requirements for CTS by the Bank. Bidders are required to submit their compliance against each functionality in the column "Bidder Compliance" as indicated below:

All the requirements are listed under Techno-Functional Requirements. Requirements listed in the following sections are not exhaustive and complete in all respects and may undergo change during preparation of "System Requirement Document". Certain requirements may be implicitly available in the product sought and hence might have been excluded from the Requirement List. Successful Bidder is required to offer the latest version of the product available and make necessary customizations as may be required after preparation of Requirement Document.

The functional/technical capabilities are evaluated as per the readiness (Type of response /Scale) towards the expected functionalities for creating the CTS solution. All the functional and technical requirements for achieving regulatory compliance are mandatory.

Bidder should indicate against each requirement which is Mandatory as per the following table from Annexure.

Bidders Compliance	Description
A	Already available FULLY in the product.
B	Not available, but can be provided. It should be made available to Bank before delivery of the product without any additional Charge.

- i) Each Mandatory items is assigned total of 5 marks. While scoring, the scales namely A, B as above shall be assigned 5 marks and 2 marks respectively. The Bidder should score at least 673 marks in the Technical Bid out of total marks of 820 to Qualify to participate in Commercial Bid. Compliance should be submitted as per each and every line item mentioned in the table below.

Bank reserves its right to cancel the order if the mandatory items are not provided, along with delivery of product.

ii) The Product Presentation and Visit at implementation site / Vendor's site by Bank Team as mentioned in the Techno functional evaluation part carry 50 marks out of which the Vendors should secure minimum 30 marks for Qualifying to participate in Commercial Bid in addition to the 673 marks as stated in point No i) above. The marks assigned by the Bank Team will be final and Bank reserves its right not to give any reason of rejection of any proposal based on such marking by bank Team.

5.1 TECHNO-FUNCTIONAL REQUIREMENTS

I : Mandatory Items(164 Items)

Sl. No.	Functionality	Mandatory/ Optional	Bidders Compliance (A/B)	Marks	Remarks
1	<i>Systems should conform to the requirements of the IT Act 2008 and the Negotiable Instruments (Amendments & Miscellaneous Provisions) Act 2002 and Payment & Settlement Act. 2007 and its subsequent amendments, for recognition of images as valid instruments for payment by the Drawee Banks and all other applicable guidelines issued by RBI from time to time.</i>	Mandatory			
2	<i>The Bidder should provide Centralised CTS Solution Common CTS for all three Grids (Northern, Southern and Western) at Banks Primary Site & Secondary Site (Replica of Primary Site)</i>	Mandatory			
3	<i>The proposed CTS Solution should have capability of handling Bank's as well as all types of Sub-member Banks CTS Requirements for all three Grid regions separately without any technical limitations or dependency from Primary Site & Secondary Site.</i>	Mandatory			
4	<i>Provision for Online & Offline Solution for Sub-Member Banks to handle their clearing independently at their Offices/Locations. Secured channel for System Access and transferring files will be provided by the Bank/Sub-member Banks. System should have capability to handle Segregation and also to provide proper authentication mechanism so that Direct or Indirect Sub-Member Banks can process all types of clearing (Outward, Inward, Extension and both types of</i>	Mandatory			

	<i>Returns Clearing) at their end by using the CTS Solution either in Online or Off-line mode.</i>				
5	<i>System should have capability for proper segregation of the Bank's/ Sub Member Banks (All types) instruments.</i>	Mandatory			
6	<i>The point of Physical Instrument truncation could be either at the Branch / Regional Processing Units (RPU) / Centralized Clearing Units (CCUs)/ Sub- Member Banks and their Branches. Bank may adopt a hybrid model (cluster or de-centralized model) for capturing images of Instrument from various locations. The solution need to be flexible enough to handle the same.</i>	Mandatory			
7	<i>System should be capable of creating multiple clearing types to suit Bank's / Sub-Member Banks (All types) clearing requirements to route the instrument and transaction type level and maintain separate settlement Ledgers and general ledger interface at various clearing types.</i>	Mandatory			
8	<i>The system proposed shall support multiple sessions for the four legs of clearing process - inward clearing, inward return, outward clearing and outward return along with extension as well as Blockage handling. Must be compatible with the RBI / NPCI Centralized Clearing House (CCH), Data Exchange Model (DEM) system and the core banking software of Bank as well as its Sub- Member Banks.</i>	Mandatory			
9	<i>System should be compatible to handle all Cheque Scanning devices available with the major manufacturer, at present and capable to integrate with all types of Operating Systems. The Bidder has to integrate all the scanners on all desktop versions available within the Bank/Branches/Sub-member Banks. In case, Bank intends to purchase new Cheque Scanners then, Bidder has to do the integration without any additional cost during the contract period. Bank will ensure to provide</i>	Mandatory			

	<i>proper technical clarifications / APIs to the Bidder for integration.</i>				
10	<i>System should be capable for Processing / segregating Centralised Grid clearing as well as CTS Grid wise clearing for all three existing Grids (Northern, Western and Southern) and any other new Grids that will be introduced in future, as per regulatory directions.</i>	Mandatory			
11	<i>System should be capable of handling minimum 50,000 instruments per hour during Data Entry and Verification Processing, simultaneously across all grid centres. However, System should also be capable for minimum 70,000 instruments per hour for Outward Clearing Files (CXF/CIBF) generation in the specified format of RBI/NPCI.</i>	Mandatory			
12	<i>System should prioritize and process the clearing for all three grids in parallel, there should not be any kind of limitation or restriction in the solution for sequence processing of Grid clearing as all existing/present three grids clearing are independent of each other and they have their own presentation timings.</i>	Mandatory			
13	<i>System should have the capability of capturing/ processing images of the instruments along with deposit Slips and should be able to capture multiple branch details at Bank's Branches/ CCUs / Sub-Member Banks/Branches.</i>	Mandatory			
14	<i>Provision for capturing batch wise/ type wise clearing (CTS / Non-CTS / Special Clearing) for the following cases: Ø Cheques Only. Ø Cheques with Slip (Product Wise). Ø Marking Paper to Follow (P2F) batches at time of scanning itself.</i>	Mandatory			
15	<i>Facilities of defining touch points to integrate with the solution for processing Cheque Truncation. The touch points could be Kiosks, Instrument Drop machines, ATMs having Cheque Truncation capabilities, Remote Deposit Capture (RDC), Handheld devices (Mobiles/Tablets) etc.</i>	Mandatory			

16	<i>The Reject repair, Balancing and Validation work shall be distributed and shall not be restricted to a single workstation per Grid location either at Bank's or Sub-Member Banks level.</i>	Mandatory			
17	<i>CTS Solution Shall automatically do load balancing by allocating jobs to various workstations keeping a tab on volumes processed during the day.</i>	Mandatory			
18	<i>CTS Solution shall have the seamless integration to the core banking system in all the legs of clearing.</i>	Mandatory			
19	<i>Should have provision to generate posting files for all types of clearing as per multiple requirements of Bank and Sub-Member Banks. Provision to create multiple posting files templates and to tag Sub-Member Banks through menu driven process.</i>	Mandatory			
20	<i>Should provide provision for outward posting files in different levels and segregation should happen at point of capture itself, depending on Bank's / Sub-Member Bank's requirement:</i> <ul style="list-style-type: none"> • Cheque Wise • Deposit Slip wise • Account Wise etc. 	Mandatory			
21	<i>The CTS Solution should have facility to generate various clearing reports, exception reports, audit trail reports, detailed/summary reports, batch reports for image/instrument, various reconciliation reports to tally with NPCI/CBS <u>details for presentation</u> and return clearing process.).</i>	Mandatory			
22	<i>Capable of routing specific instruments like Dividend warrants (DW), Demand Draft (DD) /Pay Order (PO), Quick Cheques (QC), Paper to Follow (P2F) etc., to specific Clearing House System and separate queues in system to be provided as per Bank's requirement.</i>	Mandatory			
23	<i>Capable of providing intelligent routing for both inward clearing and inward return based on users' roles/Grid wise/City Wise. Consolidation should happen on the basis of payer city similar to NPCI segregation criteria and re- conciliation reports should match with CHI Settlement Reports generated for each Presentment and</i>	Mandatory			

	<i>Return/extension sessions for all Clearing types.</i>				
24	<i>Should have a settlement module for inter-bank, intra bank and intercity clearing with capabilities for consolidating the day's inward and outward presentations and returns for raising a single debit or credit on the participating branches and re-conciliation reports should match <u>with CHI/DEM Settlement Reports</u> generated for each Presentment and Return session for all Clearing types.</i>	Mandatory			
25	<i>Archival system to store data, images and logs of the each and every transaction for a minimum period of 10 years and / or any other such period as may be required under the law or decided by Bank. Data Integrity, Image Quality and Security should be ensured with proper archival and retrieval mechanism.</i>	Mandatory			
26	<i>For <u>Inward Clearing</u>, the software <u>should</u> download the data/images for all three current CTS Grids separately and prepare separate upload file to core Banking system for reserving the amounts for clearing debits later. Posting file formats will be provided by the Bank and requirement for generation of multiple formats of posting files for Sub- Member Banks as per their Core Banking System requirement.</i>	Mandatory			
27	<i>System should have proper mechanism for extraction and auto transmission of inward clearing for the respective Sub- member Banks (all types). Sub-Member Banks will be accessing the system and process their inward clearing and mark returns as per their requirements.</i>	Mandatory			
28	<i>All Clearing reports, Return memo, posting files for Sub-Member Banks is to be generated from the system along with manual generation feature and facility for automatically transmission through Secured channel.</i>	Mandatory			

29	<i>Transactions pertaining to the Bank and Sub-Member Banks should be recorded properly with complete Audit trail in the Centralized CTS Solution and there should be easy retrieval for the history information through front end enquiry screens for all types of Clearing cycles.</i>	Mandatory			
30	<i>Transaction number should be generated automatically in the system without any manual intervention for the Bank's and Sub-Member Banks. Every transaction number should be unique for each instrument.</i>	Mandatory			
31	<i>Should conform to all the statutory regulatory norms as per RBI/ NPCI or Govt. and any further directions received from time to time, should be provided without any additional cost to the Bank.</i>	Mandatory			
32	<i>The user interface for branch operations/ Service Branch Operations / Sub-Member Banks should be browser based only.</i>	Mandatory			
33	<i>The workflow should re-direct all entered batches / <u>instruments</u> to supervisors for verification of the data entry.</i>	Mandatory			
34	<i>Already processed batch file or instruments should not be available for Processing on the same day again. Already processed batch file or instruments should not be available for Processing on the same day again. Already processed batch file or instruments should not be available for Processing on the same day again.</i>	Mandatory			
35	<i>Should be able to process Instrument(s) of different size and colors.</i>	Mandatory			
36	<i>Should be possible to process high value instruments separately for scrutiny for both OW and IW Clearing instruments. The cut off amount for High value should be user definable and Controllable.</i>	Mandatory			

37	<p><i>Various types of segregation and view / report on business rules should be possible in all clearing modules. Segregation can be based on:</i></p> <ul style="list-style-type: none"> • <i>Grid wise</i> • <i>Session wise</i> • <i>Instrument Number</i> • <i>Amount</i> • <i>Account type</i> • <i>Transaction code</i> • <i>Return Rejection codes</i> • <i>Presenting bank / Drawee Bank etc.</i> 	Mandatory			
38	<i>System should have configurable day/time limits for the cut off time, which could be different for different clearing cycles. (Special Clearing, etc.)</i>	Mandatory			
39	<i>Should be possible to copy the data on CD/Tape/SFTP/emails or any storage Media.</i>	Mandatory			
40	<i>System should provide a Document Management facility to store the Instrument(s) with unique reference numbers for easy retrieval at later stages.</i>	Mandatory			
41	<i>System must have a Login and password for each user and various user levels (enterer, verifier, exception approver, administrator, Grid Location etc.) for logging into the system</i>	Mandatory			
42	<i>Compulsory periodic changing of passwords for all the users at a parameterized period should be available and solution should prompt users to change password prior to the Expiry date.</i>	Mandatory			
43	<i>System should be configurable to handle the password policy followed by the Bank.</i>	Mandatory			
44	<i>System must maintain proper log including date, time, terminal number of each operation, financial and nonfinancial, done by every user and the same should be appended to transaction data or a separate log should be maintained. Retrieval of Audit logs should be simple and only viewable to the authorised users.</i>	Mandatory			

45	<i>The checkers or authorizers of the transaction should not be same as the maker of the transaction and prompt message should be displayed to the verifier(s)/user(s).</i>	Mandatory			
46	<i>For anywhere branch banking functionality, the access to other branches data should be based on parameters such as viewing, modifying, authority level to access, etc. and should be linked to user access rights.</i>	Mandatory			
47	<i>Defining of exceptions in the system should be parameterized and configurable</i>	Mandatory			
48	<i>System should have a special interface for auditors and IT users where access to all data would be allowed without any modification or change permission.</i>	Mandatory			
49	<i>System should have in-built capability, features & interface for handling Business Continuity Plan and capable to setup the solution at Disaster Recovery Sites (Primary Site & Secondary Site).</i>	Mandatory			
50	<i>Auto-Replication between Primary and Secondary Sites should be available with proper monitoring process. In case of any disaster, entire solution should be capable to handle immediate switchover from Primary to Secondary Sites and Vice-versa without any kind of manual intervention and user level changes.</i>	Mandatory			
51	<i>Software should be able to provide Signature Verification system with maker checker process</i>	Mandatory			
52	<i>System should be able to interface and connect with Bank's existing signature servers and also be able fetch signatures from CBS. Facility for Migration of existing Bank's signature system to the new signature solution, which should be provided by the Bidder. Bidder has to complete it without any additional cost/charges to the Bank.</i>	Mandatory			
53	<i>System should provide automated interfaces for signature extraction and migration from core system to CTS system.</i>	Mandatory			

54	<i>All the query modules should have capabilities to export data or email them in standard format supplied by the Bank.</i>	Mandatory			
55	<i>The general options (ex. Batch selection, color schemes etc.) should be common and consistent for all the Data Entry and processing modules across the solution.</i>	Mandatory			
56	<i>System should be scalable to handle on an average 4,00,000 transactions per day</i>	Mandatory			
57	<i>The system should have all the features required for interfacing with DEM systems (Primary and DRs) for all three existing Grid's as per existing scenario of Grid Clearing.</i>	Mandatory			
58	<i>The system should support centralized and decentralized processing without any geographical restrictions.</i>	Mandatory			
59	<i>The solution can be used off site and on site for Bank Branches and its Sub-member Bank's locations.</i>	Mandatory			
60	<i>There should not be any kind of performance downgrade / issue related to increase in concurrent users.</i>	Mandatory			
61	<i>Performance of hardware / software solution proposed should be optimum with proper performance benchmarks.</i>	Mandatory			
62	<i>The proposed solution should have dual authentication mechanism at all levels.</i>	Mandatory			
63	<i>The solution should not be system (Node/ workstation / PC) specific as if client system is down then processing should not be affected</i>	Mandatory			
64	<i>The system should support flow of data both ways i.e. from hub/central location to branch and vice-versa. The system should also prompt data Collection / sending at central/ sending location.</i>	Mandatory			
65	<i>The system should have provision for mass printing of images on basis of any selection criteria. This mass exercise should also be resource efficient and customizable.</i>	Mandatory			
66	<i>System should allow administrators to manage users, groups, roles and other document management operations.</i>	Mandatory			

67	<i>The CTS architecture must be scalable and shall support increasing number of users and concurrent users (Minimum 4000).</i>	Mandatory			
68	<i>The system must support 24-hours x 7 days x 365 days non-stop continuous processing.</i>	Mandatory			
69	<i>The proposed CTS Solution should provide interface with other software as required by the Bank.</i>	Mandatory			
70	<i>Customer Data security should be in-built in the system.</i>	Mandatory			
71	<i>System should be capable to handle Splitting/ segregation for proper distribution of work load.</i>	Mandatory			
72	<i>Detailed status summary of processing of cheques (stages) to be made available by the system for monitoring purpose.</i>	Mandatory			
73	<i>System should be able to generate reports from archived data as well as in the production environment</i>	Mandatory			
74	<i>System should be able to capture / input Drawer's details along with Outward presentation as per latest circular received from RBI / NPCI.</i>	Mandatory			
75	<i>Should be able to generate cheque return memo along with image of the instrument in the report format branch-wise and individual instrument-wise as well.</i>	Mandatory			
76	<i>Maker/ checker functionality for defining parameters in the masters, user creation/modification, Setup, other functionalities if any, to be available as specified by the Bank.</i>	Mandatory			
77	<i>Should provide online interface to extract data from the Clearing and truncation system to feed Bank's other application on need basis.</i>	Mandatory			
78	<i>Facility to auto-lock/Screen timed out should be available with configurable feature.</i>	Mandatory			
79	<i>The solution should have features / tests / mechanism to initiate or perform fraud prevention / detection for tampered / Photocopy / fake instrument.</i>	Mandatory			
80	<i>The solution should comply with all the RBI / NPCI guidelines for security features and quality enhancements in cheques / instruments to</i>	Mandatory			

	<i>prevent/detect fraud.</i>				
81	<i>The solution should have web-based feature to intimate branches live status of processing / rejects etc.</i>	Mandatory			
82	<i>The system should provide interfaces and automated checking for the new CTS 2010 Instrument standards. Ex. UV, watermark detection etc.</i>	Mandatory			
83	<i>System should have feature to use Positive Pay System (PPS).</i>	Mandatory			
84	<i>In case of any changes in the existing Grid Architecture prescribed by RBI i.e. Addition of new Grids or scanning centre , Deletion of existing Grids or scanning centre etc. the selected bidder has to ensure to abide by the same and make necessary changes i.e Software/Architecture Level if required without incurring any additional cost to Bank.</i>	Mandatory			
85	<i>The Software should have capability to be integrated with Bank' existing applications viz. Active Directory/Single Sign On (AD/SSO), Biometric Authentication Solution /PIM etc. or other system of the Bank to be implemented in future for User Management purpose.</i>	Mandatory			
86	<i>The proposed software should have Maker / Checker provision for modification or configuration changes of Parameters/Rules/Setup.</i>	Mandatory			
87	<i>The software should have facility for Outward Clearing Bulk file uploading and Processing of Input Files in .XLS , .txt and .CSV formats or in any other format required by the Bank.</i>	Mandatory			
88	<i>The System should have web-based scanning module for Bank's Branches / Service Centers / Sub- Member Banks with proper authentication mechanism through intranet and segregation of Clearing Types (CTS / Non-CTS / Special Clearing etc.). Apart from CTS Scanner's driver installation, there should not be any additional client based setup required to activate the scanners.</i>	Mandatory			

89	<i>The Cheques scanning is to be done in one single capture with endorsement, MICR line reading along with UV image scanning.</i>	Mandatory			
90	<i>Provide provision for detection of IQA success/failure during Cheques scanning itself and provision for re-scanning of the IQA failure instruments as well. The scanning of outward clearing instruments will be carried out by Bank's Officials. Rejects due to IQA failure should be made available for rescanning. P2F on account of IQA failures should be kept to bare minimum (near zero).</i>	Mandatory			
91	<i>The proposed CTS solution should be able to store the IQA failure reasons for IQA failed instruments. The bidder is required to submit the IQA failure data with reasons (like partial image, Excessive Image Skew, Piggy Back, Streaks and/or Bands, Bent Corner, Below Minimum Image Size, Exceeds Maximum Image Size, Too Light/Dark, Image Length Mismatch, Image Height Mismatch, Below Min Image Length, Exceeds Max Image Length, Below Min Image Height, Exceeds Max Image Height, Torn corner etc.) for each Grid separately as per NPCI specified format.</i>	Mandatory			
92	<i>The Solution to have MICR reading capability with validation of MICR city-Bank-Branch data.</i>	Mandatory			
93	<i>Provides for endorsement, unique item sequence number to be printed on the reverse side of the instruments and multiline endorsement for re-presentment cases. There should not be any overlapping, in case a new endorsement is required for re-presented Instrument(s) in outward clearing.</i>	Mandatory			
94	<i>Provision to handle DEM Rejected instruments either Outward or Inward Returns by viewing Cheque image and capable for re-presentment by correcting MICR records, updating Ignore IQA flag or choosing proper action by selecting from the drop down list etc.</i>	Mandatory			

95	<i>Automatic transmission of images and MICR data to Service branch/Centralized CTS Location. The transmission can be one Instrument at a time or in a batch mode or both. Post successful transmission, scanned data and images required to be deleted immediately from the respective desktop capture machine. It should also have provision for the capturing branches/locations to verify the actual status of their scanned batches along with batch summary report. Solution should also have the provision to identify the source.</i>	Mandatory			
96	<i>Data and image transmission from capture locations to centralised CTS System should carry through secured and encryption mechanism.</i>	Mandatory			
97	<i>The Image quality of the gray scale images shall be 8 bits/pixel (256 levels). The data formats and field definitions for storing, archiving, retrieving, processing, quality of images and MICR data at the Clearing House, Clearing House Interfaces as well as exchanging between institutions shall meet at the minimum the ANSI X9.90 and ANSI DSTU X9.90 Specifications for an Image Replacement Document (IRD), ANSI X9.37 and ANSI DSTU X9.37 Specifications for Electronic Exchange of Instrument and Image Data as well as the ANSI X9.81 Specifications for Bulk Image and Data Exchange. Further, the CTS offered shall adopt the above standards for the Indian environment.</i>	Mandatory			
98	<i>Security features to be built in conformity with PKI standards, encryption techniques and digital signatures. It shall have options to implement encryptions & digital signatures at Central level, file level and instrument level. Present requirement of RBI / NPCI states digital signatures on each and every Instrument.</i>	Mandatory			

99	<i>The system shall additionally conform to the Public Key Infrastructure (PKI) Requirements as prescribed by Institute of Development and Research in Banking Technology (IDRBT) and the latest version of the Certification Practice Statement (CPS). The bidder has to implement any other security standards adopted by RBI/NPCI/IDRBT in future without any additional cost to Bank</i>	Mandatory			
100	<i>The CTS/ system shall provide for encryption both for data transfer and provide options for encryption based data storage (or any other manner to ensure that data stored cannot be subject to alteration at a later point of time and legally recognized as per the laws of the country).</i>	Mandatory			
101	<i>Shall have PKI based security at domain level and user level to ensure the integrity of the data and image.</i>	Mandatory			
102	<i>Should be capable of segregating and applying multiple digital signatures at CTS Level for presenting the captured files to the Clearing House Interface (CHI) /Data Exchange Model (DEM) for final presentation to RBI / NPCI for different clearing types.</i>	Mandatory			
103	<i>Provision to digitally sign the presentation files from the Sub-Member Banks end and system should have proper mechanism to validate the digital signature before uploading the files into CTS Solution.</i>	Mandatory			
104	<i>Support inter-operable open image standards and be capable of being viewed by any standard browser.</i>	Mandatory			
105	<i>All archived images should be compressed and properly viewable for history information retrieval (Single / Bulk entries both). Archival system will also be linked to internet for secure way of Archival access given to the Sub-Member Banks as well.</i>	Mandatory			
106	<i>The entire Process workflow including backup, archival, restoration, old data query etc. must be possible through the menus of the application with flexibility in defining the new roles and user roles and access privileges to various modules (Grid wise).</i>	Mandatory			

107	<i>Should allow deletions of images and data from batches through proper work class authority.</i>	Mandatory			
108	<i>Image should be easily retrievable by using the unique sequence no., Instrument no. with date, instrument amount, physical storage location no, respective grid region etc. (search based on various criteria).</i>	Mandatory			
109	<i>Should link the MICR data in the files created to the corresponding image.</i>	Mandatory			
110	<i>Images and data to meet the IQA/IQU and security specifications from RBI/ NPCI with proper image quality and in compression mode.</i>	Mandatory			
111	<i>Grid wise Reconciliation of RBI / NPCI Inward clearing data with the images received.</i>	Mandatory			
112	<i>Passwords must be kept encrypted into the database and should not be visible anytime on the screen or kept in plain text of configuration files. No hard coding of Application user password is allowed and the same may be changed periodically as per Bank's security policy.</i>	Mandatory			
113	<i>Ensure that the image and the data record are synchronized in a way to prevent mismatch between Data record and image record.</i>	Mandatory			
114	<i>Image quality has to meet the standards at every stage that is in transmission, storage and retrieval from archives in toto.</i>	Mandatory			
115	<p><i>System should be able to capture both front and back images of individual instruments as under:</i></p> <ul style="list-style-type: none"> <i>• Front Gray scale- 100 DPI- JPEG format with JPEG compression.</i> <i>• Front black and white- 200 DPI TIFF Format with CCITT G4 compression.</i> <i>• Reverse Black and white 200 DPI TIFF Format with CCITT G4 compression.</i> <i>• Ultra Violet (UV) 100 DPI- JPEG format with JPEG compression</i> 	Mandatory			

116	<i>Should allow changes in MICR data by all work-class and properly record and generate the MICR REPAIR FLAG as per latest Clearing House requirements.</i>	Mandatory			
117	<i>Track and monitor the sending and receiving items from the various points of truncation. Single window Dash boards for all clearing cycles should be available to track the transactions either processing at Bank level or Sub-Member Banks level.</i>	Mandatory			
118	<i>System should have web-based scanning application, which will be accessed from multiple terminals so that the application is not hardware dependent in times of hardware pc crash.</i>	Mandatory			
119	<i>The system should show as part of Inward Clearing front, back and data image on one half of the screen and the signatures retrieved from core banking, either as part of online interface or batch mode stored on this software, on the second half of the screen. Apart from signatures all other details viz. Mandate/mode, other master details to be provided.</i>	Mandatory			
120	<i>It should be possible to zoom a particular portion of the Screen (Cheque Image, Signature Image etc.).</i>	Mandatory			
121	<i>Proposed Solution should be compatible with all kinds of E tokens available in the market for Digital Signing the CTS instruments as per NPCI standards.</i>	Mandatory			
122	<i>It should be possible to upload signatures to the signature system from CBS and the software should fetch the signatures based on account number and rules set by the Bank.</i>	Mandatory			
123	<i>Provision to set the default image in all queues depending upon Bank's requirement varies from time to time. There should not be limitation on changing default image view in all queues.</i>	Mandatory			
124	<i>It should have proper segregation of CTS, Non-CTS & Special Clearing instruments with priority set for NON-CTS & Special clearing instruments</i>	Mandatory			

	<i>for early presentation depending on the clearing session time. Provision to convert the batches from CTS to Non-CTS, CTS to Special Clearing and Vice-versa should also be available through front end menu options.</i>				
125	<i>System should have facility to allocate limits to the users for each type of transaction and over-riding of the limit with higher authority user.</i>	Mandatory			
126	<i>System should provide option to disable/enable maker-checker facility with one or two checkers for validation of each transaction.</i>	Mandatory			
127	<i>Dynamic parameter based screen inquiry to allow the user to input specific parameter and get the results they need</i>	Mandatory			
128	<i>The system should have provision for exception handling like Hold Back before dispatching the image to RBI / NPCI. Before day end, it should raise exceptions of such instruments present for the days clearing.</i>	Mandatory			
129	<i>Should be able to generate reports on frequent cheque returns for an account.</i>	Mandatory			
130	<i>It should be able to generate Cheque return memo as per Bank's format with optional feature to include image of the instrument, if desired. Provision to generate Return memo for Sub-Member Banks in specific format should also be available.</i>	Mandatory			
131	<i>Dashboard/graphical representation facility to supervisor to note the volumes and distribute the workload accordingly between users for both entry and verification.</i>	Mandatory			
132	<i>The proposed solution should be single integrated solution for Inward Clearing / Signature Verification / Outward Clearing / Reject processing system for all the modules instead of multiple systems. The proposed solution for Sub- Member Banks can be the centralized solution (Online) and/or Off-line model depending on Bank's requirements.</i>	Mandatory			
133	<i>System should provide separate Admin Modules for System and User Admin functionalities.</i>	Mandatory			

134	<i>The software should be platform Independent.</i>	Mandatory			
135	<i>The software should be accessible from Client PCs with Win7 and above.</i>	Mandatory			
136	<i>The software should have User Defined Purging Parameters.</i>	Mandatory			
137	<i>Segregation of government cheques at the time of scanning.</i>	Mandatory			
138	<i>Option to mark batches specifically as P2F batches, NON CTS batches, special clearing batches, etc. should be available at the time scanning only.</i>	Mandatory			
139	<i>Highlight re-scanning of cheques in the same batch. It should also support deletion of cheques before scanning of batch is completed.</i>	Mandatory			
140	<i>All the relevant details viz., date of processing, branch chosen, batch no., scanner id, etc. should appear on screen at the time of scanning.</i>	Mandatory			
141	<i>System to generate unique batch no. across application for the processing date post completion of scanning of particular lot.</i>	Mandatory			
142	<i>Primary site & Secondary Site setups to be configured in auto-replication mode for data and images replication with Production site through the proposed solution. Solution should have capabilities for immediate switchover from Primary to Secondary Site (if any) or vice-versa during presentation session itself and without any kind of data loss</i>	Mandatory			
143	<i>For outward clearing, parallel processing of all the cheques should be done viz., MICR data repair, cheque amount entry, deposit amount entry, deposit account no. entry, etc.</i>	Mandatory			
144	<i>For processing inward clearing, the work should be divided on the basis of configurable values e.g. Payer city or BOFD wise grouping to optimally distribute work.</i>	Mandatory			
145	<i>Image should be easily retrievable by using the unique sequence no, instrument no. within range of date, physical storage location no., etc. (search based on various criteria)</i>	Mandatory			

146	<i>Menus to be available in system to release user-ids, unlock, delete/un-delete, activate new or expired ids, reset password. Whenever user login through Application user, system should ask user</i>	Mandatory			
147	<i>Configurable limit for user's password attempts and beyond limit, only Admin or IT Users should be able to reset the user's id password as per authorisation rights provided to them</i>	Mandatory			
148	<i>Provision to release queues, locked sessions and to monitor the all running jobs at system as well as user's level.</i>	Mandatory			
149	<i>All data / Log (raw or normalized) data must remain within the Bank's premises. Under no circumstances these data travel outside Bank's premises without Bank's consent.</i>	Mandatory			
150	<i>System should handle future date processing so that processing and presentment can be conducted on specific presentment date.</i>	Mandatory			
151	<i>System should have capability to read Entire / complete MICR Band values available on Cheque and use the MICR results for further processing and presentment.</i>	Mandatory			
152	<i>The operating system should have features like multi-tasking, multi-user support, timesharing, dynamic memory management, I/O spooling, multi-level security, system logging, error analysis and recovery. Other features like hardware diagnostic tools, system performance management and tuning, accounting routines and system monitoring software must be available.</i>	Mandatory			
153	<i>The Solution should work using low bandwidth and high latency. The solution should work seamlessly in VSAT/LL Branches of Bank.</i>	Mandatory			
154	<i>The CTS Software shall have a front-end interface, which will be used, as a single interface for communicating with the Clearing House and the various branches. This interface shall be available for deployment in a Local Area Network (LAN) or a Wide Area Network (WAN) based network wherein the clients can communicate for transfer of single and / or multiple</i>	Mandatory			

	<i>and/or groups and / or file(s) of images and MICR data to the server.</i>				
155	<i>It may be noted that Images and / or MICR data is required to be stored online on CTS System. The scanned/captured Images and / or MICR data are required to be deleted immediately after successful transmission to the CTS System. In case of failure/error during images/data transmission during online transmission, retransmitting provision should be available in CTS System.</i>	Mandatory			
156	<i>CTS System will be connected to centralized storage and all images after capturing at the Branches /Service Branches/CCUs / RPUs / Client Locations should be stored and also should have capability to extract these from a central storage point.</i>	Mandatory			
157	<i>The CTS software shall have the facilities to view the front and reverse of images of individual instruments for passing of Instrument along with the MICR information using any standard browser interface. Various features for manipulation of images like reverse video, zoom, black and white views etc. shall be provided in the CTS.</i>	Mandatory			
158	<i>The DEM/CCH system shall integrate the return processing process with the browser application at the user terminal and the return process shall be automated after the user has taken the decision not to honor the Instrument.</i>	Mandatory			
159	<i>The CTS shall provide for ensuring that the images are of the quality that facilitates payment processing at the drawee bank / branch. The facilities to identify any image which may not have been fully captured or fully transmitted or having any potential weak spots shall be an integral part of CTS/ the system.</i>	Mandatory			

160	<i>The CTS shall provide and support for extracting various parts of the image like CAR, LAR, Date, Payee Name, bank Name, Signature to facilitate Application Programming Interface to third party Software to do ICR, OCR and signature verification.</i>	Mandatory			
161	<i>The Signature Verification application shall provide facilities to authorized user/authorizer to visually verify the signatures from the images of the Instrument to the signature database stored in the data server. It shall also provide facilities for other authentication steps to be performed along with signature rule matrix, Legal amount and courtesy amount matches, post-dated Instrument before the item is accepted for payment or returned.</i>	Mandatory			
162	<i>Each image and the corresponding MICR Line data shall be digitally signed using a digital signature (with instrument and file level options for encryptions and digital signature) which is valid under the Information Technology Act, 2000 and which conforms to the requirements of the respective Certification Authority (CA). Currently, the Institute for Development and Research in Banking Technology (IDRBT), Hyderabad performs the CA functions for the banking and financial sector.</i>	Mandatory			
163	<i>The proposed CTS Solution should have industry level application security standards based on OWASP Framework.</i>	Mandatory			
164	<i>The information transmission would be in a secure manner between the Clearing House and service branches of banks via the Intranet or any other communication set-up as provided by Bank.</i>	Mandatory			

II : Optional Items (37 Items)

Against each item, of the Optional Techno Functional requirement, the Bidders are required to mention the following depending on the availability of the Feature in the Solution Offered, Under Bidders Compliance Column for each Category Such as Category-A, Category-B, Category- C.

The Bidder should enter

1. For Readily Available (RA)
2. For Customizable. (WC)
3. For Technically Not feasible. (TNF) ,

in Bidder's Compliance Column.

There will not be any consideration /weightage to be given for Optional Items under Techno Functional Requirement, and no score to be given to Bidders for such optional items towards selection as per procedure mentioned in the RFP.

For customizable Features Vendors will be required to mention reasonable timeline in number of days for completion from the date of Receipt of Purchase Order, in the "Remarks" column.

items which are left Blank will be treated as Technically Not Feasible. (TNF).

Category-A (16 items)				
Sl. No.	Functionality	Optional	Bidders Compliance (1/2/3)	Remarks
1	Hot key functions for increased speed and accuracy and the work processes should be automated.	Optional		
2	Purging details should be captured to store the time and data contents in host system.	Optional		
3	Possibility of sending emails of images and data records automatically by the system.	Optional		
4	The front-end interface should have ability to configure a workstation for particular operation by allocating screens to the user.	Optional		
5	The user-interface screens should earmark and validate mandatory fields, which must be entered before submitting a transaction.	Optional		
6	Direct connectivity to e-mail should be available through user interface for sending details, advices, etc. to Grid CTS Branches/Clearing Hubs/Sub-Member Banks.	Optional		
7	Wherever Instrument(s) are marked for returns as part of Inward clearing an email alert to be escalated to branches for information and action.	Optional		

8	The solution should be capable to work as fallback/ DR arrangements for Bank's Clearing at other Region as may be suggested or required or in order to comply with the regulatory norms from time to time.	Optional		
9	System should have ICR/OCR capabilities to capture any given field present on the instrument. The fields can be handwritten or printed and could be present on the instrument. <ul style="list-style-type: none"> • Amount • Instrument date • Payee name • Account Number • Amount in words • SAN 	Optional		
10	System to provide open format with encryption feature for all the data to be archived / to be made compatible with other sources of data & images.	Optional		
11	There should also be provision in system for a common interface between any scanned image and data to be integrated in the system through common released file formats.	Optional		
12	System should have capability for images snipping so that Data entry operators can see only the relevant portion of the cheque image instead of displaying whole image, which will minimise the traffic on network and enhance the performance of the solution. However, provision to display full image of instrument is also to be available, which will be called on demand basis.	Optional		
13	Provision for Inter-operability of Grid Clearing from one grid to other at any point of time.	Optional		
14	Based on this unique sequence number system should throw up exceptions for any instruments presented more than once / on any previous date, for approval and processing further, on the current processing date.	Optional		
15	System should have provision to create messages (SMS) for handling return	Optional		
16	System should be capable for prompting, in case digital signature is missing in inward files or Bank's Clients files.	Optional		

Category- B (15 items)

Sl. No.	Functionality	Optional	Bidders Compliance (1/2/3)	Remarks
1	Provision for generation of all Clearing wise reports and the extracted images for inward clearing should be generated for all types of Sub-member banks, auto uploading to the Secure System and accessible to them for further processing and return presentment	Optional		
2	A Reporting tool to be provided with the proposed CTS solution to develop various Reports, MIS data etc. as may be required from time to time by the Bank.	Optional		
3	The data level / quantum to be stored on production system should be configurable from period of 1 Week to 1 Year.	Optional		
4	The solution should also be compatible to integrate/ handshake/ interface with all third party software / middleware of the Bank.	Optional		
5	System should have capability of segregating return items from Outward Batches with Cheques sorting feature at Cheque Scanning level.	Optional		
6	There should be provision in system to interface captured data through 3rd party interface or client program to be integrated in the system, with provision in system to encrypt the data obtained through these sources.	Optional		
7	System should be able to interface and be compatible with bank's existing Archive system.	Optional		
8	Provision for revert reject of the Instruments as per user's requirement.	Optional		
9	Provision for Automatic reports generation, storing at specified location and transmission as per active rules.Provision for Automatic reports generation, storing at specified location and transmission as per active rules.	Optional		
10	Solution should be capable of integrating with the Cheque Deposit Kiosk (CDK) and Remote Deposit Capture (RDC) for automatic pickup of scanned instruments/batches at regular interval. It should also maintain unique identification for these remote scanning machines for proper identification and smooth processing.	Optional		

11	Provision for activating MICR line OCR and validation with the system data for Outward and Inward clearing instruments. System should have facility to display the System records and OCR results in separate queues for inward and outward clearing along with cheque image for data corrections and for enriching data quality before presentment and processing to Core Banking Systems.	Optional		
12	The CTS Software Inward Module should contain all the technical & functional validation checks needed by Bank's workflow/ processes aided by ICR/ OCR technologies. Eg. • Account Capture & validation • Instrument Date Capture & Validation • Amount in words & figures Capture & Validation • Signature Validation Etc.	Optional		
13	System should have proper validation during SOD and EOD Activities for the open files / logged in Session and menu driven provision to kill the running session without affecting Application.	Optional		
14	Integration with various models/makes of Cheque Scanners to show the cartridge utilization of Cheque Scanners as prompt alert for refilling or replacement of Ink cartridge.	Optional		
15	Provision to integrate all available CTS Cheque Scanners within the Bank by listing in single dashboard and displaying their Active/Offline status.	Optional		

Category- C (6 items)

Sl. No.	Functionality	Optional	Bidders Compliance (1/2/3)	Remarks
1	Sub-Member Banks should be capable to generate Outward Clearing and Inward Return files for the presentation along with auto transmission to Bank's Active/respective Grid's DEM System.	Optional		
2	Menu driven provision for addition of Sub-Member Bank under respective grid location along with their Branches/Location's MICR details, posting file formats, standard clearing reports, Return Memos and tagging for the automatic data transmission format	Optional		
3	Provision for easy communication between Bank and Sub-Member Banks in Online Processing system so that timely alerts can be published to them related to Cut-off timings, changes in process etc.	Optional		
4	Provision for Fee based transactions reporting for the Bank's Clients (All types of Sub-Member Banks) as well.	Optional		
5	The product should be capable of functioning by hosting inside Bank's Intranet and all types of Sub-member Banks.	Optional		
6	Provision for Screen layout changes and use of preferred/standard screen color as per Bank's requirement.	Optional		