

Corrigendum-5 to GeM Bid ref no. GEM/2023/B/3066561 dated 02/02/2023 for Supply, Installation, Implementation and Maintenance of API Banking Solution in Canara Bank for 5 years.

It is decided to amend the following in respect of the above GeM bid:

a. GeM bid document (Bid End Date / Bid Opening Date, Page no. 1):

Description	Existing details	Amended details
Bid End Date/Time	<u>24-03-2023</u> , 15:00:00	<u>27-03-2023</u> , 15:00:00
Bid Opening Date/Time	<u>24-03-2023</u> , 15:30:00	<u>27-03-2023</u> , 15:30:00

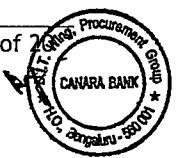
Sl. No.	Section/ Annexure/ Appendix of the GeM bid	Clause No.	Existing	Amended
b.	Buyer Added Bid Specific Terms and Conditions 8. Buyer Added Bid Specific ATC	Annexure-11 Bill of Material	Existing Annexure - 11 Bill of Material	Amended Annexure-11 Bill of Material
c.	Buyer Added Bid Specific Terms and Conditions 8. Buyer Added Bid Specific ATC	Annexure-1 Scope of Work & Functional Requirement	Existing Annexure-1 Scope of Work & Functional Requirement	Amended Annexure-1 Scope of Work & Functional Requirement
d.	Buyer Added Bid Specific Terms and Conditions 8. Buyer Added Bid Specific ATC	20. Payment Terms	Existing Clause	Amended Payment Terms as per Annexure - A
e.	Buyer Added Bid Specific Terms and Conditions 8. Buyer Added Bid Specific ATC	11. Uptime	The selected bidder should consider high-availability (active-passive) at DC & DR with RPO of 15 minutes and RTO of 120 minutes.	The selected bidder should consider high-availability (active-passive) at DC & DR with RPO of 15 minutes and RTO of 120 minutes. This is applicable for API Management solution and not for peripheral solution/components
f.	Buyer Added Bid Specific Terms and Conditions 8. Buyer Added Bid Specific ATC	NA	NA	Annexure - B L1/L2 and SME Resource Skill Set.

All the other instructions and terms & conditions of the above GeM bid shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject GeM bid.

Date: 18/03/2023
Place: Bengaluru


Deputy General Manager



Amended Annexure-11

Bill of Material

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: RFP for Supply, Installation, Implementation and Maintenance of API Banking Solution in Canara Bank for 5 years.

Ref: GEM/2023/B/3066561 dated 02/02/2023

Notes	
1.	These details should be on the letterhead of bidder and each & every page should be signed by an Authorized Signatory with Name and Seal of the Company.
2.	Please be guided by RFP terms, subsequent amendments and replies to pre-bid queries (if any) while quoting.
3.	Do not change the structure of the format nor add any extra items.
4.	No counter condition/assumption in response to commercial bid will be accepted. Bank has a right to reject such bid.

Table -A Cost for Enterprise Licenses and One-time Implementation of the solution
[Amount in Indian Rupees]

Sl. No.	Item Details	Price details (Excl. of Taxes)	Tax for Column a		Total Cost (Incl. of Tax) d=a+c
			% of Tax b	Tax amt. c	
1.	Enterprise License cost of API Banking tool for 5 Years with 1 year of warranty/support**				
2.	License for production and Non-production for Active Directory services/Directory Services/Similar Secured identity managing Authentication services for 5 Years which can be Integrated with API tool, with 1 year of warranty/support for 1000 users with a concurrency support of 5% capacity. ***				
3.	Enterprise License (for Production & Non-production) of Kubernetes/ Message Queue Management/Similar Technology for 5 Years with 1 year of warranty/support***				
4.	Total cost for (Prod & Non Prod) Operating System/System Software for 5 Years, if any (refer Table-B Software Specifications (System and other related software) of Annexure-2(A)).				
5.	One-time Implementation cost for 500 APIs and migration of 100 APIs on API Banking Platform. (This involves Project Management, Requirement gathering, Design APIs, Develop APIs, Deploy APIs, System Software installation etc.)**				

6.	Training cost upto 120 hours				
Total Cost (Sum of Column d from Sl. No. 1 to 6)					

Note: Please calculate database cost as '0' (zero) in case solution proposes ORACLE as Database

****Licenses required for Production with 700 TPS and Non-production with 20 TPS to be quoted.**

***** Bank at its discretion may use the Licenses of mentioned services/software for other services/solution at the Bank.**

Table-B - Charges for L1-Onsite Resources

[Amount in Indian Rupees]

Sl. No.	Description	Charges for one onsite resource per month [Excl. of Taxes]	No. of months	No. of Resources	Total Charges for onsite resources [Excl. of Taxes]	Tax for Column d		Total Charges for onsite resource [Incl. of Taxes]
						Tax %	Tax Value	
		a	b	c	d=a*b*c	e	f	g=d+f
1	Dedicated Onsite Resource charges* (L1 resources) as per Annexure-B		60	4				
TOTAL								

* L1 resource should be available on shifts on all the bank working days (max 3 shifts per day). 1 resource mandatorily in General shift and others to be in shifts.

Table-C - Charges for L2 Onsite Resources

[Amount in Indian Rupees]

Sl. No.	Description	Charges for one resource Per Man day [Excl. of Taxes]					Man Days per year	No. of Resources	Total Charges for resources [Excl. of Taxes]	Tax for Column d		Total Charges for resources [Incl. of Taxes]
		1 st	2 nd	3 rd	4 th	5 th				Tax %	Tax Value	
		a	b	c	d	e				f	g	
1	Onsite Resource charges* (L2 resources) as per Annexure-B						300	2				
TOTAL												

*L2 resource will be on T & M basis and works with Bank team as per the requirement from Bank. Payment will be made as per the actual consumption of man day and unconsumed mandays in a

year will be carried over to the subsequent year whereas the charges will be paid as per the charges of the year from which the mandays has been rolled over.

Table-D - Charges for OEM / SME Resources

[Amount in Indian Rupees]

Sl. No.	Description	Charges for one resource Per Man day [Excl. of Taxes]		Man Days per year	No. of Resources	Total Charges for resources [Excl. of Taxes]	Tax for Column d		Total Charges for resources [Incl. of Taxes]
		1 st Year	2 nd Year				Tax %	Tax Value	
		a	b				c	d	
1.	OEM Resources / Subject Matter Expert* as per Annexure-B			300	1				
TOTAL									

*SME resource will be on T & M basis and works with Bank team as per the requirement from Bank. Payment will be made as per the actual consumption of man day and unconsumed mandays in a year will be carried over to the subsequent year whereas the charges will be paid as per the charges of the year from which the mandays has been rolled over.

Note: The quantity mentioned in Table-C and Table-D is indicative only. Bank at its discretion can avail resources based on the requirement. Bank can at its discretion decide the number of resources based on the need and requirement. These above mentioned resources as per Table-C and Table-D will not be part of initial implementation. Post 500 APIs implementation and during the production, services of these resources may be used.

Table - E ATS cost of API Banking solution

[Amount in Indian Rupees]

Sl. No.	Item Details	ATS charges from 2 nd to 5 th year after completion of 1year of warranty period (Excl. of Taxes)				Total Cost (Excl. of taxes)	Tax for Column e		Total ATS Cost for 2 nd to 5 th year (Incl. of Taxes)
		2 nd year	3 rd year	4 th year	5 th year		f % of tax	g tax amt	
		a	b	c	d		e = a+b+c+d	f	
1.	Annual Technical Support (ATS) charges for items from Sl. No. 1-4 of Table-A after the completion of warranty period of one year.								
TOTAL									

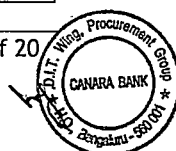
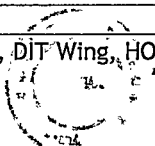


Table - F

Total Cost for API Banking Solution for 5 years of Contract Period

[Amount in Indian Rupees]

Sl. No.	Details	Total Cost [Exclusive of taxes]	Total Cost [Inclusive of taxes]
1.	Total Cost for Enterprise Licenses and One-time Implementation of the solution as per Table-A (Total of Column d)		
2.	Charges for L1 - Onsite Resources as per Table-B		
3.	Charges for L2 - Onsite Resources as per Table-C		
4.	Charges for OEM / SME Resources as per Table-D		
5.	Total cost for ATS of API Banking solution as per Table-E		
6.	Total Cost of Ownership (Sum of sl no. 1 to 6 of Table-F)		

Undertaking

- i. Bill of material is submitted on the letter head and is signed by an Authorized Signatory with Name and Seal of the Company.
- ii. We confirm that we have gone through RFP clauses, subsequent amendments and replies to pre-bid queries (if any) and abide by the same.
- iii. We have not changed the structure of the format nor added any extra items. We note that any such alternation will lead to rejection of Bid.
- iv. We agree that no counter condition/assumption in response to commercial bid will be accepted by the Bank. Bank has a right to reject such bid.
- v. We are agreeable to the payment schedule as per "Payment Terms" of the RFP.
- vi. The bidder has to make sure all the arithmetical calculations are accurate. Bank will not be held responsible for any incorrect calculations.

Date:

Signature with seal

Name:

Designation:

Amended Annexure-1

Scope of Work & Functional Requirement

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: RFP for Supply, Installation, Implementation and Maintenance of API Banking Solution in Canara Bank for 5 years.

Ref: GEM/2023/B/3066561 dated 02/02/2023

All points mentioned in scope of work are mandatory to comply and non-compliance to any of the point lead to disqualification of the bidder during evaluation.

S No.	Scope of Work	Responsibility	Bidder's Compliance (YES/NO)
1.	The offered solution should be implemented on-premise and should be compatible with Private Cloud, Public Cloud, Hybrid Cloud Infrastructure as available in the market. In addition, the solution should support, physical server and virtualized environment based deployments.	Bidder / OEM	
2.	The solution architecture should support 2-way setup (DC, DR sites).	Bidder/OEM	
3.	The solution should support integration with all categories of API- Public API, Private API, Partner API, open API, etc.	Bidder/OEM	
4.	The solution should adhere to all API standards whether regional or local.	Bidder/OEM	
5.	The solution should be technology agnostic i.e. the API design is agnostic to applications, programming languages and platforms and aims at seamless and secure flow of electronic data across different applications.	Bidder/OEM	
6.	The solution should support minimalist, evolutionary, privacy and security by design.	Bidder/OEM	
7.	The solution should be able to maintain confidentiality and integrity of the request and response data both in transit and at rest and should support content encryption, content signing, secure key management system, etc.	Bidder/OEM	
8.	The solution has to be implemented at Bank's Primary, Secondary sites and any other site as per Bank's requirement.	Bidder/OEM	
9.	The Application should be sized for Active- Passive cluster at DC & DR so that the solution and infrastructure can fall back on each other. DC - DR replication should be available as part of the solution so that in case of switch over the complete solution should seamlessly work.	Bidder/OEM	
10.	Proposed solution should have highly scalable architecture, initially supporting at least 700 transactions per second	Bidder/OEM	

	(TPS) considering an average payload of 100KB (max 15MB).		
11.	Bidder has to provide the latest Benchmark report of any reputed external agency / OEM for the proposed product as per point number 1.10 above. Benchmark report should clearly highlight the performance metrics and level of scalability of the solution being offered.	Bidder/OEM	
12.	The threshold for payload should be configurable at API level.	Bidder/OEM	
13.	Apart from setting up DC and DR site, bidder shall also be responsible for creating separate Development, UAT and Sandbox/Pre-Production environment setup for multiple users simulating near production functionalities as per the requirement of the Bank.	Bidder/OEM	
14.	Bidders to ensure resolution time of 4 hours for any issue in solution, individual APIs etc. with back to back arrangements with respective OEM/Bidder.	Bidder/OEM	
15.	Bidder also needs to deploy onsite support during the period of delivery, implementation and handover to Bank after necessary training and knowledge transfer by OEM. Bidder has to deploy adequate number of onsite resources as part of the Project implementation to ensure completion of all milestones of the Project within the stipulated timelines defined by the Bank	Bidder	
16.	Bidder must appoint a Team Lead for the Bank, immediately after receiving the work order/ letter of intent. The Team Lead should have direct experience of successful end-to-end implementation and management of API Banking Solution for at least one comparable project to the Bank's requirement. The Team Lead should be available onsite during the entire duration of implementation. Post implementation, the team lead shall be available onsite as per the requirement of the Bank. This resource will act as SPOC for the entire duration of the contract. The bidder should provide the same without any additional cost to the Bank.	Bidder	
17.	As a part of the project implementation, two resource from the OEM, having adequate experience in API Banking implementation has to oversee the project during the entire implementation period to supervise the installation and implementation process. The resource should report onsite at Bank's DC at least once a week and whenever asked for as per requirement of the Bank.	OEM	
18.	Post implementation, Bidder has to provide onsite support for any customization and/or new implementations in any API or the API Banking solution as per discretion of the Bank as and when required by the Bank.	Bidder	

19.	The bidder shall deploy additional on-site support, as per requirement of the Bank, for resolving all API Banking solution related issues, including re-installation of required software for the proposed solution, during the contract period or the extended period as per the RFP/ Agreement terms without any additional cost to the Bank.	Bidder	
20.	Bidder will have to provide and implement patches, updates and upgrades of the entire API Banking solution stack and other related software(s), tools required for smooth functioning of API Banking Solution, supplied by the bidder and provided by the Bank without any cost to the Bank during the contract period.	Bidder/OEM	
21.	The accessories, tools, software, application and other necessary components required for the installation, configuration and seamless functioning of the API Banking solution should also be supplied by the Bidder as a part of this RFP. Bank will not arrange for the same.	Bidder/OEM	
22.	Bidder shall provide Licenses required for all the applications, software, tools, components, etc. provided as a part of the API Banking Solution. The licenses provided should have unrestricted access (without any limitation in no. of users, instances, installations, hardware etc but limited to managing 700 TPS load in total.) as per the TPS (Transactions per second) requirement specified in the RFP for the entire contract period and should not be tied to the hardware installed even after expiry of the contract. Bank will be free to reuse/port any of the software(s), tool(s), application(s), etc. for any purpose in the future during the contract period without any dependency on the Bidder or the API Banking Solution. Necessary licenses/ proof of the tie-up arrangements with the OEM(s) is to be provided to the Bank	Bidder	
23.	Bidder has to carryout hardening of Operating System, DB, App, patch management activity and other configuration on OS, DB, App, etc. on premises/private cloud/public cloud/hybrid cloud and related software's, etc., periodically as per the requirement of the bank.	Bidder/OEM	
24.	Bidder has to guarantee minimum uptime of 99.00% on monthly basis (calculated on the basis of 24 X 7 X No. of days of the month) and should be ready to execute service level agreement for the same.	Bidder	
25.	The bidder shall be responsible for supply, installation, re-installation and maintenance of API Banking solution along with its related other software tools at Bank's DC, DR and Near DR setup. Bidder shall have to install/re-install & migrate the solution along with other environments like Development, UAT, etc. in case of shifting of Bank's	Bidder/OEM	

	DC/DR/Near DR or as per business requirement of the Bank without any additional cost to the Bank. The scope covers end-to-end installation of whole setup and making it operational and also includes imparting training on the same to Bank officials by OEM/OEM Authorized Training Partner.		
26.	Bidder shall be responsible for liaising with the all existing service providers/vendors of the Bank for any issue related to the API Banking solution during the contract period. For any issue in the Solution, which is not attributable to the bidder, the Bidder shall clearly establish the dependency in concurrence with the vendor of the Bank to whom the issue is attributable.	Bidder/OEM	
27.	Technical and functional documentation of the entire project should be submitted to Bank in Physical and Digital format. The document should be updated on regular basis by bidder.	Bidder/OEM	
28.	The proposed solution must include all the software, application, services, accessories, tools and other components necessary to meet the RFP requirements and for any customization of existing API or creation of any new API on the APIM Solution at any time during the contract period without any additional cost to the Bank.	Bidder/OEM	
29.	The proposed solution should have facility of preventive proxy deployed on-prem and all traffic to API interfaces shall be routed through the preventive proxy which can monitor or detect various types of attacks like- DDoS, Vulnerability scanner, Bot activities, Maintain and manage lists of IP addresses/subnets which are allowed/blocked, etc.	Bidder/OEM	
30.	The proposed solution should have combination of several modules like network traffic analysis, threat intelligence, fraud protection etc.	Bidder/OEM	
31.	No freeware or open-source software, tool etc. shall be used as a part of this solution.	Bidder/OEM	
32.	Bidder / OEM has to certify that the proposed versions of the software(s), tools etc. to be deployed as part of APIM solution are free from any bugs, vulnerabilities or malicious codes.	Bidder/OEM	
33.	Periodic MIS as per the requirements stipulated in this document, as well as Bank's policies and guidelines issued from time to time are included in the scope.	Bidder/OEM	
34.	The bidder shall propose API Banking Application from a single OEM.	Bidder	
35.	The proposed solution by the bidder should include support & subscription services from the OEM with unlimited number of support requests, remote support, and access to product	Bidder	

	updates/upgrades and 24x7 supports for Severity Level-3 issues.		
36.	Detailed manuals (Installation, Configuration, Troubleshooting, Developer etc.), process documentation, SOPs (Standard operating procedures) for APIM monitoring, developer on boarding, API security configuration, deployment, architecture/administration, API gateway configuration, creation of APIs, configuration for API etc. and other SOPs for management, integration with SIEM/AD/DAM, DR Drill, Business Continuity Plan etc. of solution should be created and submitted before project signoff. SOP should also cover log monitoring management including configuration, deployments, backup and recovery etc. The SOP should be updated on regular basis by supplier.	Bidder/OEM	
37.	The onsite resource shall manage and monitor the APIM setup for day to day activity. Daily backup of the proposed solution and restoration of the same as per Bank's policy is also the responsibility of onsite resource.	Bidder	
38.	The onsite resource(s) shall co-ordinate will all stake holders - OEM, Vendor and Bank, etc., and log the call with OEM/s if the problem resolution is beyond their capacity and get it resolved. Daily status of calls logged with OEM along with status of the same is to be provided to the Bank.	Bidder/OEM	
39.	Bidder as well as OEM escalation matrix must be provided for Service Support.	Bidder and OEM	
40.	The successful bidder has to provide the educational as well as background verification of the onsite resources to Bank	Bidder/OEM	
41.	Total number of APIs required to be integrated (end-to-end) before go-live at API Banking level is 500 plus. The signoff for go-live implementation of API Banking will be given only after successful end-to-end integration of 500 plus APIs i.e. after Implementation of APIM Solution with end-to-end external as well as internal systems/applications integration pertaining to these 500 plus APIs.	Bidder	
42.	During the Implementation phase, Bidder has to undertake migration and creation of approx. 100 plus APIs which includes External APIs, Internal APIs and related internal service orchestrations which may involve multiple systems/applications in integration(s). Name and details of APIs will be shared with successful bidder during system requirement study/Implementation phase.	Bidder	
43.	Migration of existing APIs/services/integrations (post retrofit, if required) onto this new technology stack. Bank is already using In-House customized APIs/SFTP based services etc. for various types of external/internal/internet/intranet communication.	Bidder/OEM	

44.	The proposed solution should support conversion to/from multiple formats like ISO, JSON, XML, Flat files, CSV, HTML, ASN1 etc.	Bidder/OEM	
45.	The proposed solution should support integration with Bank's CBS as well as other systems/applications of Bank using API, Web Services, ISO, TCP/IP adaptor, SOAP, File based(Flat/Bulk) etc.	Bidder/OEM	
46.	The OEM must design, document and implement the framework and architecture of all integrations and APIs with state of art industry standard Security (encryption of sensitive data, input validation, Tokenization etc).	OEM	
47.	OEM scope to include Governance and review services. Conduct Health checks. Support Bank in Pre Go Live, Go Live and post Go Live.	OEM	
48.	Support during design and development phase	OEM	
49.	Support teams during integration and UAT testing	Bidder/OEM	
50.	Design/Build/Test and Support DevOps Framework on the proposed integration solution	OEM	
51.	Design/Build/Test and Support OAuth Security Framework	OEM	
52.	Design/Build/Test and Support REST API (Inbound and Outbound) for Open Banking	OEM	
53.	Design/Build/Test and Support Logging and Auditing Framework for the proposed integration solution	OEM	
54.	Provide technical support for On-Boarding of Framework services for New Applications	Bidder/OEM	
55.	Review Bank's vendor deliverables and provide recommendations.	OEM	
56.	Provide technical Support to Canara Bank in go-live and as necessary post go-live activities	Bidder and OEM	
57.	Provide technical Support to Canara Bank and their vendor team during design and development phases of solution/interfaces related to proposed integration solution-based implementation	Bidder and OEM	
58.	To include solutions for faster development from OEM which will help in providing Governance and support services to the Canara Bank and deliver value in small time-bound cycles. The support should be provided on the following environments: Production, DR, STAGING and Development.	OEM	
59.	Project Tracking and Reporting: OEM to Review project tasks, schedules, and resources and make changes or additions, as appropriate in discussion with Canara Bank.	OEM	
60.	Measure and evaluate progress against the project plan with Bank Project Manager	Bidder and OEM	

61.	Conduct regularly scheduled project status meetings; Report time spent on the project to Bank Project Manager Work with Bank Project Manager to address and resolve deviations from the project plan	Bidder and OEM	
62.	Administer the Project Change Control Procedure with Bank Project Manager; and	Bidder and OEM	
63.	Coordinate and manage the technical activities of OEM project personnel.	Bidder/OEM	
64.	To include support services from OEM to prioritize support ticket handling, escalates issues as needed, help coordinate open issues for Canara Bank, Regular report status reviews, Assistance with deployments, upgrades, and other planning changes, provides proactive advisories and help facilitate exception support for critical period.	Bidder and OEM	
65.	The solution should support integration based on industry standard technologies with external systems/applications outside Bank and integrate with various target host systems within Bank to facilitate them to consume the data so received by way of these integrations.	Bidder/OEM	
66.	The solution should support service orchestrations by integrating with internal applications/systems of Bank for making the desired service available to external world i.e. outside Bank.	Bidder/OEM	
67.	The solution should have components to facilitate fast, secure and persistent data/file transfer to be used for integrations between various systems.	Bidder/OEM	
68.	Bidder has to provide dashboards and reports as required by the Bank from time to time, including but not limited to, availability, usage, performance, monitoring and maintenance etc. of, Solution with drill down facility to reach root cause of the failed event/service.	Bidder/OEM	
69.	The solution should be able to provide alerts by way of SMS/E-Mail/Dashboard for various failure events for defined thresholds/ scenarios. Integration of the solution with SMS/E-Mail/Dashboard and any other solution, if required by the Bank, will have to be done by the bidder without any additional cost.	Bidder/OEM	
70.	Bidder as part of technical evaluation may be required to demonstrate Proof of Concept (POC)/presentation of their Application Programming Interface solution. Bidder has to arrange for site visit to Bank officials, as per requirement of the Bank, during technical evaluation of bids.	Bidder	
71.	Bidder shall comply with all the extant & new regulations, guidelines of the Bank's Information Security Policy, Guidelines of RBI, CERT-In, Respective Govt. Agencies and the Bank's policies and guidelines and provide such	Bidder/OEM	

	regulatory requirements at no additional cost to Bank till the warranty period.		
72.	The Solution may be audited by RBI, any other Regulatory Authority and any observation pointed out by these bodies have to be complied by the successful bidder within the timelines stipulated by the regulatory agencies, without any additional cost to the Bank during the contract period. The offered solution shall be subjected to Bank's audit through off-site and on-site scrutiny at any time during the contract period. The auditors may be internal as well as external. The successful bidder should provide comply with all the audit points raised by Bank's internal/external team during the contract period, within the stipulated timelines, without any additional cost during the contract period. Bidder has to comply to all audit observations of the audit, assessment, testing etc. within 7 days of being notified without any extra cost, failing which Bank will impose penalty.	Bidder	
73.	The bidder shall propose Plan & Design/Architecture services. The bidder has to arrange for OEM to conduct a health-check of the deployed solution on yearly basis during the contract period and submit a report indicating compliance to reference architecture and best industry practices. The entire installation, configuration and implementation of the API Banking solution under this RFP must be overseen by OEM only. The bidder has to make necessary arrangement for the same and Bank will not pay any additional cost for the same.	Bidder and OEM	
74.	Data security and Integrity to be ensured at rest as well as in transit. Encryption/Decryption of the data and data masking to be done during transit of the data.	Bidder and OEM	
75.	The bidder must design the solution with high availability & secure Infrastructure in Data Centre and Disaster Recovery and any other site, as per Bank's requirement, making the proposed solution adequate to fulfil Bank's requirements and make sure that they are as per Industry accepted security standards and best practices.	Bidder/OEM	
76.	Bidders' will be required to provide the specification and sizing, as per Annexure-2(A) for the necessary hardware, software, tools etc., to operationalize the complete solution based on the volume and the growth indicated in the RFP document. The proposed hardware sizing must include: <ul style="list-style-type: none"> • Setting up of Production Environment in High Availability Mode (Web, Application & Database Server) • Setting up of DR site in High Availability Mode of equal capacity to Production (Web, Application & Database Server) 	Bidder/OEM	

	<ul style="list-style-type: none"> • The Solution should also include Sandbox, Development and UAT Setup (Web, Application & Database Server) with developer portal as per the requirement of the Bank • The Solution provider also should provide the code-snippets in various programming languages (.net, Java, PHP, NodeJS etc) as per the requirement from various customers • Storage • Other components required for hosting the hardware including server racks, cables, etc. (DC, DRS, Development/Test Setups) • Details of redundancy and security setup • Application architecture along with a detailed diagram including the infrastructure setup. • Implementation procedure / road map. 		
77.	The Bidder is responsible to arrive at the sizing independently based on the volume and the growth indicated in the RFP. The Bank is not responsible for any assumption made by the Bidder with respect to the sizing. In the event the sizing proposed by the Bidder does not meet the performance / service levels of the Bank the Bidder will at their cost carry out the necessary upgrades / replacements. The Bank has the right to deduct / recover from the Bidder the required additional expenses which Bank may incur on account of such upgrades / replacements.	Bidder/OEM	
78.	The proposed sizing needs to meet data, performance, load balancing, concurrent usage, scalability, availability requirements of the project. The bidder shall further ensure that at any point hardware parameters (like CPU, Memory, Storage, Network, etc.) should not cross the 50% utilization levels at all the proposed deployment sites of the Bank.	Bidder/OEM	
79.	The complete Supply, Installation, Configuration, Implementation, Performance Management, Monitoring, Upkeep and Maintenance of complete API Banking Solution including OS, DB, Middlewares, API Banking Application and other softwares/tools required for functioning of the solution as specified in the RFP, shall be part of the scope of the vendor.	Bidder/OEM	
80.	The solution should be able to manage Third Party API consumption	Bidder/OEM	
81.	The solution should support micro-services architecture.	Bidder/OEM	
82.	The solution should support Containerization and Data Streaming	Bidder/OEM	
83.	The solution should support load balancing for API traffic .	Bidder/OEM	
84.	The proposed solution must offer and manage consent management for Retail customers to use the API Banking through Third party application/platform	Bidder/OEM	1

85.	The solution should support automatic generation of API specifications from third party tools like swagger or any other formats like WSDL.	Bidder/OEM	
86.	The solution should provide developer administration capabilities such as access management, issue resolution / IDE.	Bidder/OEM	
87.	The solution should support API mocking i.e. a service that mimics the behavior of a real service in a controlled manner.	Bidder/OEM	
88.	The solution should support automatic code generation (such as SDK generation) for APIs in multiple languages.	Bidder/OEM	
89.	The proposed solution must support Message Queue Architecture (MQ)/similar technology for payment APIs like RTGS, NEFT etc.	Bidder/OEM	
90.	Message Queue/Similar Technology should support Secured and once only delivery of transactions.	Bidder/OEM	
91.	Message Queue/Similar Technology should support Native MQ HA, Unified cluster and Container platform.	Bidder/OEM	
92.	Message Queue/Similar Technology should ensure 100% guaranteed successful delivery of messages.	Bidder/OEM	
93.	The solution should support defining, implementing and validating consistent design standards for APIs across the organization	Bidder/OEM	
94.	The application software should mitigate Application Security Risks; at a minimum those discussed in OWASP top 10 (Open Web Application Security Project). To Enhance the application security the and protect the Bank from DoS. (Denial of Service) attack and SQL injection the solution shall integrated to Web Application Firewall of the Bank.	Bidder/OEM	
95.	Bank wishes to have the Application, system software and supporting software's from single OEM	Bidder/OEM	
96.	The Solution must support flexible scaling and the ability to provision additional capacity based on the load and traffic bursts.	Bidder/OEM	
97.	The solution must support any existing workloads of the bank in terms of integration, deployment, security and responsive requirements without any additional dependencies.	Bidder/OEM	
98.	Migration of existing APIs/services/integrations onto proposed solution. Bank is already using In-House customized APIs/SFTP based services etc. for various types of external/internal/internet/intranet communication.	Bidder/OEM	
99.	If at any stage during the contract period, the performance of the solution degrades due to any reason, the vendor shall be responsible for taking corrective steps with respect to performance tuning, software up gradation, customization etc. without any additional cost.	Bidder/OEM	

100.	OEM/Bidder must provide light weight portal that may be used by Canara Bank customers to manage and make and receive bulk payments/collections to/from their customers (in cases where Bank's customer does not have ERP/Similar system). This portal must support API Banking integration of Canara Bank.	Bidder/OEM	
101.	The solution must include a Developer Portal to develop, test and manage APIs.	Bidder/OEM	
102.	The proposed platform must support Directory Server or Similar services, where the Merchants are not having any authentication mechanism for using API Banking platform. Additionally Bidder may propose its own authentication mechanism in such cases where Directory Server support is not available in the proposed solution.	Bidder/OEM	
103.	TRAINING: -Bidder has to arrange for providing advance hands-on training by OEM / OEM Authorized Training partner to the Bank officials for day-to-day troubleshooting, configuration, customization of APIs and maintenance of proposed APIM Solution before Go-Live as a part of project implementation.	Bidder/OEM	
104.	Bidder shall provide comprehensive training manual, presentations, videos, lecture notes, hand-outs and other training documentation for the training.	Bidder/OEM	
105.	Proposed product should have clear lifetime support policy for 5 years.	Bidder/OEM	
106.	Bidder to provide the Hardware Specifications as per format mentioned in Annexure-2(A) to support the TPS (Transaction per Second), Payload and other scope of work as mentioned in this RFP document (both for production and Non-production).	Bidder/OEM	

We hereby comply with Scope of work mentioned from sl. no. 1 to 106 of the above table as per amended Annexure-1 of this RFP.

Date:

Signature with seal

Name:

Designation:

Annexure - A

20. Amended Payment terms

The payment schedule will be as under and will be released after execution of contract agreement:

20.1. Payment schedule will be as under:

Sl. No.	Payment Stages	% Payment of	Conditions/Remarks
1.	Enterprise License cost (as per Sl no 1-4 of Table-A of Bill-of-Material)	60%	On Installation, Implementation, configuration & commissioning of base version of proposed solution on the proposed hardware and on submission of Invoice and Acceptance/Sign off by the Bank on production of relevant documents.
		40%	After successful go live of first 100 APIs and on submission of Invoice and Acceptance/Sign off by the Bank on production of relevant documents
2.	One-time Implementation Cost	50%	After Successful Go-live of 100 APIs and Acceptance/Sign off by the Bank on production of relevant documents
		25%	After Successful Go-live of Total 300 APIs and Acceptance/Sign off by the Bank on production of relevant documents
		25%	After Successful Go-live of Total 500 APIs and Acceptance/Sign off by the Bank on production of relevant documents
3.	Training from OEM /Authorized Partner of OEM	100%	On Successful completion of Training and Acceptance/Sign off by the Bank on production of relevant documents
4.	Dedicated Onsite Support charges for L1, L2 and SME resources	100%	Monthly in arrears after calculating the number of day's resources work and sign off from the user group/wing.
5.	Annual Maintenance contract (AMC)/ Annual Technical support (ATS)	100%	The amount shall be payable Quarterly in arrears.

20.2. Bank will release the payment on completion of activity and on production of relevant documents/invoices. Please note that Originals of invoices (plus One Copy) reflecting GST, GSTIN, State Code, HSN Code, State Name, Taxes & Duties, Proof of delivery duly signed by Bank officials of the respective

Branch/office and Manufacturer's / Supplier's Warranty Certificate should be submitted while claiming payment in respect of orders placed.

- 20.3. The solution provider has to submit installation report/Sign off report duly signed by the Bank officials of the respective Branch/offices in originals while claiming payment. The invoice and installation report should contain the product serial number of the items supplied.
- 20.4. Bank will not pay any amount in advance.
- 20.5. Payment shall be released within 30 days from submission of relevant documents as per order terms.
- 20.6. The bank shall finalize the Installation and Acceptance format mutually agreed by the solution provider. The solution provider shall strictly follow the mutually agreed format and submit the same for each location wise while claiming installation and acceptance payment.
- 20.7. The payments will be released through NEFT / RTGS after deducting the applicable LD/Penalty and TDS (if any), centrally by Head Office at Bengaluru and the Selected Solution provider has to provide necessary Bank Details like Account No., Bank's Name with Branch, IFSC Code etc.
- 20.8. Based on satisfactory performance by the solution provider Bank reserves the right to extend the contract on mutually agreed commercials for subsequent periods.
- 20.9. The selected bidder shall also submit the ownership certificate issued by the third party clearly mentioning the extent of ownership.
- 20.10. The selected bidder has to submit a certificate/Letter from OEM that the proposed services any other related software offered by the selected bidder to the Bank are correct, viable, technically feasible for implementation and it will work without any hassles.

Annexure - B

L1/L2 and SME Resource Skill Set

Sl. No.	Resource Type	Educational Qualification, Knowledge & Experience and Certification (if applicable)	Years of Experience
1.	L1	<p>Graduate in Engineering /MCA/ B.E./B.Tech or equivalent or higher qualification</p> <p>Experience and knowledge Should have experience in proposed API Banking Platform.</p> <ul style="list-style-type: none"> a. The resource must have adequate knowledge of the proposed platform. b. Understanding the basics of API design principles, RESTful architecture, and developing APIs. c. Basic understanding of banking domain and the financial services industry is essential. d. Ability to work with databases, design schemas, and use SQL to query data. e. Knowledge of security principles and best practices for designing and implementing secure API interfaces. f. Ability to create clear and concise documentation for APIs. g. Ability to communicate effectively with cross-functional teams, stakeholders, and client. h. Ability to troubleshoot issues and identify solutions for technical problems 	2 Years
2.	L2	<p>Graduate in Engineering /MCA/ B.E. / B.Tech. or equivalent or higher qualification</p> <p>Experience and knowledge Should have experience in proposed API Banking Platform.</p> <ul style="list-style-type: none"> a. Must be certified engineer/professional in the proposed platform by the OEM. b. Should have Understanding of the API economy, RESTful APIs, API design principles, API testing and documentation standards. c. Knowledge of banking products and services, regulatory compliance), and related industry standards d. Ability to diagnose and resolve issues related to APIs, servers, databases, and network connectivity. e. Ability to communicate effectively with technical and non-technical stakeholders, including developers, business analysts, project managers, and business users. f. Understanding of security protocols such as OAuth, SAML, and SSL, and knowledge of security best practices for API development. 	3+ Years

		<p>g. Knowledge of how to design and optimize APIs for performance and scalability, including caching strategies, load balancing, and horizontal scaling.</p> <p>h. Understanding of DevOps principles and practices, including continuous integration and deployment (CI/CD), version control containerization, Message Queue/Similar Technology</p> <p>i. Knowledge of project management methodologies such as Agile, and experience in managing projects using these methodologies.</p>	
3.	Subject Matter Expert (SME)	<p>Graduate in Engineering/MBA /MCA/ B.E. / B.Tech. or equivalent or higher qualification</p> <p>Experience and knowledge Should have experience and certification in proposed API Banking Platform.</p> <p>a. The SME should understand the project requirements as per the proposed scope and technical details mentioned in the RFP document & provide input on design and implementation. This may involve regular meetings and communication with project stakeholders and clients.</p> <p>b. The SME should have strong technical skills in API development, including knowledge of programming languages, API design, and documentation tools. They should also knowledge about proposed Infrastructure platforms, micro services architecture, containerization and Messaging Queue/Similar technology</p> <p>c. The SME should have a deep understanding of the banking industry, including regulations, security, and compliance requirements. This knowledge will inform the design and implementation of the API banking platform.</p> <p>d. SME must help Bank and the Bidder in designing and implementing the APIs in the proposed API Banking platform.</p> <p>e. Resource should be able to configure the APIs as per the requirement of bank</p> <p>f. Should be well versed with the Industry standards for Open API Banking and share consultancy on design, implementation and security aspects of APIs as per banks plan.</p> <p>g. Work along with Canara Bank team to design and implement bulk file payment process (including SFTP/JSON).</p>	3+ Years