

Tender Number: PSBA/RFP/EAUC/2022-23/009 Dated 31/03/2023

Corrigendum 2 Dated 18.04.2023



# PSB Alliance Private Limited

Promoted by Banks

Request for Proposal for Supply, Installation & Maintenance of End-to-End E-AUCTION Solution

(RFP Ref. No. PSBA/RFP/EAUC/2022-23/009 Dated 31/03/2023)

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Corrigendum – 2 Request for Proposal for Supply, Installation & Maintenance of End-to-End E-AUCTION Solution

In reference to our RFP for Request for Proposal for Supply, Installation & Maintenance of End-to-End E Auction Solution vide RFP Ref. No. PSBA/RFP/EAUC/2022-23/009 Dated 31/03/2023

Kindly be guided by the clarification and changes to clauses.:

**Section 1: Modification in RFP Clauses**

#	Clause Reference	Original Clause	Revised Clause
1.	Section 3: Eligibility Criteria, Clause 1	The bidder should be a Government Organization/ PSU/ or a Public Limited Company/ Private Limited Company under the companies act in India. <b>Supporting Document:</b> Certificate of Incorporation	The bidder should be a Government Organization/ PSU/ or a Public Limited Company/ Private Limited Company/ Partnership Firm/ LLP under Companies Act or other requisite Act in India. <b>Supporting Document:</b> Certificate of Incorporation/ Registration Certificate/ Partnership Deed
2.	Section 3: Eligibility Criteria, Clause 2	<b>Supporting Document:</b> Certificate of Incorporation	<b>Supporting Document:</b> Certificate of Incorporation/ Registration Certificate/ Partnership Deed
3.	Section 4: Scope of Work; Technology Stack	Entire Section	Please refer Section 3 of this document for revised Scope of technology Stack
4.	Appendix 1A: Functional Specifications	Addition	The e-auction portal should support DSC(Digital Signature) based login for all users.
5.	Appendix 1A: Functional Specifications	Addition	Platform should provide an omnichannel experience across web portal, native mobile app, web app, messaging platforms, wearables etc. and other required channels with consistent, convenient and excellent User Interface (UI) and User
6.	Appendix 1B: Technical Specifications	ADR	Specifications & Scope for ADR stands deleted
7.	Appendix 1B: Technical Specifications, Pt.1	Platform should provide an omnichannel experience across web portal, native mobile app, web app, messaging platforms, wearables etc. and other required channels with consistent, convenient and excellent User Interface (UI) and User	Platform should provide an omnichannel experience across web portal, native mobile app, web app, messaging platforms, etc. and other required channels with consistent, convenient and excellent User Interface (UI) and User
8.	Annexure	Addition	All Bidders are required to submit Annexure for Compliance Declaration as provided in Section 4 of this document.

## Section 2: Technology Stack

Bidder to ensure that the Application is:

1. Application is designed as a Micro-service
2. To be containerized adhering to Open container Initiative (OCI) based standards (both for run time and image) using cloud-native containerization service and orchestrated using Kubernetes-based container orchestration tools in a multi-node/ cluster formation leveraging both OS and VM level virtualization.
3. Data Processing, Event processing, Log Aggregation, Metric collection, website activity tracking, stream processing etc. to be handled using Kafka-based messaging frameworks coupled with ELK stack.
4. The Bidder/ CSP should adhere to serverless computing services model to achieve better performance and cost optimization running on cloud. All components and services are to be on IaaS model of deployment.
5. The content should be delivered through cloud-native Content Delivery Network (CDN) services from the CSP for achieving better response and security.
6. PSB Alliance Pvt Ltd needs a single tenant deployment on AWS with root-level access to the AWS account id, where the workload is deployed. AWS Account id shall be opened up using official email id of designated PSB Alliance Pvt Ltd employee. PSB Alliance shall have full root-level control for its workload to meet the RBI regulatory guidance on Data ownership and control, Right to Audit, Data privacy and confidentiality. The successful bidder shall have the necessary management rights to configure the cloud environment and provide managed services and Billing to PSB Alliance. PSB Alliance shall have right to continue with this account and the data on this account after the expiry of the contract tenure with the successful bidder.
7. The proposed design Pattern should implement distributed caching environment where the data can span multiple cache servers and be stored in a central location for the benefit of all the consumers of that data. The dedicated caching layer should enable systems and applications to run independently from the cache with their own lifecycles without the risk of affecting the cache enabling application nodes to scale in and out dynamically. The cache should serve as a central layer that can be accessed from disparate systems with its own lifecycle and architectural topology.
8. Bidder needs to note that the application needs to be deployed on AWS (Virtual Private cloud - VPC) and needs to be managed by bidder under back-to-back Business/Enterprise level support from public cloud CSP- AWS. All the cost of the hosting all the environment as mentioned in the RFP needs to be factored in by the bidder in the Commercial bill of material with proper details and break up. During selection of the Cloud service provider, the bidder needs to ensure the following:
  - ✓ The bidder has to develop the application based on IaaS model for the web application and to be based on micro-service and containers-based architecture to support flexibility and portability.
  - ✓ The infrastructure elements including server, storage, backup storage and network of the Cloud should provide strong tenant isolation, granular identity and access management capability and encryption and be logically separate from the public and other cloud offerings of the cloud service provider. There should be logical separation (of servers, storage, network infrastructure and networks) to protect data, applications and servers and provide robust virtual isolation for the Cloud to PSB Alliance. The cloud service offering should support Network and security with firewall and load balancer integration for auto-scale functions.
  - ✓ The Bidder is required to set up different environments like Development, UAT, Production, DR and PreProd on the AWS cloud.
9. The Bidder/ CSP should provide & support relational and non-relational database service compatible to store both Structured data and Unstructured data (like but not limited to MySQL/ PostGres SQL/ MongoDB/ Cassandra/ Hadoop based or equivalent as applicable) provided as a cloud service enabled to handle routine database tasks such as provisioning, patching, backup, recovery, failure detection, and repair etc. The cloud-native database has to be compatible to support Big data requirements also. Bidder should consider open-source database deployed on IaaS model on AWS EC2 instances and shall own all the Database management related tasks during operations. Strong OEM Support for Database in India.
10. The Bidder/ CSP should adhere to serverless computing services that are able to run code in response to events and automatically manage the compute resources. The CSP should offer highly scalable and high-performance container management service (e.g. Kubernetes or equivalent) in a multi-node/ cluster formation leveraging both OS and VM level virtualization.

11. Bidder needs to host all the environment (Development, UAT, Production, DR and PreProd) on AWS (Virtual Private Cloud) with Private Subnets and Built-in Firewalls to control how accessible the VMs are by configuring built-in firewall rules and Gateway, and other services to implement the serverless architecture.
12. Data Centre and Disaster Site (DR) shall be in India and should be STQC audited MEITY Empanelled separate physical sites and shall support synchronous replication. Bidder and CSP has to ensure for all type of data should reside within India. Bidder shall provide DC and DR on AWS that supports active-active deployment with synchronous replication.
13. Conduct periodical DR Drills (a minimum of one in every Calendar quarter).
14. Bidder should carry out the deployment of the application in Development, UAT, Production, DR and PreProd as applicable.
15. Providing network, security and other components at DR site shall be in scope of the bidder and it shall be responsibility of Bidder to ensure similar configuration at DR to that of DC site
16. To achieve complete replication of data and maintaining one copy of data on DR site, the data shall be replicated 100% and shall be sized accordingly to maintain the data at DR site at all the time. Disaster Recovery resources other than data are to be configured scalable (on demand) to 100% of Production Data Centre capacity.
17. Bidder needs to provide RTO of 30 mins and RPO of 15 mins
18. Bidder should consider high-availability (active-active) between DC and DR setup for Portal and Mobile app. Bidder shall deploy and consider multi availability Zone deployment of all workloads on AWS. Bidder needs to implement and configure synchronous replication between DC and DR for all the Application, Database, Stateless and IT infrastructure components are replicated to DR site and are operational at all the time.
19. Recovery time operations (RTO of 30 mins and RPO of 15 mins) to be maintained using Global Server Load Balancing (GSLB) / Availability Zone DNS-based load balancing and failover between DC and DR and within the site using Application Load balancer, Network Load balancers and Gateway load Balancers as applicable.
20. DC and DR setup must comply with all current and future Indian regulatory guidelines defined for providing cloud-based services in India.
21. The Internet connectivity should be available to the applications as per the SLA requirements Additional charges for Data Ingress or Egress will be paid by PSB Appliance as applicable.
22. Cloud must be hosted in India including DC and DR in India, no network, and data sharing/ replication to any data center outside the boundaries of the country is permitted. The bidder will be bound by Indian law and Indian IT Act (Cyber Law). No data in any circumstances should be shared/ copied/ transmitted without Company's consent/ written permission of PSB Alliance and it should be as per the Indian IT act (Cyber Law).
23. The hyperscaler public Cloud service provider shall be AWS. The bidder will be required to migrate the application and data to an alternate MeitY (Govt. of India) empaneled hyperscaler public Cloud service provider in case the existing public cloud service provider is de-empaneled by MeitY for whatsoever reasons during the tenure of the contract, at no extra cost to PSB Alliance beyond the existing terms and conditions of the RFP.
24. The data files along with archives and individual file storage should be hosted in India for primary and secondary copies
25. The bidder must provide the Application Deployment Architecture with diagrams, identifying components and specifications for each component with description. Description must detail the number of servers, specifications for each resource (Web server, Application, DB, File server, Resource Monitoring servers etc.), Operating System and configuration as well as function of each server, Network Bandwidth Requirements and Storage Requirements.
26. The bidder is responsible for actual sizing of the infrastructure as per the scope of work, activities and Service Levels and projections as defined in this RFP
27. The proposed infra should be IPv4 and IPv6 compatible
28. CSP Shall have to provision for the below security components at the minimum to secure the environment (1) DDoS protection (2) Firewall (3) Anti-virus (4) Data Encryption at rest and in transit (5) SSL off-load/ Data protection/ Zero Day Vulnerability protection (6) Web Application Firewall (WAF) (7) Basic SIEM and Security Reporting (8) Network Zoning and segmentation (9) Others (If required) or Cloud marketplace subscription or 3rd party products that shall be deployed on hyperscale cloud.

29. The system must provide the ability to perform backups and recoveries of the system including, but not limited to, virtual machines, storage, the database, core and customized software, software and database configuration options, and user preferences and rights
- ✓ The Bidder should ensure to perform backups and restores in a full, incremental and differential manner (daily incremental and weekly full backup) to support the recovery time objectives mentioned in the RFP.
  - ✓ The system must support the ability to perform online backups without interruption to system functions or features.
  - ✓ The backup should be tested on a half-yearly basis. However, PSB reserves the right to define/ update the backup strategy for different applications and Bidder shall configure the backup policies as per PSB's requirements.
  - ✓ The Bidder shall submit a well-defined plan for backup and recovery including processes and procedures etc. related to recovery or continuation of services.
30. Load balancing: Bidder needs to provision, size and configure fully supported IaaS based load balancing capabilities which should operate at both layer 4 (Global Service Load Balancing/ External HTTP(S) Load Balancing) and layer 7 (application Load balancing/ Internal HTTP(S) Load Balancing).
31. Caching (CDN): The CSP should offer content delivery network service to speed up distribution of static and dynamic web content. CSPs should have content delivery network edge locations in India. The bidder needs to provision at least eight (8) CDN pops for the application. The dynamic and static contents of the web portal are to be cached using cloud-native CDN service for the quick transfer of assets needed for loading Internet content including HTML pages, javascript files, stylesheets, images, and videos. The vendor has to do appropriate sizing of cloud infrastructure to ensure smooth functioning of the website even in case of failure/ absence of CDN. The CDN service should be able to improve website load times, reduce bandwidth consumption costs for website hosting on the origin server, increase content availability and redundancy, improve website security by providing DDoS mitigation, improvements to security certificates, and other optimizations. The vendor should be able to monitor and control the content being delivered through Content Delivery Network (CDN).
32. In memory Caching Engine: The proposed architecture should implement enterprise-level in-memory caching engines or equivalent cloud-native solutions throughout various layers of technology including Operating Systems, Networking layers including Content Delivery Networks (CDN) and DNS, web applications, and Database. Caching Engine should be based on open source technology and deployed on AWS with enterprise-grade security and reliability.

### Section 3: Compliance Declaration

RFP Reference No.: PSBA/RFP/EAUC/2022-23/009 Dated 31/03/2023

To,  
Managing Director & CEO  
PSB Alliance Pvt. Ltd.  
Metro House, Mumbai

Dear Sir,

Further to our proposal dated \_\_\_\_\_, in response to the captioned RFP issued by PSB Alliance Pvt. Ltd.

(Company) we hereby covenant, warrant, and confirm as follows:

- 1) We \_\_\_\_\_ (Bidder Name and address) have proposed all infrastructure (Server, DB, OS, Middleware etc.) on \_\_\_\_\_ (Cloud OEM Name) having DC at \_\_\_\_\_ (DC site Address) and DR at \_\_\_\_\_ (DR Site address).
- 2) We hereby confirm that both DC and DR site(cloud) will be in Active – Active mode all the time during contract period.
- 3) Bidder confirm that in case of one side goes down and full load is shifted to another side then it will be capable for handling full load with same performance parameters as mentioned in RFP.
- 4) We hereby confirm that the proposed Active – Active solution will adhere to the RTO and RPO mentioned in the RFP and the proposed Database and proposed E-Auction application will always remain in sync and should provide alerts on any deviations.
  - a. PSB alliance will be able to see the real time lag for application and Database at point in time on the Dashboard
  - b. All the Physical and Virtual environment will be monitored on the single Dashboard
  - c. The proposed solution should facilitate out-of-the-box, workflow-based switchover, and switchback for DR drills for E-Auction application
  - d. The proposed solution should support initiating DR through mobile and it should support iOS & Android Mobile platform
  - e. Details of each drill - including start and end times, status and execution details and DR is ongoing
  - f. A central web-based console to start, stop and track workflows for application

If the Bidder is complied with the above parameters and has proposed the DC and DR site in Active – Active mode then there is no requirement for Automated Disaster Recovery.

(Signature)

(Name of Authorized Signatory)

(Designation)

(Date)

Place:

(Name and address of the bidder)

(Company Seal)

**Note: All other clauses, criteria and terms and conditions in the RFP remains unchanged.**

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