

MODIFIABLE RFP TEMPLATE & VENDOR Q&A RUBRIC | VNA-RFP-023 | Oracle Data, AI & Industry Accelerators

Request for Proposals (RFP): SCADA & High-Frequency IoT Time-Series Ingestion on OCI Streaming & Oracle Database 23ai

Instructions for RFP Author: This template is structured so your IT, Architecture, and Procurement teams can issue a rigorous, apples-to-apples Request for Proposals. Customize the bracketed [Modifiable] fields below or use the companion .md file on the solution portal.

1. Issuing Organization & Procurement Schedule (Modifiable Fields)

RFP Field / Milestone	Modifiable Entry / Target Value
Issuing Organization & Sponsor	[Insert Legal Organization Name, Executive Sponsor & Primary Contact Email]
Project Scope Summary	Transition from Legacy Polling SCADA, Historian Silos & High-Frequency IoT Sensor Streams to OCI Streaming (Kafka), Autonomous Database 23ai, Partitioned Time-Series & APEX GIS
RFP Issue / Q&A; / Proposal Due Dates	[Issue: YYYY-MM-DD] [Vendor Questions Due: +14 Days] [Proposals Due: +30 Days]
Target Contract Type	Fixed-Price Milestone Deliverables with Automated Parity & Cutover Acceptance Gates

2. Mandatory Technical Scope of Work (Modifiable Requirements)

- [REQ-ARCH-01] Edge-to-Cloud Streaming Ingestion: Remote gateways and cellular/LoRaWAN collectors push telemetry into OCI Streaming (Kafka-compatible) or ORDS high-concurrency connection pools backed by Oracle Database `MEMOPTIMIZE FOR WRITE` (Fast Ingest) buffers.
- [REQ-ARCH-02] Automated Time-Series Partitioning & Lifecycle Tiering: Telemetry tables in Oracle 23ai use automatic Interval Partitioning with Hybrid Columnar Compression (HCC) for warm historical partitions and Parquet offload to OCI Object Storage for multi-year cold archives.
- [REQ-ARCH-03] In-Database Anomaly Detection & Rules Engine: Streaming window functions (`MATCH\_RECOGNIZE` SQL pattern matching) and Oracle 23ai ML models detect pressure drops, equipment vibration anomalies, or livestock health spikes in real time, triggering Twilio SMS/push alerts and maintenance work orders.
- [REQ-ARCH-04] Oracle APEX 24.2 Spatial & Mobile Command Center: Operators view live GPS asset clusters (Oracle Spatial + MapLibre / HERE Maps), drill into sensor time-series charts, and dispatch field crews from any tablet or phone.

3. Component Conversion & Acceptance Matrix

Legacy Artifact / Workload	Required Target Architecture	Engineering Method & Acceptance Gate
Unpartitioned Relational Sensor Log Tables	Oracle 23ai Interval-Partitioned Tables + Fast Ingest	Lock-Free `MEMOPTIMIZE FOR WRITE` Ingestion
Siloed Per-Tag Proprietary Historians	Converged OCI Streaming + Autonomous Database + Parquet	Unlimited Tag Scalability + SQL `MATCH_RECOGNIZE`
Delayed Batch Threshold Polling Scripts	Real-Time Event Stream Pattern Matching & Twilio Alerts	Sub-Second Anomaly Detection Pipeline
Desktop-Only SCADA / Fleet Map Viewers	Oracle APEX 24.2 Progressive Web App (PWA) & Spatial Map	Responsive Mobile & Offline-Capable Field UI

4. Mandatory Vendor Q&A; Questionnaire & Evaluation Benchmark Key

Bidders must answer each technical question below. Evaluation committee members can compare vendor answers directly against the Reference Benchmark Key:

Vendor Question 1: Can Oracle Database handle high-frequency IoT time-series writes without buying a separate time-series database? [Score: ____ / 10]

Reference Evaluation Benchmark: Yes. Using Oracle's High-Frequency `MEMOPTIMIZE FOR WRITE` (Fast Ingest) large pool buffer combined with automatic interval partitioning, Oracle absorbs millions of asynchronous sensor inserts per second before flushing to disk in optimized batches.

Vendor Question 2: How do you keep storage costs low when retaining 5+ years of raw sensor readings? [Score: ____ / 10]

Reference Evaluation Benchmark: We configure Automated Storage Tiering: the most recent 90 days sit in hot NVMe partitions, months 4 to 12 compress 10x via Hybrid Columnar Compression, and older partitions automatically export to ZSTD Parquet on OCI Object Storage while remaining queryable via External Partitioned Tables.

Vendor Question 3: What is included in the downloadable PDF Solution Brief? [Score: ____ / 10]

Reference Evaluation Benchmark: The PDF Solution Brief includes the OCI Streaming + Oracle 23ai Fast-Ingest Architecture diagram, sample `MATCH\_RECOGNIZE` anomaly detection SQL queries, and our automated time-series partition lifecycle blueprint.

Vendor Question 4: How do you rationalize report/query fan-out and guarantee 100% customer code & data ownership? [Score: ____ / 10]

Reference Evaluation Benchmark: Vendor must demonstrate AST SQL clustering to collapse cloned queries into governed core views with runtime/AI-inference filters, and deliver 100% customer-owned SQL, PL/SQL, APEX, or cloud code with zero proprietary runtime lock-in.

5. Commercial Milestone Pricing & Evaluation Weighting (Modifiable)

Phase / Deliverable Gate	Required Acceptance Output	Bidder Fixed Fee	Eval Weight
Phase 0: AST Discovery & Blueprint	Complete code/schema AST inventory, dead-code manifest & core SQL fan-out map	\$ [Insert]	20%
Phase 1: Core Schema & Logic Uplift	Target cloud/DB provisioning, automated DDL/code conversion & unit tests	\$ [Insert]	30%
Phase 2: UI, Reports & UAT	Modernized UI/portals, runtime/AOP reports, security VPD/SSO & UAT sign-off	\$ [Insert]	30%
Phase 3: Cutover & Hypercare	Zero-downtime cutover, row/hash reconciliation & 30-day production warranty	\$ [Insert]	20%