**MongoDB Financials Use-Case – Consultant Status Summary**

**(Apr 15 – Jun 19 2025)**

### **1. Scope of Work**

Design and implement a MongoDB schema and event-driven processing pipeline mirroring legacy Oracle financial tables while introducing scenario isolation ( *outlook, budget, live* ) and downstream aggregation levels (L4 ➔ L3, L1 ➔ L2).

### **2. Major Contributions & Deliverables**

| **Area** | **Outcome** | **Notes** |
| --- | --- | --- |
| **Schema design** | • Mapped Oracle tables to MongoDB collections: lvl1FinancialsSummary, lvl4CostDetails$<scenario>, lvl3CostDetails$<scenario>, lvl2FinancialsSummary.• Standardised key fields (ipLongId, planId, scenario tags) across levels for join-free look-ups. | Green-labelled entities in the architecture diagram are finalised. |
| **Lookup consolidation** | Combined multiple Oracle reference tables (BU, billing keys, supplier, title) into a single lookup collection, leveraging MongoDB’s flexible schema to reduce cross-collection joins during enrichment. |  |
| **Event ingestion & persistence** | Built ECS Java services that ingest SNS events (IP\_COST\_DETAILS, IP\_COST\_SUMMARY) from **GOS DB** and upsert into level-respective collections.• *L4 ➔ L3 flow*: enrich with lookup data, write to lvl3CostDetails$<scenario>.• *L1 ➔ L2 flow*: enrich with allocations, taxonomy, app mappings, write to lvl2FinancialsSummary. |  |
| **Aggregation / enrichment queries** | Authored and optimised MongoDB aggregation pipelines that:• reduce verbose L4 cost arrays (up to 8 k rows) to BU-level L3 docs.• roll fiscal-year figures and enrichment objects into compact L2 documents. |  |
| **Transactional orchestration** | Wrapped multi-collection updates in withTransaction blocks to guarantee atomicity (upsert + audit) and added timestamped stage metrics for latency tracking. |  |
| **Audit framework** | Designed auditCollection, implemented create/update hooks, and extended schema to log duration, failure reason, and retry metadata. |  |
| **Performance & indexing** | • Replaced unsupported wildcard index outlook.$\*\*.fyCost with outlook.$\*\* and proposed flattening outlook into [ {year, fyCost} ] structure.• Guided team on compound indexes for ipLongId + planId + scenario. |  |
| **Team enablement** | Fielded ad-hoc query-tuning questions, reviewed PRs, and documented best practices for India dev team’s upcoming training sessions. |  |
| **Pull requests** | Raised and merged PRs covering:1. L4 ➔ L3 event processor and aggregation pipelines.2. L1 ➔ L2 enrichment logic and transaction wrapper.3. Audit collection schema and helper utilities. |  |

### **3. Delivered Effort by Sprint**

| **Sprint (Jira 251)** | **Ticket** | **Points** | **Status** |
| --- | --- | --- | --- |
| Apr 15 – May 15 (Design) | **Mongo Queries** | 8 | Complete |
| May 15 – Jun 1 (Execution – Txn flows) | **Mongo Queries** | 8 | Complete |
| Jun 1 – Jun 19 (Execution – Aggregations) | **Mongo Queries** | 8 | Complete |

### **4. Dependencies / Items Outside My Control**

| **Collection (red in diagram)** | **Owned by** | **Impact** |
| --- | --- | --- |
| billingKeyRefData, sdmBuHierarchy, expenseHierarchy, supplier | Source-system teams | Required for full enrichment; awaiting finalized feeds & schemas. |
| ipClosedMonthCostAllocations | Finance Ops | Needed to close the loop on live-scenario reconciliations. |

### **5. Outstanding Work (black labels)**

| **Task** | **Status** | **Next Action** |
| --- | --- | --- |
| Finalise ipAllocatedCost roll-ups into L2 | Design drafted | Align on allocation logic once allocation engine stabilises. |
| Produce downstream dashboards (myInsights) | Schema ready | Coordinate with BI team to wire queries and validate aggregates. |

### **6. Next Steps**

1. **Support dependency teams** to onboard their reference data into MongoDB (schema validation, index suggestions).
2. **Benchmark** end-to-end L4 ➔ L3 ➔ L2 latency and tweak pipelines or indexes as needed.
3. **Cluster sizing** review with MongoDB SA once data-volume projections are final.
4. **Deliver training** session for India dev team on scenario-aware querying patterns and aggregation-framework tips.

*All committed deliverables for the April–June 2025 window have been completed with zero spill-over. System is ready for integrated testing once dependent reference collections are live.*