# Apollo Trade Processing System - Capacity Plan (v3.0)

## Document Header

Application ID: EQTRADE-APOLLO

Application Name: Apollo Trade Processing System

Business Criticality: Tier 1 – Business Critical

Client Segment: Corporate & Institutional Banking

Owner / Approver: DevOps Platform Team, Infra Head, Domain Service Owner

Validity: Valid From Oct 2025 | Next Review Oct 2026 | Frequency – Annual

Service Mapped to IBS: Yes

## 1. Introduction

This plan defines the capacity strategy for Apollo, ensuring performance and availability targets are maintained across application, database, and web tiers in alignment with NFRs.

### 1.2 Non-Functional Requirements (NFR) Details

NFR ID / Link: NFR-APOLLO-2024-02

Targets: CPU ≤ 80 %, Memory ≤ 75 %, Response ≤ 2 seconds.

### 1.3 Scope

Service Overview: Apollo is a middleware-based trade processing platform handling equities and derivatives transactions for internal and external desks.

Service Dependants: Upstream – EQTrade Gateway, Market Data Feed | Downstream – TSS (Trade Settlement System), Reporting DB.

Capacity Monitoring: Grafana, Prometheus, and AppDynamics monitor CPU, Memory, Disk I/O, and TPS.

### 1.4 Infrastructure Components

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| S/No | Servers / CIs | Description | Hosting Model | Data Centre |
| 1 | APOLLO-APP01/02 | Java Application Servers | On-Prem | GDC East |
| 2 | APOLLO-DB01 | Oracle 19c RAC Primary | On-Prem | GDC East |
| 3 | APOLLO-WEB01 | NGINX Frontend | On-Prem | GDC East |

### 1.5 Capacity Forecast Inputs

Business Forecast: Yes (20 % growth FY25/26)

Workload Forecast: Yes (Historical +15 % trend)

Seasonal Events: Yes (Quarter-end and year-end spikes +30 %)

## 2. Capacity Analysis

User Workload: 1200 total users; 150 concurrent users.

Transactional Workload: Avg 20 TPS; Peak 50 TPS during market open.

Batch Workload: 4 nightly reconciliation jobs (~3 hours each).

API Workload: 8 endpoints with <2s response time, peak 250 req/min.

|  |  |  |  |
| --- | --- | --- | --- |
| Component | Baseline Utilization | Alert Threshold | Comments |
| App Server | CPU 48 %, MEM 71 %, Storage 62 % | 80 % | Stable |
| DB Server | CPU 52 %, MEM 65 %, Storage 68 % | 80 % | Healthy |
| Web Server | CPU 38 %, MEM 57 %, Storage 54 % | 80 % | Healthy |

Production and DR environments have identical configurations (Active-Active) hosted at GDC East.

## 3. Detailed Capacity Requirements

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Component | Resource / Service | Hosting DC / Geo | Quantified Growth | Timeline | Comments |
| App Server | CPU + RAM | GDC East | +20 % | Q1 2026 | Increase for projected transaction load |
| DB Server | Storage | GDC East | +25 % | Q2 2026 | Archival retention growth |
| Web Server | None | GDC East | 0 % | - | Current capacity adequate |

## 4. Capacity Reviews

Monthly utilization review by InfraOps and Service Owner (7th of each month). Metrics: CPU, Memory, Storage, Network I/O. Breaches >3 months trigger ServiceNow action plans.

Annual capacity review due Oct 2026.

Cost Optimization: Evaluate SKE migration in 2026 for elastic scaling.

## 5. Appendix / Supporting Info

Linked Docs: Apollo\_NFR\_v2.1.docx, ITR\_MNR\_CR01.pdf, Apollo\_Infra\_Monitoring\_Dashboard.

BIA Reference: Apollo BIA ID #BIA-2025-09.

Upstream Assets: EQTrade Gateway (30521), MarketData Feed (30217).

Downstream Assets: TSS (40987), Reporting DB (41190).