

Loyalty Program Architecture Analysis and Resilience Planning (Fuel Retail)

Client Major oil & gas company in the Middle East
Role Enterprise Architect, Solution Architect
Period 2024-11 — 2025-01

CONTEXT

Loyalty-platform outages were intermittently shutting down service at petrol stations — customers unable to use loyalty cards, lost transactions, reputational damage — and the root cause was unclear across a distributed landscape of accounting, loyalty, POS, finance, terminals, and fuel dispensers. Leadership needed both a fast fix and a durable answer.

APPROACH

Reframed the outages as integration-and-cascade failures rather than isolated component faults, then ran a four-layer investigation — landscape mapping, failure-mode analysis, root-cause tracing, resilience design — phased to surface quick wins early and an architectural roadmap by close.

OUTCOME

Restored operational stability to a major Middle East oil & gas operator's fuel-retail network by root-causing recurring loyalty-platform outages and delivering a prioritized resilience roadmap — within a three-month engagement.

- Root causes of the loyalty outages identified and targeted mitigations defined — stability restored without wholesale system replacement.
- Failure-mode map and a resilience pattern set (monitoring, alerting, circuit breakers, graceful degradation) to prevent cascade shutdowns.
- Integration dependencies across the fuel-retail IT landscape documented, giving leadership the clarity to plan future digital growth with confidence.

KEY RESULT

Root-caused recurring loyalty-platform outages across a major oil & gas operator's fuel-retail network and delivered a prioritized resilience roadmap that restored operational stability — in a three-month engagement.