AWS Migration Plan

Executive Summary

This document outlines the migration from Azure EventHub, Stream Analytics, Logic Apps, and NiFi to AWS MSK, Kafka Streams/Flink, Lambda, EventBridge, MSK Connect, and Timestream.

Phase 0 – Discovery & Requirements (1–2 weeks)

• Collect rules, schemas, SNOW API details.

• Export SAQL logic and Logic Apps workflow.

• Validate device event formats and ODS schemas.

Phase 1 – Core AWS Infrastructure (2 weeks)

• Deploy VPC, subnets, security groups.

• Deploy Amazon MSK.

• Create Kafka topics.

• Deploy Timestream.

• Configure IAM roles and Secrets Manager.

Phase 2 – ODS Ingestion (NiFi Replacement) (2 weeks)

• Deploy MSK Connect with JDBC Sink.

• Map topics to ODS staging tables.

• Validate ingestion at scale.

Phase 3 – Rules Engine (Stream Analytics Replacement) (2 weeks)

• Implement delay timer rules.

• Implement aggregation rules.

• Implement status/mode rules.

• Emit alerts into Kafka topics.

Phase 4 – ServiceNow Integration (Logic Apps Replacement) (2 weeks)

• Build Lambda → SNOW API integration.

• Implement incident, append, and asset update logic.

• Add retries, DLQ, logging, and metrics.

Phase 5 – Heartbeat → Timestream (2 weeks)

• Deploy heartbeat consumer.

• Store raw and aggregated metrics in Timestream.

• Build QuickSight/Grafana dashboards.

Phase 6 – Parallel Run & Cutover (2 weeks)

• Validate AWS pipeline matches Azure outputs.

• Compare incidents, alerts, ODS, dashboards.

• Toggle traffic to AWS.

• Decommission Azure components.

Risks & Mitigations

• Rule mismatch → mitigated with parallel run.

• SNOW integration errors → mitigated with Lambda retries & DLQs.

• Topic schema drift → mitigated with schema registry governance.

Final Outcome

A complete AWS-native streaming, alerting, monitoring, and data analytics pipeline replacing all Azure dependencies.