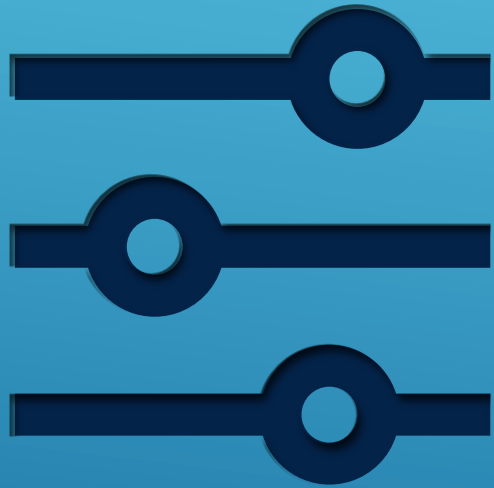
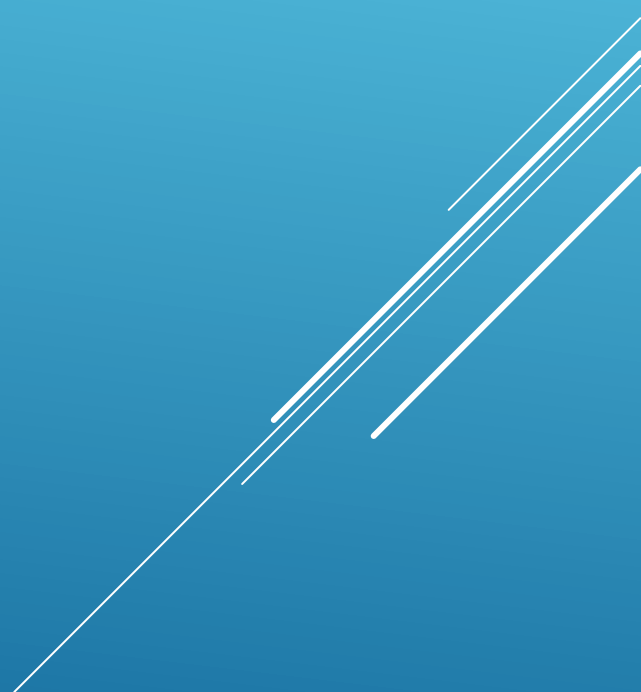




NETCELL EDA PLATFORM

Event-Driven AI Platform
Configuration



NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

1. Integration Layer (Edge Services)

These services sit closest to external systems.

Integration Pull Service

- Polls external systems by interval
- Converts raw data into canonical events
- Ideal for legacy systems

Integration Agent Service

- Runs on client application servers
- Hooks into DAL events
- Pushes events directly to Events Hub

Integration API Gateway

- External systems push events via REST
- Handles auth, throttling, validation

Output: Canonical events → sent to Events Hub.

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

2. EventsHub Layer (Core Routing Services)

This is “traffic controller” for all events.

Event Classifier Service

- Reads raw events
- Maps them to event types
- Adds metadata (TraceId, TenantId, Version)

Event Router Service

- Routes events to Kafka topics
- Applies partitioning strategy
- Enforces routing rules per tenant

Dead-Letter Service

- Stores failed events
- Provides retry logic
- Critical for enterprise reliability

Output: Clean, typed events → Kafka topics.

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

3. Event Processing Layer (Domain Services)

Each domain gets its own microservice.

Contact Events Processor

Handles ContactStateChanged, ContactCreated, etc.

Updates ContactProfile document

Account Events Processor

Handles account-level events

Updates AccountProfile document

Billing Events Processor

Handles invoices, payments

Updates BillingProfile document

Security Events Processor

Handles login failures, access violations

Updates SecurityProfile document

Output: Updated domain profiles → Document DB.

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

4. Profiling & AI Layer (Intelligence Services)

This is where Netcell EDA platform becomes smart.

Entity Profiling Service

- Runs AI models
- Computes risk, health, activity scores
- Writes enriched profiles back to Document DB

AI Feature Extraction Service

- Converts events into ML features
- Stores feature vectors for training

AI Model Training Service

- Periodically retrains models
- Stores models in Model Registry

AI Inference Service

- Real-time scoring
- Used by processors and dashboards

Output: Enriched profiles + insights.

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

5. Analytics & Visualization Layer (Insight Services)

Analytics Aggregation Service

Computes aggregates (daily, hourly)

Writes to analytics tables or Cloudera Iceberg

Dashboard API Service

Serves data to dashboards

Multi-tenant access control

High-performance read endpoints

Visualization Frontend

UI for dashboards

Entity timelines

Risk heatmaps

Activity charts

Output: Dashboards + reports.

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

6. Platform Services (Cross-Cutting)

These are mandatory in enterprise environments.

Identity & Access Service

- Tenant isolation
- RBAC
- API keys, OAuth2

Configuration Service

- Central config for all microservices
- Tenant-specific settings

Observability Service

- Metrics (Prometheus)
- Logs (ELK / Cloudera tools)
- Tracing (OpenTelemetry)

Orchestration & Deployment

- Helm charts
- ArgoCD / GitOps
- Canary deployments

Storage Gateway Service

- Writes long-term event history to Cloudera Data Lake
- Supports Iceberg/Hive tables

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

7. Multi-Tenancy Layer (Enterprise Requirement)

Large organizations need strict isolation.

Tenant Manager Service

- Creates tenants
- Assigns Kafka topics
- Manages quotas

Tenant Security Service

- Enforces Ranger policies
- Controls access to data lake tables

Microservices Map (Visual Layout) ...

NETCELL-EDA Architecture

Microservices Map (Enterprise Ready)

Thank you

The background of the slide is a blue gradient, transitioning from a lighter blue at the top to a darker blue at the bottom. On the right side, there are several parallel white diagonal lines that extend from the top right towards the bottom left, creating a sense of movement and modern design.