03 - Data Backend Architecture

Data & Backend Architecture  
  
- Event-driven architecture: orders.intake → orders.received topics.  
- Microservices: Ingestor, Normalizer, Enricher, Screener, License Engine, Case Service, GRN Reconciler.  
- Storage: Postgres (OLTP), WORM blob store, vector DB, analytics warehouse.  
- Reliability: outbox pattern, CDC to warehouse, dead-letter queues.  
- Security: field encryption, RBAC/ABAC, Merkle-hashed audit.  
- Performance targets: <300ms ingest ack, <5s screening, bulk 100k/hour.