Aerospike Database 5

First NoSQL Database for always-on globally distributed business transactions with multi-site clustering and strong consistency.

Global distributed transactions

- Multi-site clustering
- Accelerates business processes
- Active-active, always-on systems
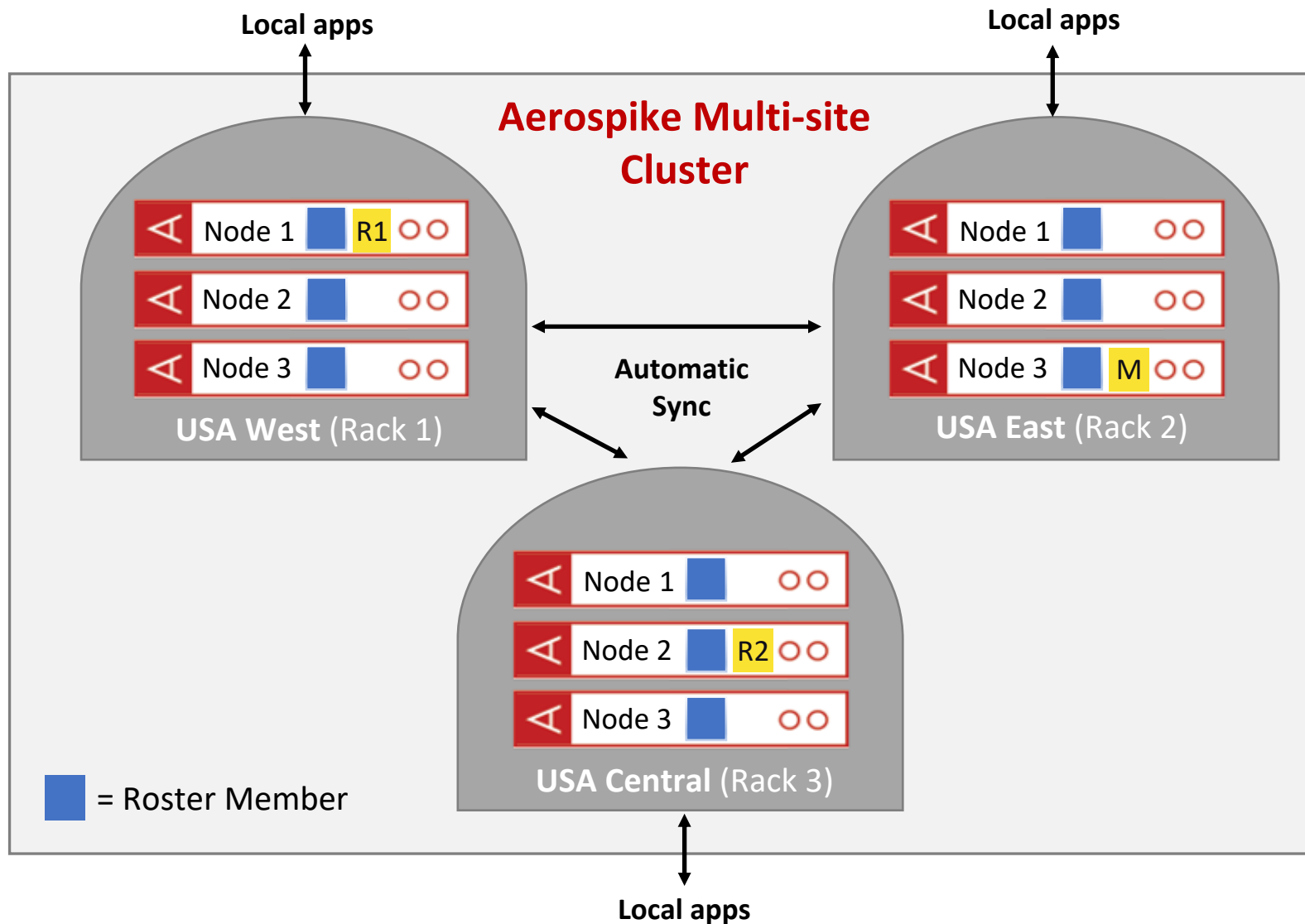- Conflict avoidance, no data loss

Geo-distributed data management

- New XDR with last-update-time (LUT) based shipping
- Active-active data hub linking the system of record with edge systems

Broaden transactional workloads

- Probabilistic types (Hyperloglog)
- Document-oriented (Complex data type)
- Developer oriented

Multi-site clustering – 3 sites, 3 replicas

Local apps

Local apps

Aerospike Multi-site Cluster

Node 1 R1 ⊙⊙
Node 2 ⊙⊙
Node 3 ⊙⊙
USA West (Rack 1)

Automatic Sync

Node 1 ⊙⊙
Node 2 ⊙⊙
Node 3 M ⊙⊙
USA East (Rack 2)

Node 1 ⊙⊙
Node 2 R2 ⊙⊙
Node 3 ⊙⊙
USA Central (Rack 3)

■ = Roster Member

Local apps

- ✓ **Strong Consistency**
- ✓ **Linearizable isolation**
- ✓ **No writes lost**
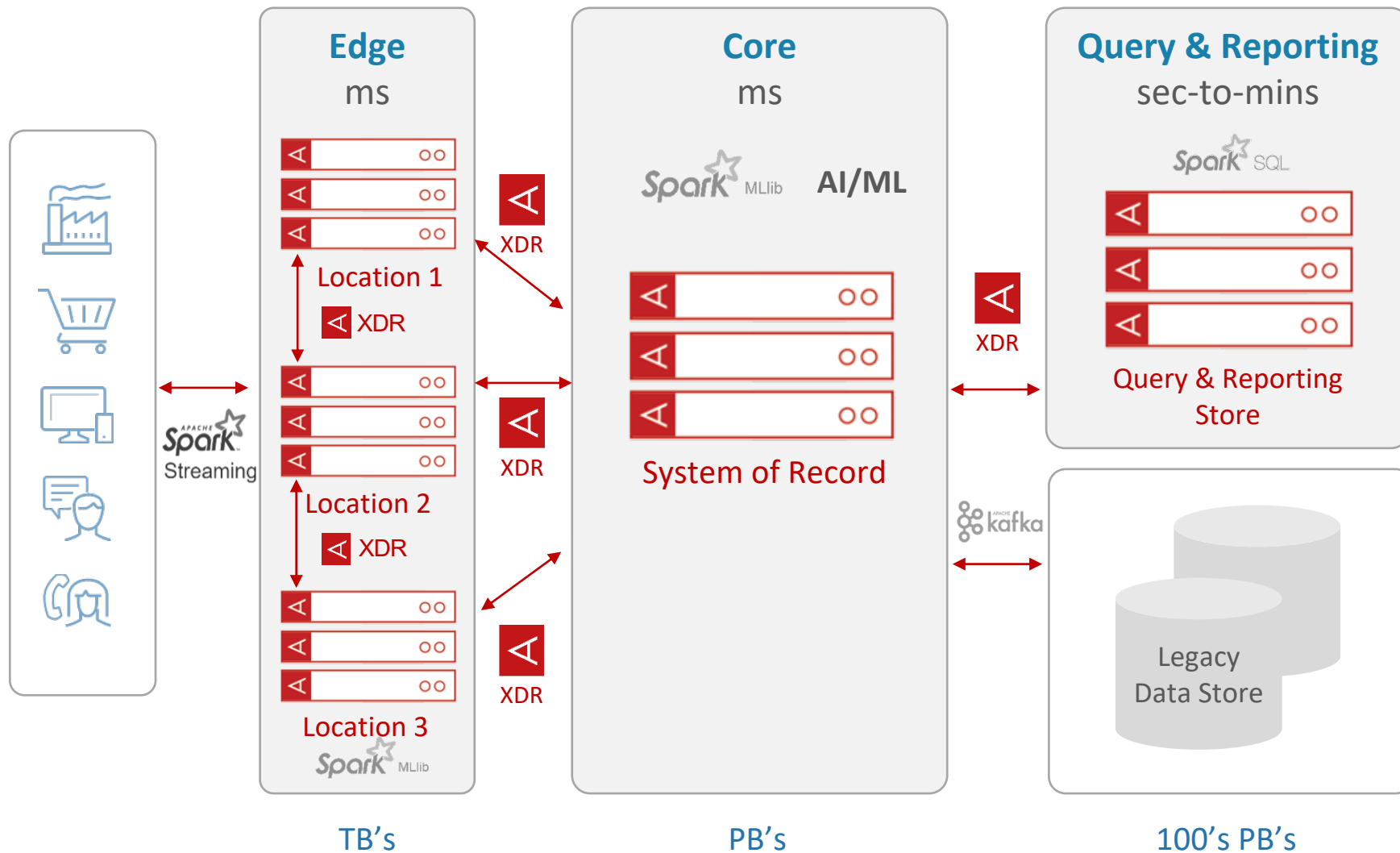- ✓ **Synchronous replication**

Rack 1, 2 & 3 form cluster

Multi-site clustering – site disconnected

Local apps

Local apps

Aerospike Multi-site Cluster

USA West (Rack 1)
- Node 1 — R1
- Node 2
- Node 3

USA East (Rack 2)
- Node 1
- Node 2
- Node 3 — M

Automatic Sync

USA Central (Rack 3)
- Node 1
- Node 2 — R2
- Node 3

■ = Roster Member

Unavailable

Local apps
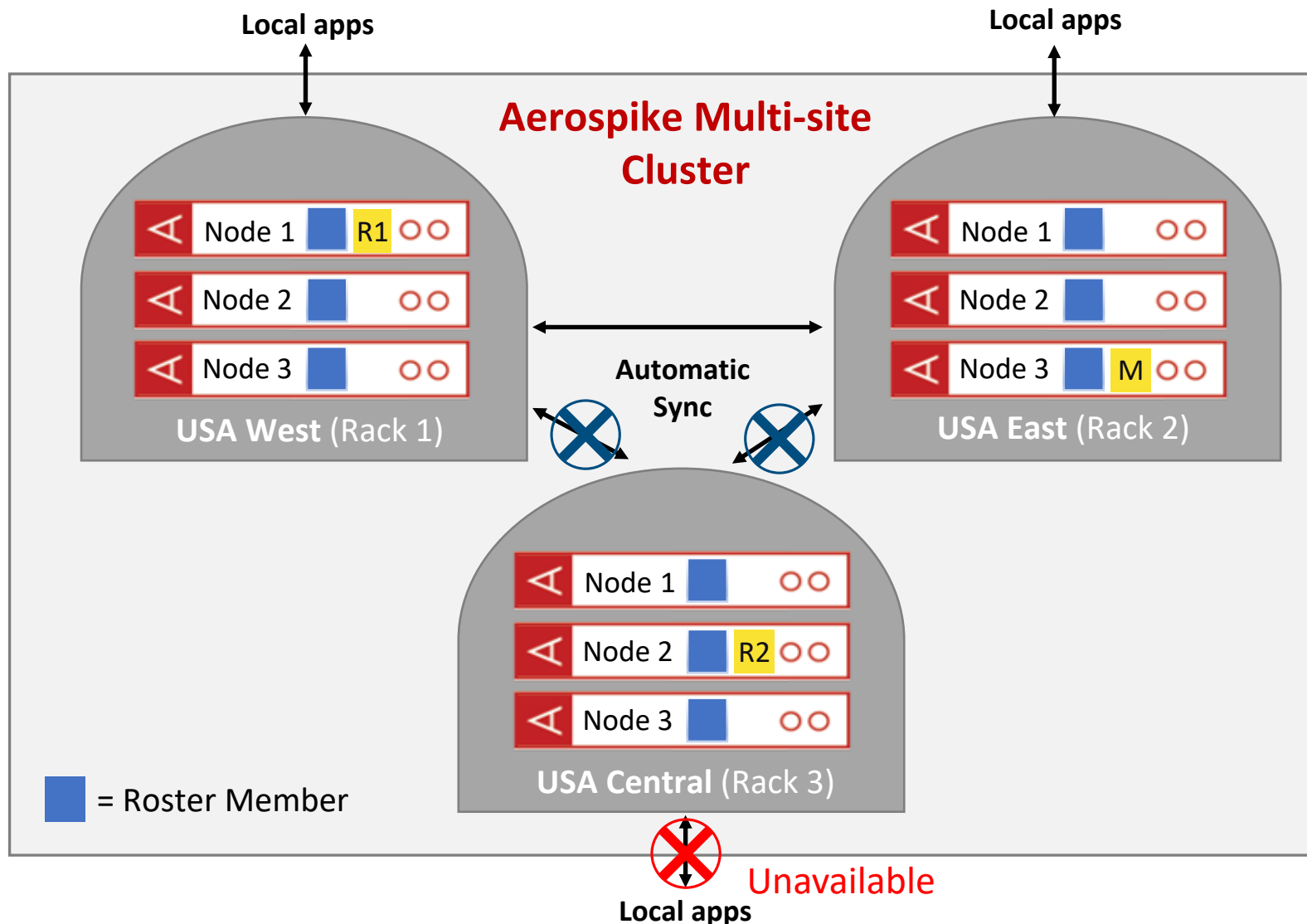
- ✓ **Strong Consistency**
- ✓ **Linearizable isolation**
- ✓ **No writes lost**
- ✓ **Synchronous replication**
- ✓ **No operator intervention**
- ✓ **Conflict avoidance**

Rack 1 & 2 form cluster
Rack 3 is unavailable

Aerospike as data hub using XDR

Edge
ms

Location 1

XDR

XDR

Location 2

XDR

Location 3

TB's

Core
ms

Spark MLlib   AI/ML

System of Record

kafka

PB's

Query & Reporting
sec-to-mins

Spark SQL

XDR

Query & Reporting Store

Legacy Data Store

100's PB's

✓ **Asynchronous replication**

✓ **Relaxed consistency**

✓ **Dynamic configuration**

✓ **Non-Aerospike connectors**

Questions?

Thank You.

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