Azure Cosmos DB

Save vs Cassandra on IaaS

Cloud Cassandra TCO Challenges

Cassandra	Cosmos DB
High DevOps and license fees	No DevOps or license fees **Up to 40% savings**
Limited elasticity. Over-provisioning	Instant and limitless elasticity **Up to 25% savings**
Not Cloud-optimized. Poor compute, network, and storage utilization.	Azure-optimized. High compute and network utilization. **Up to 40% savings**

$0 — Cosmos DB
1-3 FTE — 100 node Apache Cassandra cluster
$7,200 per node, 1-3FTE — 100 node Datastax cluster
10s FTEs — 1000 node Hbase cluster

NoSQL on VMs / Cosmos DB

Hourly compute cost per 100K/sec transactions (50-50 read-write)
$16.64 Cosmos DB
$24.77 Cassandra (cl=quorum)
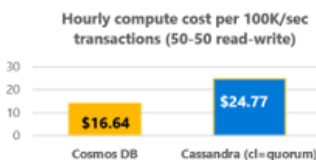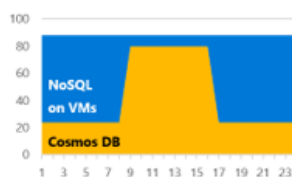
6TB workload, 80K TPS, 50-50 read-write split observed among our customers, off-peak to peak ratio is 40%, 1K objects. L16 VMs used per Azure guidance,. DSE license is $7,200 / year per node (assumes 8 cores). Azure monthly consumption prices were used. Findings based on Microsoft calculations.

TCO Savings with Azure Cosmos DB

$28,762/ mo

- DSE licenses
- Bandwidth
- Virtual Machines and Storage

18 node (L16) DataStax Cassandra cluster

$17,952/ mo

- Bandwidth
- Virtual Machines and Storage

18 node (L16) Apache Cassandra cluster

$9,924/mo

- Bandwidth
- Storage
- Throughput

Azure Cosmos DB (list prices)

>2x Savings