Amazon Neptune

Fast, reliable graph database built for the cloud

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USE CASES FOR HIGHLY CONNECTED DATA

- Social Networking
- Recommendations
- Knowledge Graphs
- Fraud Detection
- Life Sciences
- Network & IT Operations
Leading graph models and frameworks

PROPERTY GRAPH

Open Source Apache TinkerPop™
Gremlin Traversal Language

RESOURCE DESCRIPTION FRAMEWORK (RDF)

W3C Standard
SPARQL Query Language
Amazon Neptune
Fully managed graph database

**FAST**
Query billions of relationships with millisecond latency

**RELIABLE**
6 replicas of your data across 3 AZs with full backup and restore

**EASY**
Build powerful queries easily with Gremlin and SPARQL

**OPEN**
Supports Apache TinkerPop & W3C RDF graph models
Amazon Neptune high level architecture

Amazon Neptune
High Performance Graph Engine (Durable, ACID with Immediate Consistency)

Bulk load from S3
Database Mgmt.

Cloud-native Storage Service
Multi-AZ HA
Read Replicas
Encryption-at-rest

TinkerPop / Gremlin
RDF / SPARQL

Social Networking
Fraud Detection
Recommendations
Knowledge Graphs
Life Sciences
Network & IT Ops
Fully managed service

**BENEFITS**

- Easily configurable via the Console
- AWS CloudFormation, CLI, SDK
- Multi-AZ High Availability, ACID
- Support for up to 15 read replicas
- Supports Encryption at rest
- Backup and Restore, Point-in-time Recovery
AMAZON NEPTUNE: VPC DEPLOYMENT

- Secure deployment in a VPC
- Increased availability through deployment in two subnets in two different Availability Zones (AZs)
- Cluster volume always spans three AZ to provide durable storage
- See the Amazon Neptune Documentation for VPC setup details
AMAZON NEPTUNE READ REPLICA

Availability

- Failing database nodes are automatically detected and replaced
- Failing database processes are automatically detected and recycled
- Replicas are automatically promoted to primary if needed (failover)
- Customer specifiable fail-over order

Performance

- Customer applications can scale out read traffic across read replicas
- Read balancing across read replicas
Neptune GA Customers
Neptune General Availability

- Announced on 5/30/2018
- Four regions
  - US East (No. Virginia), US East (Ohio), US West (Oregon), EU West (Ireland)
Demo/Questions
Thank you!