

# RAMCloud: Ideal Applications & Characteristics



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# Competitive Examples



- Riak
- Redis
- Aerospike
- Berkeley DB
- Hamster DB
- Amazon DynamoDB

# If Your Application Needs...



- To always be able to write, guarantee HA
- Fault tolerance check how durable writes are in the face of power and other failure scenarios
- To handle lots of continuous reads and writes
- Extremely fast read and write access
- To implement social network operations
- To operate on data structures like lists, queues
- To cache or store BLOB data
- Fluid data types

# RAMCloud Usage



- Sensory & Log Data Collection & Analysis
- Behavior Tracking & Analysis
  - Events
  - Timelines
- Website Identity & Attribute Information
  - User Accounts
  - Settings & Preferences
  - Session Information



# RAMCloud Usage



- Website Shopping Cart
  - Up to the Point of Payment
- Magnitude Scaling of Number of Records
- Production Scientific
  - Meteorology, Genomics, Complex Physics Simulations
- Engineering & Technical
  - GIS, Weather Forecasting

# RAMCloud Real-Time



## ● Control Systems

- Air Traffic (ATCS), Manufacturing Operations, Distributed (DCS)

## ● Analytics

- Video Surveillance, Logistics, Social Network Services

## ● Line Speed

- Advanced Persistent Threat, Deep Learning

## ● High Volume of Transactions

- Thousands to Millions of State Changes Per Second