

* Azure without SQL

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SQL Azure

Maximum size 50 GB

Not scalable

Flat fee pricing

Server features

Storage services

Maximum size 100 TB

Scalable

Consumption-based pricing

Resources only

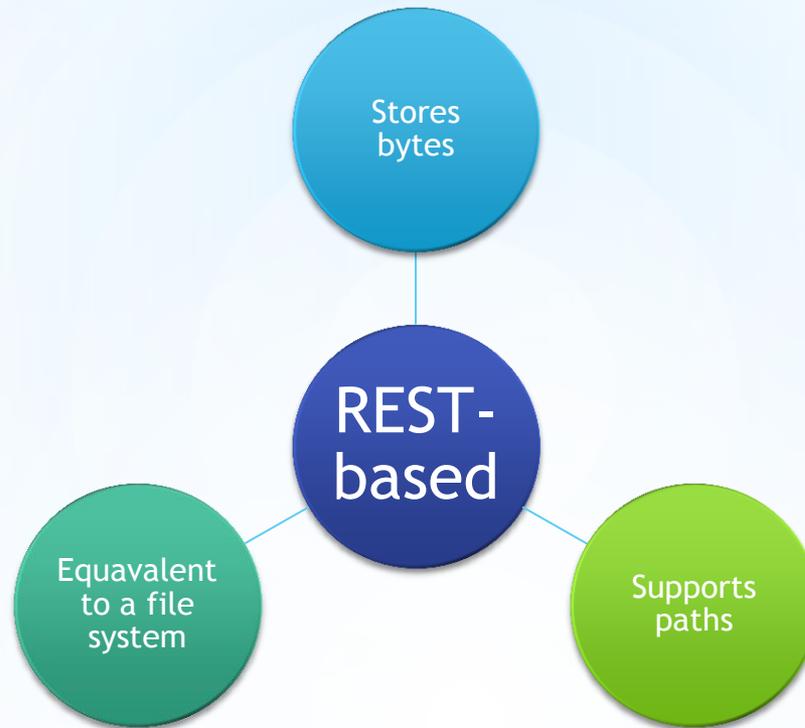
*Storage Services vs SQL Azure

Blob

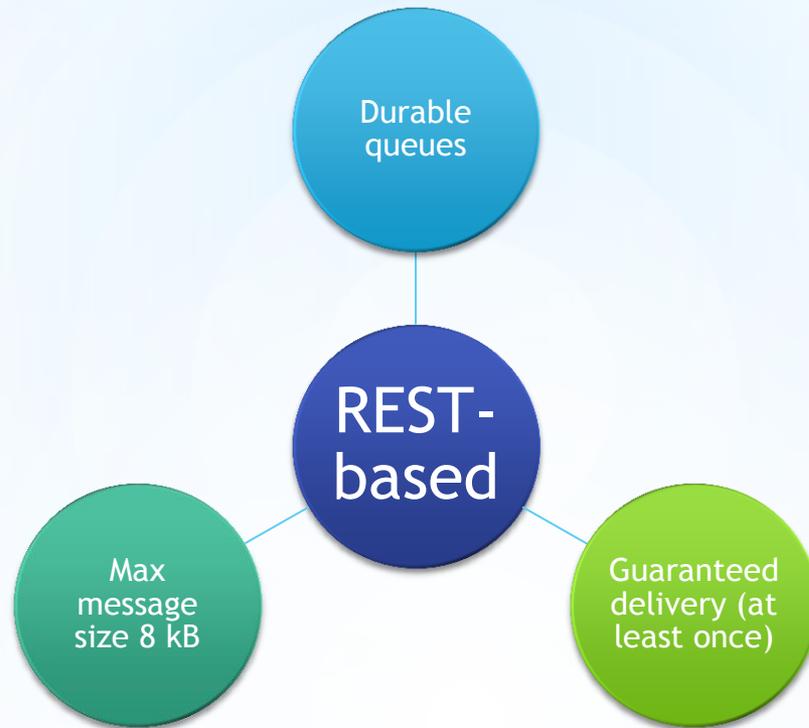
Queue

Table

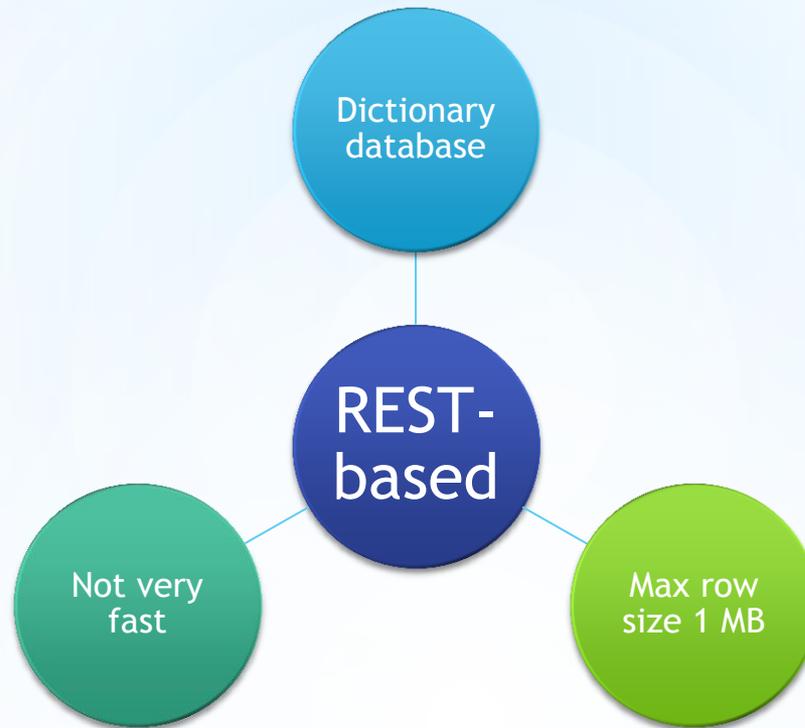
* Azure
Storage Services



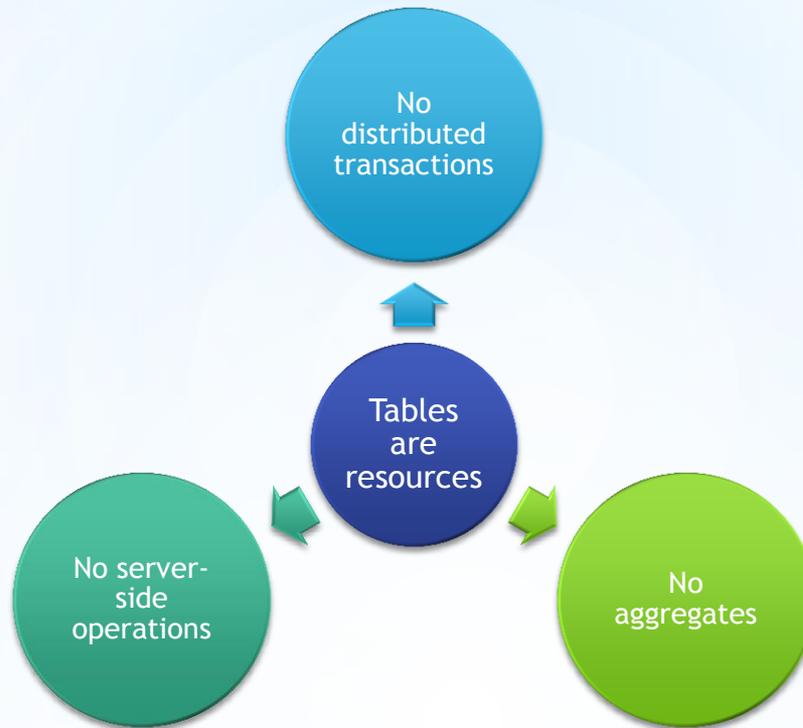
 **Blob**



* Queue



*Table



*Table vs Relational Data

Heavy
denormalization
is necessary



The application
layer must
guarantee
eventual
consistency

*Consequences



Demo

Booking application



Reservation
Table



Capacity
Blob



Event
Queue

*Denormalizing data



Reservation



Capacity



Event

*Updating Denormalized Data



Reservation
Update



Capacity



Event

*Updating Denormalized Data



Reservation
Update



Capacity
Failure



Event

*Updating Denormalized Data



Capacity

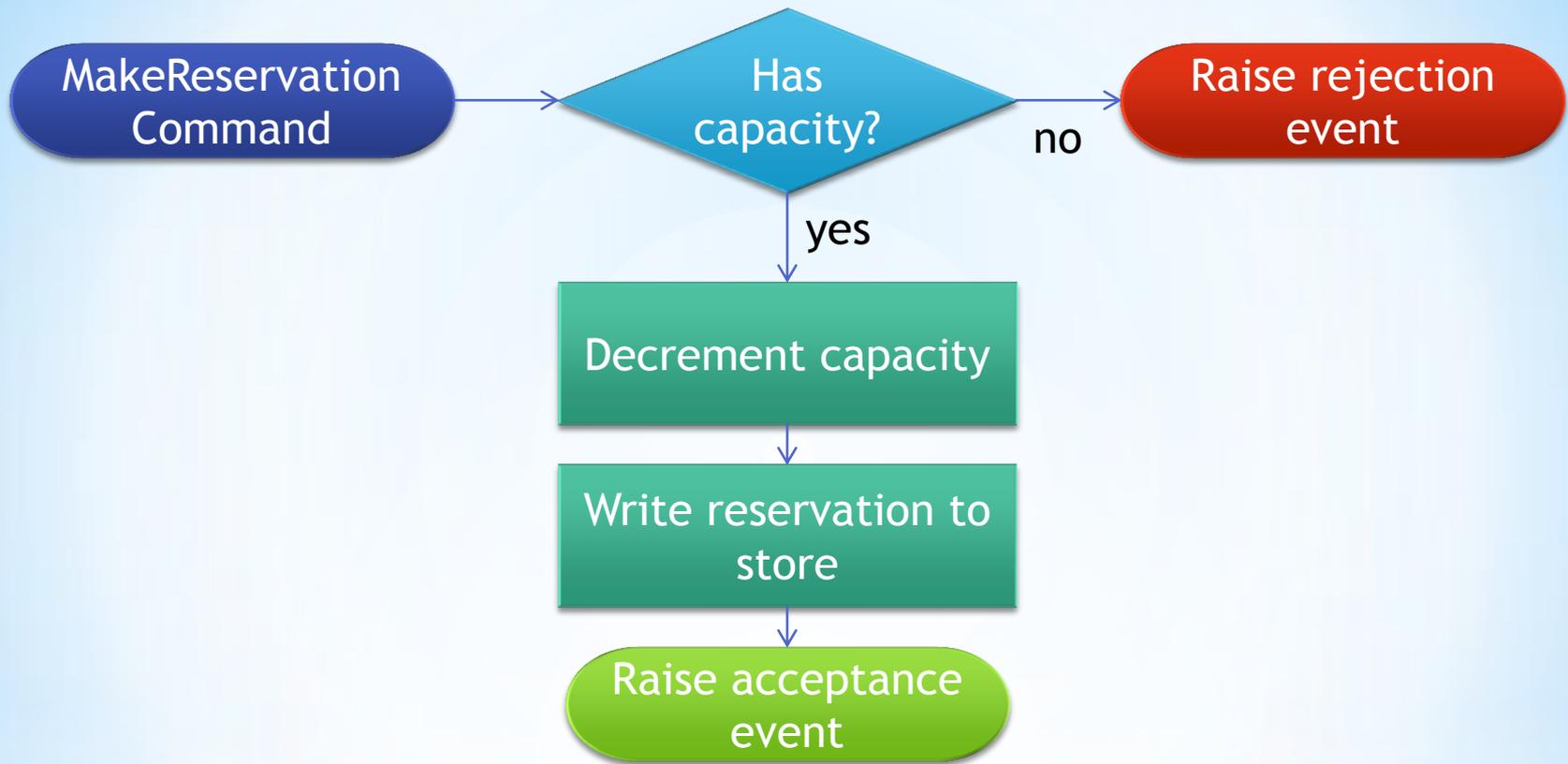


Reservation



Event

*Update order matters



* Update workflow



*Ensuring Eventual Consistency



Demo

Consuming durable messages



Capacity
Update



Reservation
Failure



Event

*Updating Denormalized Data



Capacity
Update
Update



Reservation
Failure



Event

* Updating Denormalized Data



Capacity
Update
Update



Reservation
Failure
Update



Event

*Updating Denormalized Data



Capacity
Update
Update



Reservation
Failure
Update



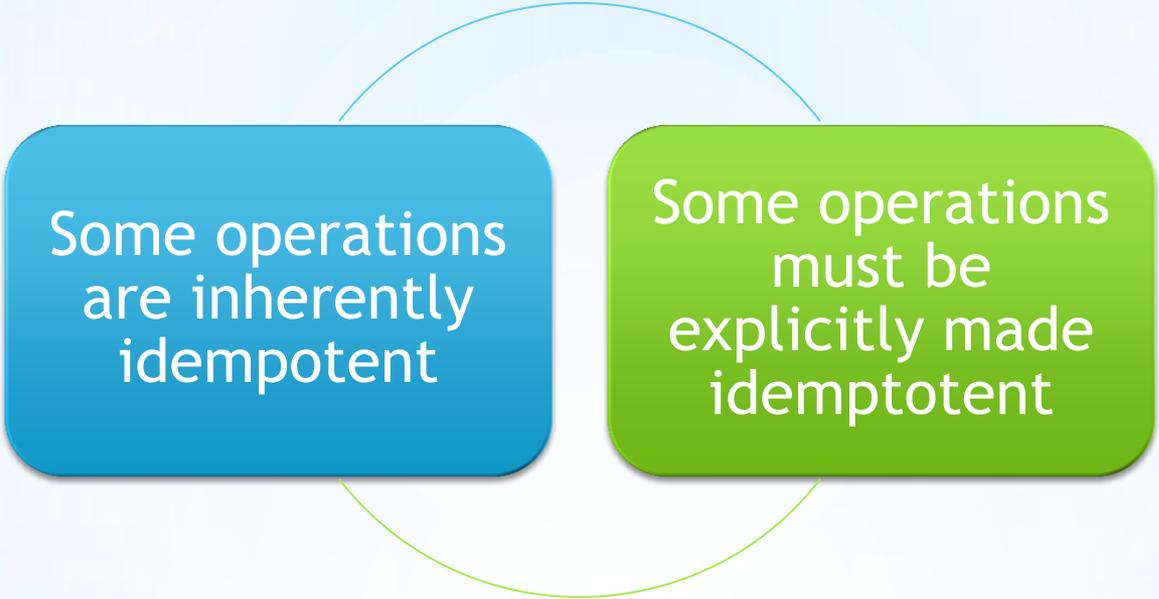
Event
Update

*Updating Denormalized Data

Idempotency
is essential

Etags used
to address
concurrency

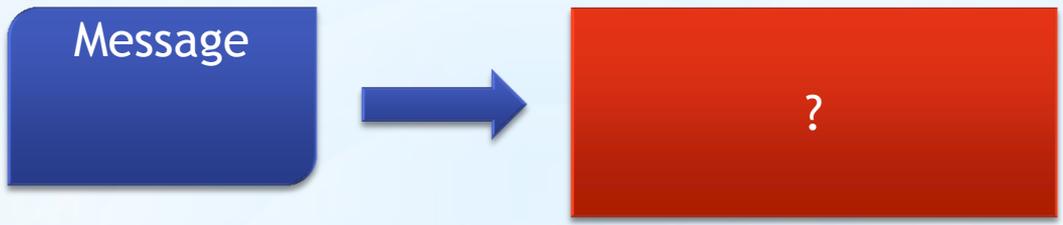
*Background Processing



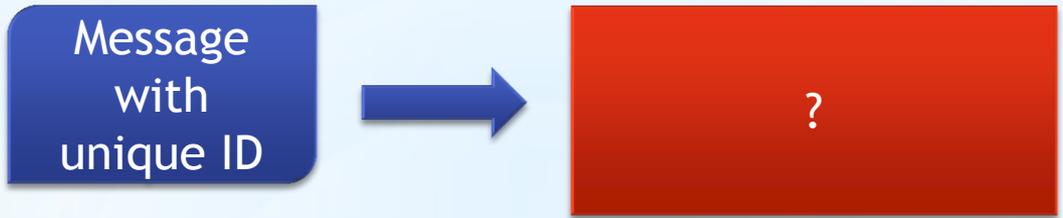
Some operations
are inherently
idempotent

Some operations
must be
explicitly made
idempotent

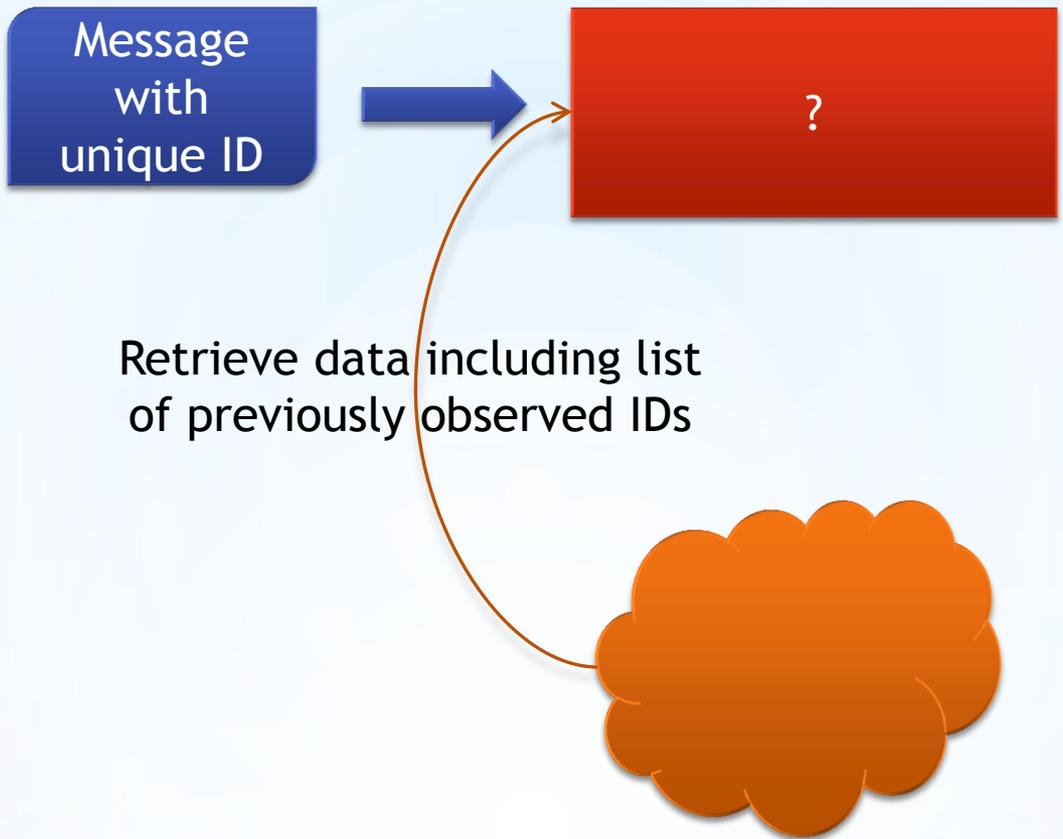
* **Idempotency**



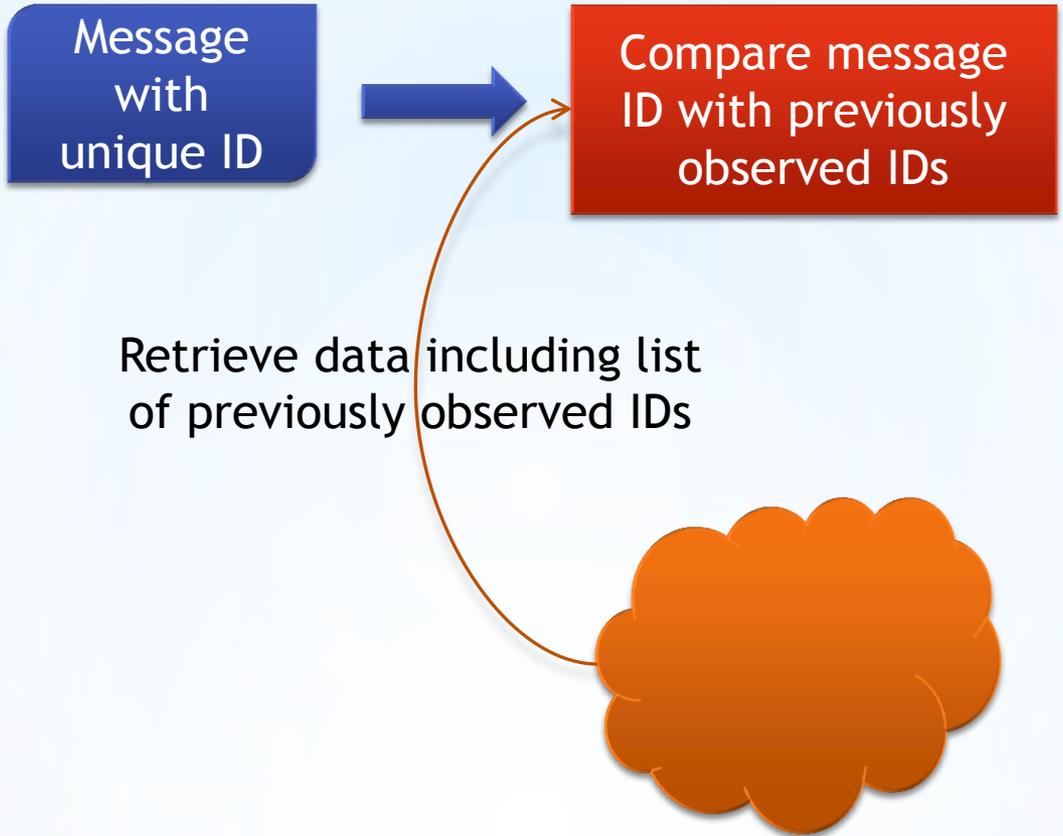
* Making operations
idempotent



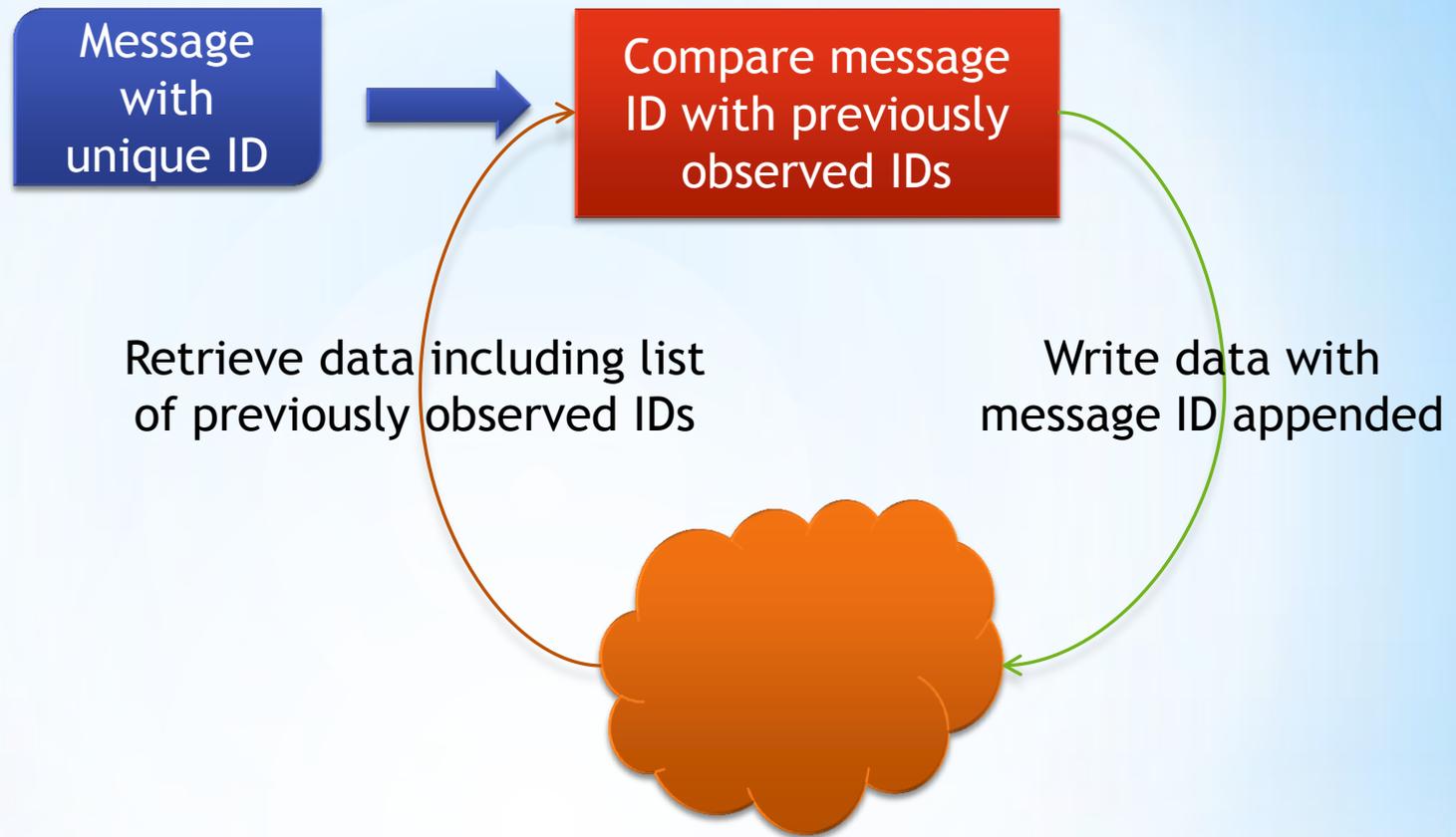
* Making operations
idempotent



* Making operations idempotent



* Making operations idempotent



* Making operations idempotent



*Concurrency



Demo

Using Etags



Capacity
Update
Update



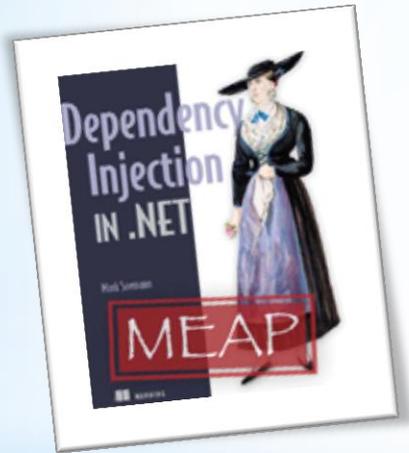
Reservation
Failure
Update



Event
Update

*Eventual Consistency





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