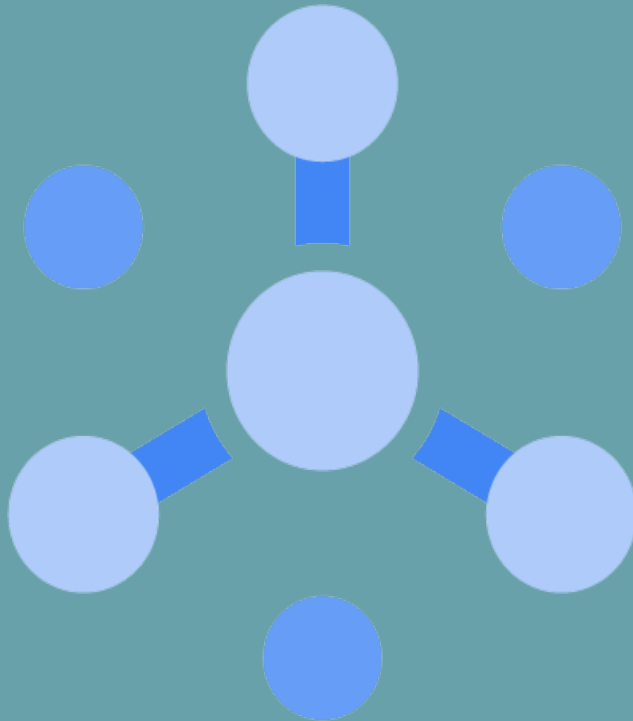


CLOUD PUB/SUB ON GCP: THE WHAT, WHY AND HOW

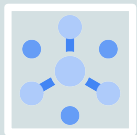
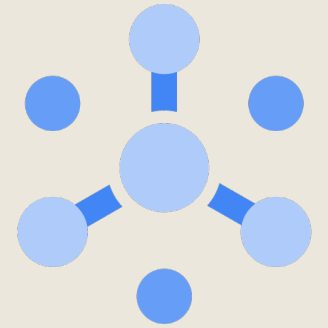
Karen Reeves

Connect Forward

December 2020



Let's talk Pub/Sub



What is Pub/Sub Messaging

Definitions

Use Cases



Cloud Pub/Sub on GCP

Benefits

Publishers

Subscribers

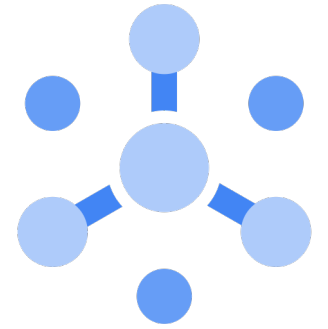
What happens when things go wrong



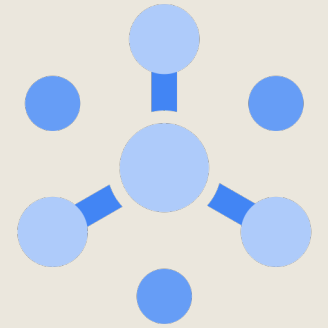
Next Steps

Pub/Sub Messaging

- Asynchronous messaging pattern that decouples applications to increase reliability, performance, and scalability
- Any message sent by a publisher is immediately received on any subscriptions to the topic.
- Used for Event driven microservice or serverless architectures



Pub/Sub Terms



MESSAGE

THE UNIT OF DATA BEING SENT BY THE PUBLISHER



TOPIC

AN INTERMEDIARY CHANNEL THAT THE PUBLISHER POSTS TO. THE TOPIC HAS A LIST OF SUBSCRIPTIONS THAT IT PUBLISHES MESSAGES TO.



PUBLISHER

AN APPLICATION THAT SENDS MESSAGES TO TOPIC



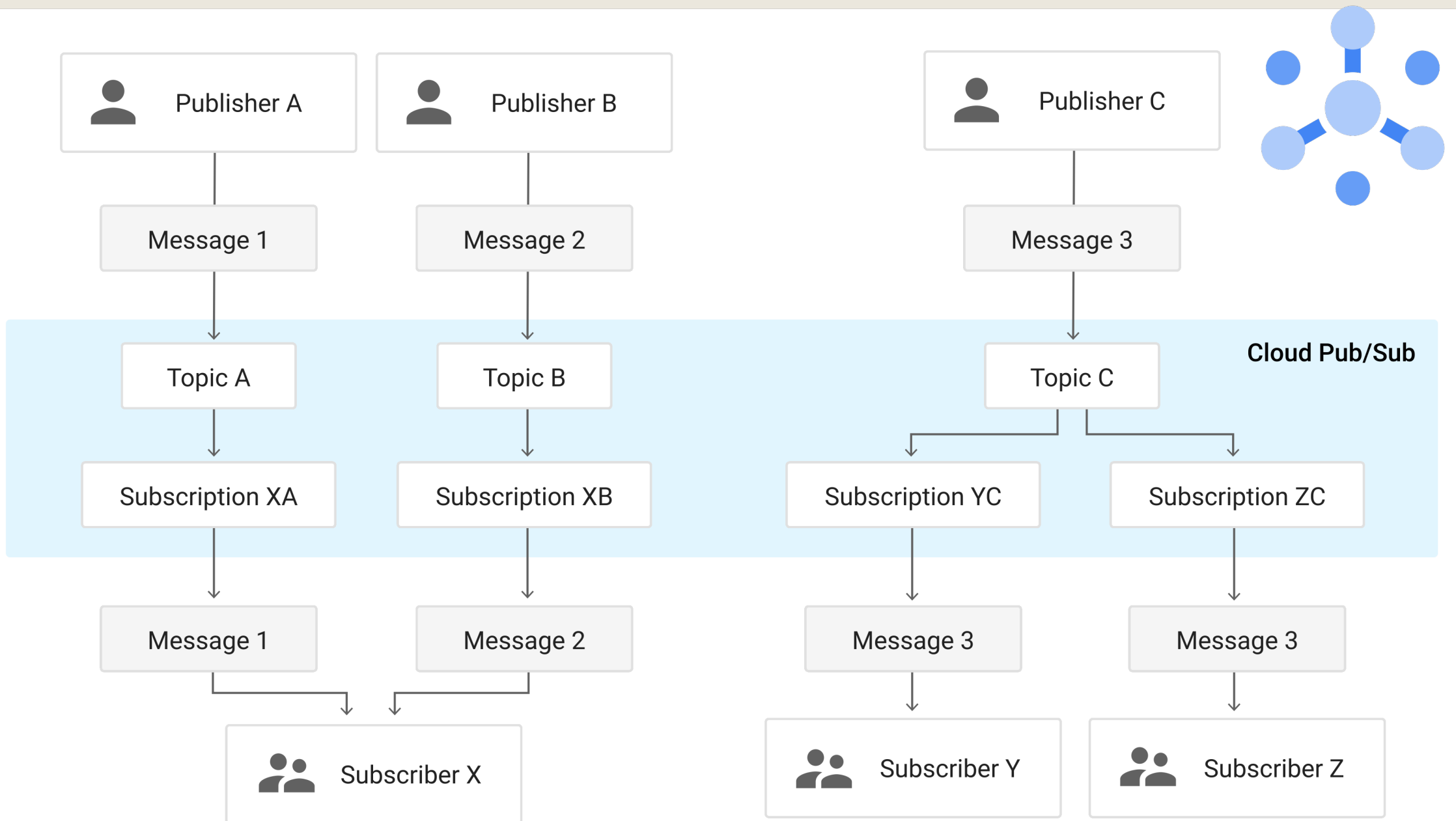
SUBSCRIPTION

A QUEUE FROM A TOPIC. A TOPIC MAY HAVE MULTIPLE SUBSCRIPTIONS AND EVERY MESSAGE WILL BE SENT SIMULTANEOUSLY TO ALL SUBSCRIPTIONS.



SUBSCRIBER - AN

APPLICATION THAT SUBSCRIBES TO A TOPIC VIA A SUBSCRIPTION TO RECEIVE MESSAGES PUBLISHED BY ANOTHER APPLICATION





Balancing workloads in network clusters



Implementing asynchronous workflows



Distributing event notifications



Refreshing distributed caches



Logging to multiple systems



Data streaming from various processes or devices

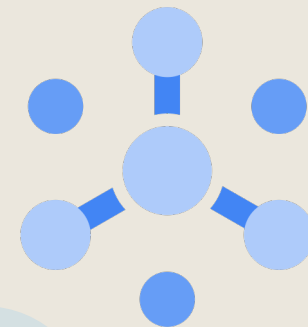


Reliability improvement

Common use cases

<https://cloud.google.com/pubsub/docs/overview>

Google Cloud Pub/Sub



GLOBAL, LOAD BALANCED



BUILT IN MONITORING



GUARANTEED AT LEAST
ONCE DELIVERY



BEST EFFORT ORDERING



MESSAGES PERSISTED
UNTIL THEY EXPIRE OR ARE
ACKNOWLEDGED



CONFIGURABLE MESSAGE
EXPIRATION



SETTING TO PERSIST
ACKNOWLEDGED
MESSAGES FOR SPECIFIED
PERIOD



FORCED MESSAGE
ORDERING