



BILLIE

Evolution of message brokers. From helpers to cores.

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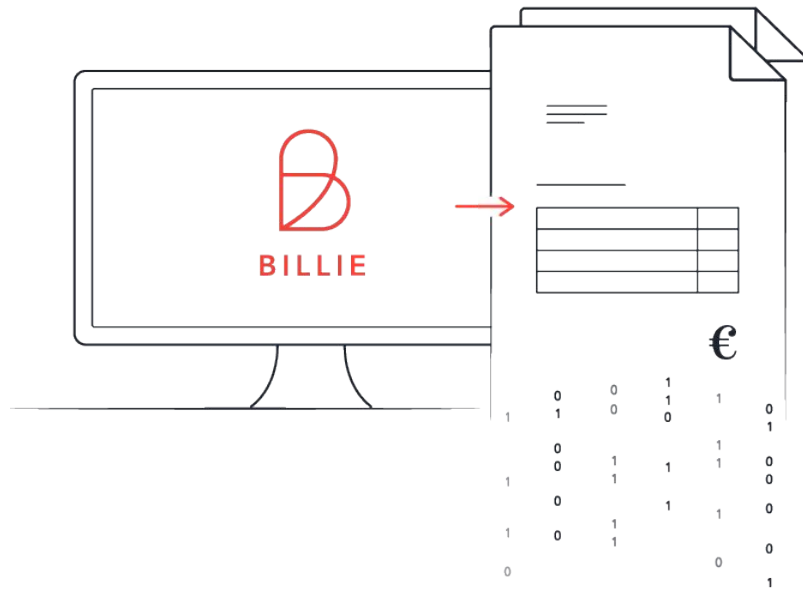


Billie

We are an innovative financial platform,
specialized on factoring.

Some numbers:

- Start: 01.12.2016
- Closed beta: 01.05.2017
- Public launch: 01.06.2017
- Team: 18
- Engineering crew: 8





Boring, but necessary theoretical information

Message-oriented middleware (MOM)

is software or hardware infrastructure supporting sending and receiving messages between distributed systems.

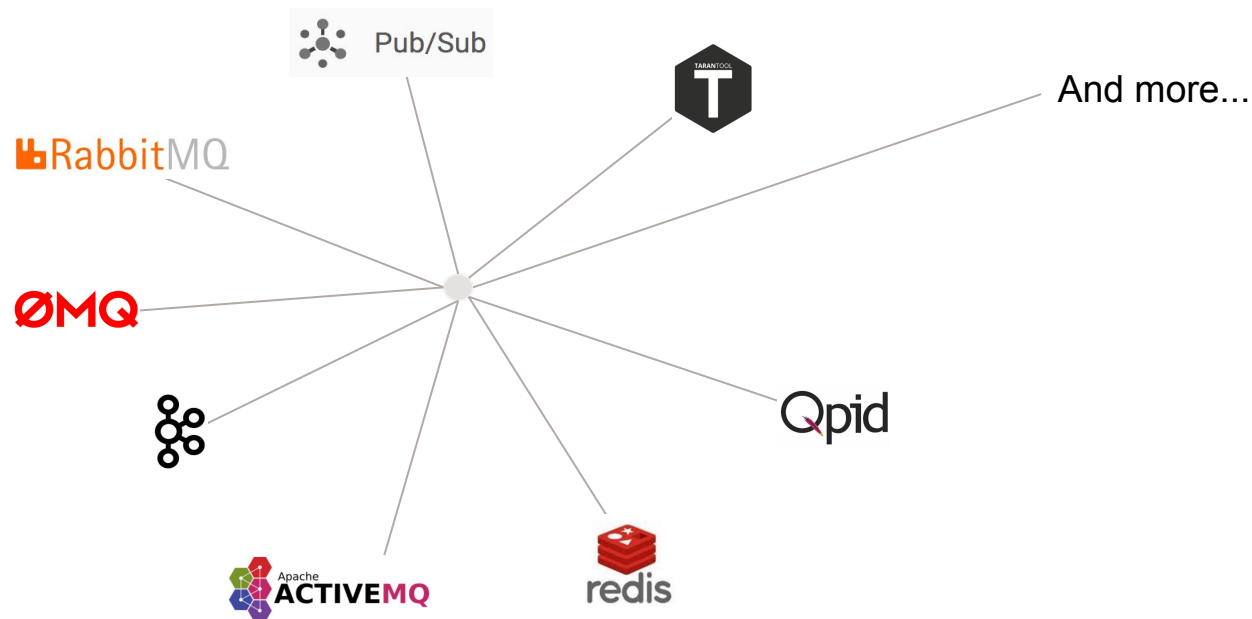


Message broker

is an intermediary program module that translates a message from the formal messaging protocol of the sender to the formal messaging protocol of the receiver.



A Universe of Message Brokers

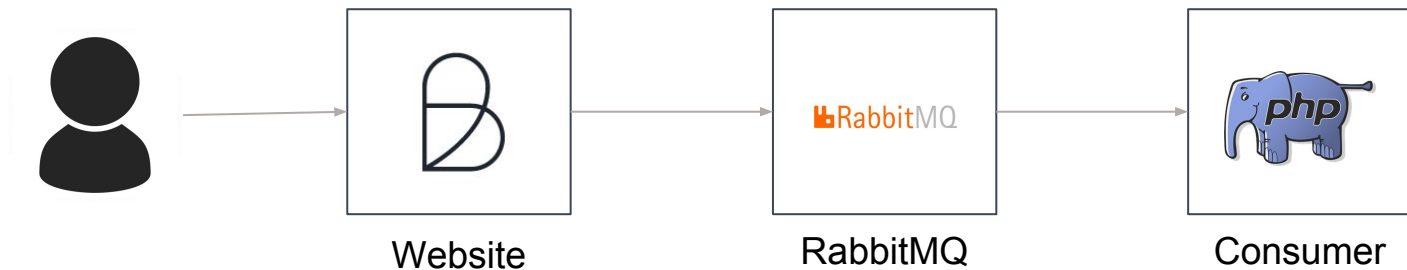






Past

Message broker is a helper on a side of an infrastructure

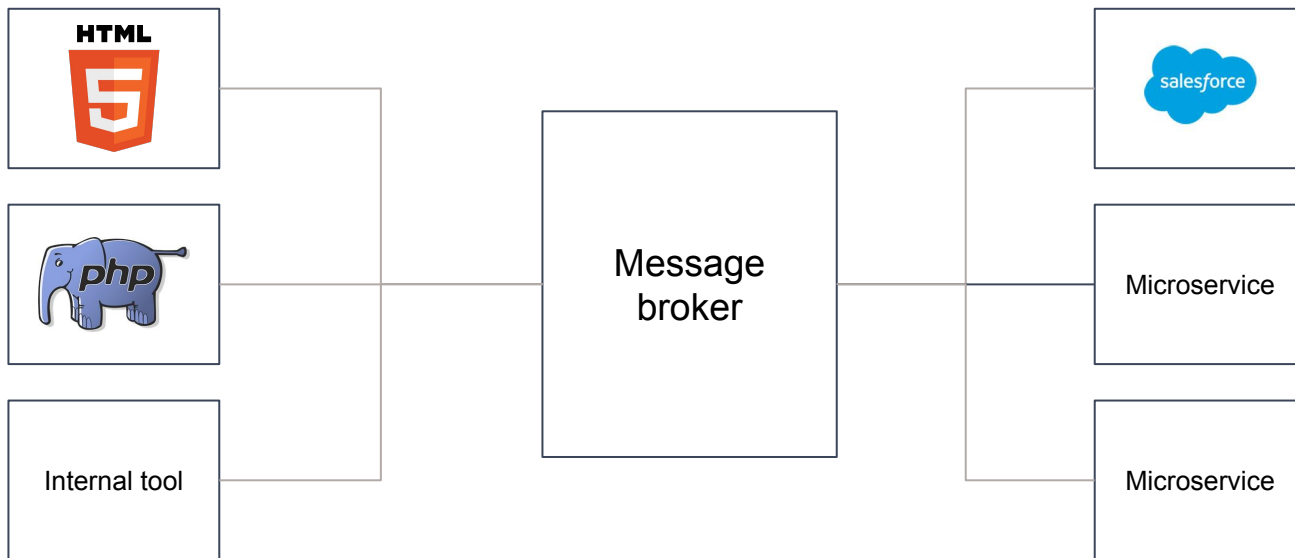






Present

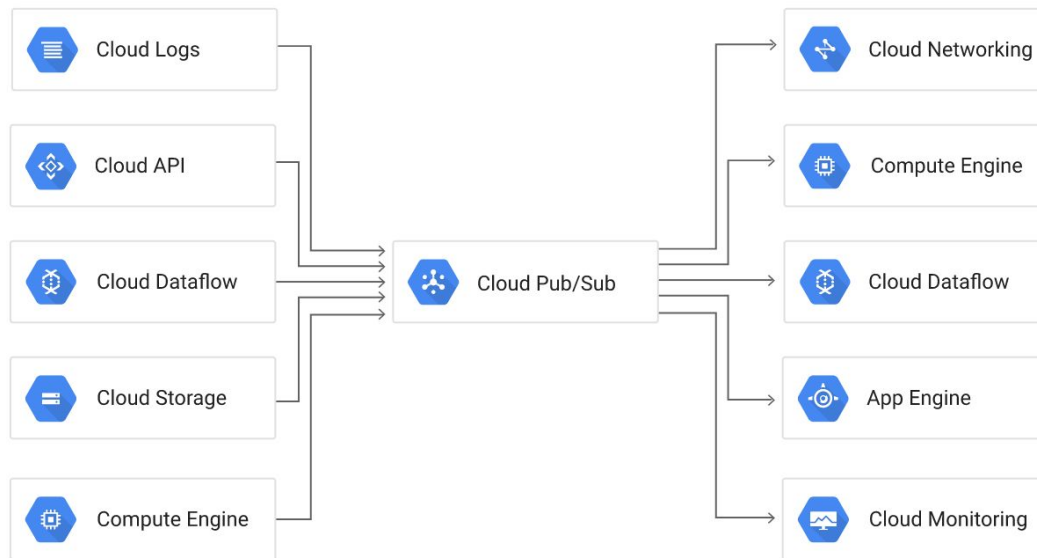
Message broker is a core element of an infrastructure.





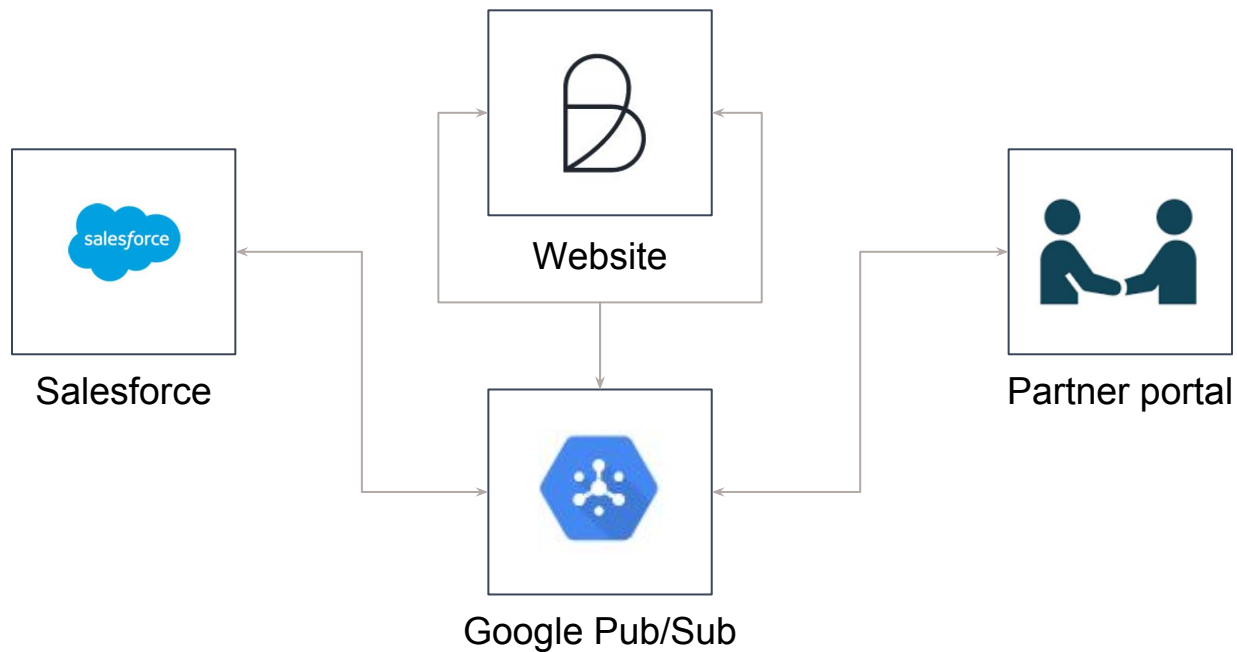
Present

Real-life example. Google Cloud Platform.





Use case 1. Synchronization of data between parts of a system





Values

Distribution

Allows getting rid of a central data storage.
Each application can use an own one.

Instantness

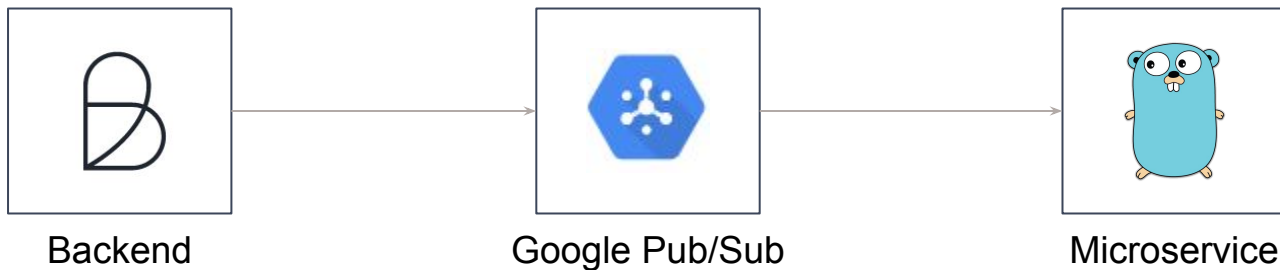
Real-time task forwarding between different systems, responsible people or departments.

Consistency

Improves data consistency.



Use case 2. Safe and secure triggering of microservices





Values

Safety

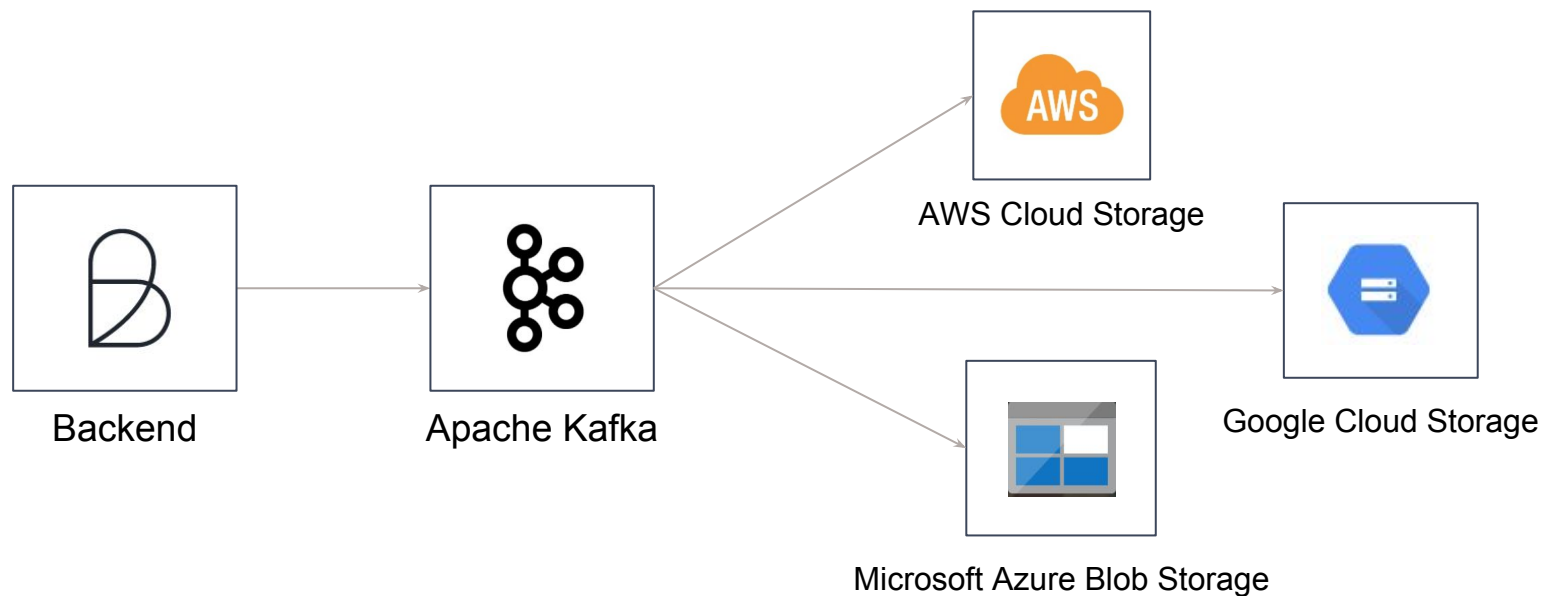
You won't lose a message.

Security

Each message can be secured.



Use case 3. Persistent data storage





Values

Persistence

You have a full set of historical data.

Flexibility

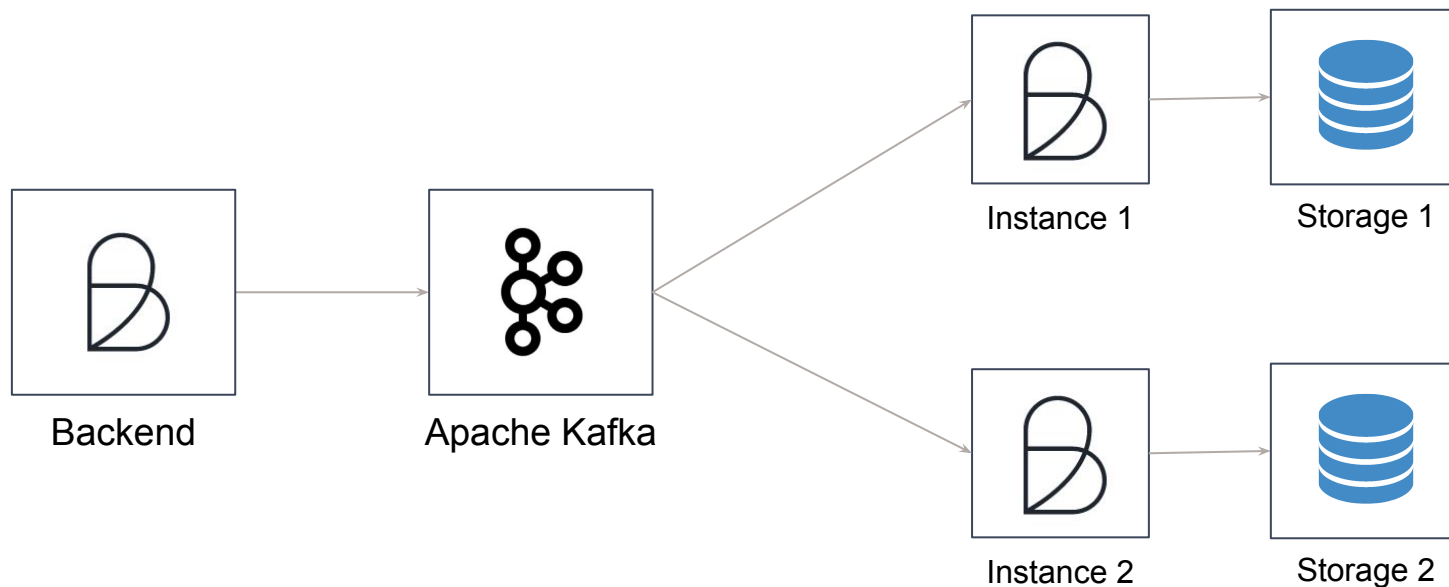
You have a right to choose how to store data, where and in which format.

Security

Cloud storage services provide a permission management mechanism to secure data.



Use case 4. Log aggregation. Commit log





Values

Replicability

Message broker log allows replicating any state of a system at any moment in time

Persistence

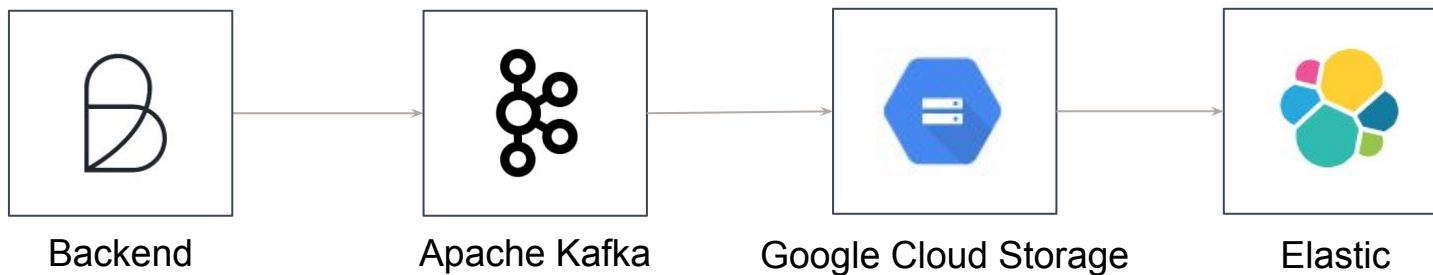
You have an full set of historical data.

Multifunctionality

Message broker log can be used by many different clients.

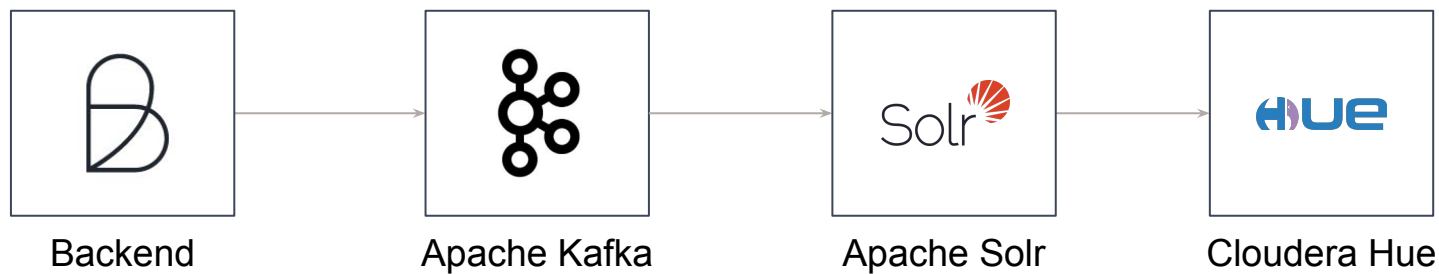


Use case 5. Log aggregation. Fulltext search





Use case 5. Log aggregation. Fulltext search





Values

Searchability

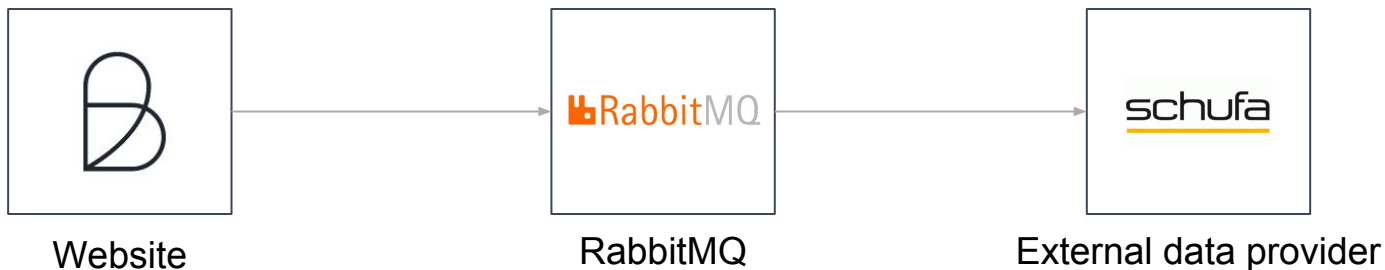
Any information in the past could be found.

Discoverability

It's relatively easy to detect wrong messages and define when and how it has been consumed.



Use case 6. Delayed messaging





Values

Effectiveness

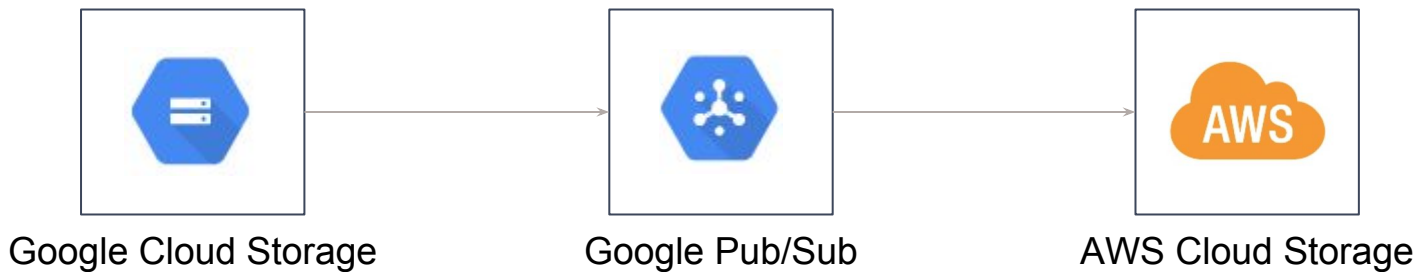
Allows consuming a message at the most effective time.

Thriftiness

Saves traffic, memory usage and disk space.



Use case 7. Multi-cloud application





Values

Distribution

Allows synchronising data across applications running on other clouds.

Security

Allows backing up data across applications running on other clouds.

Variety

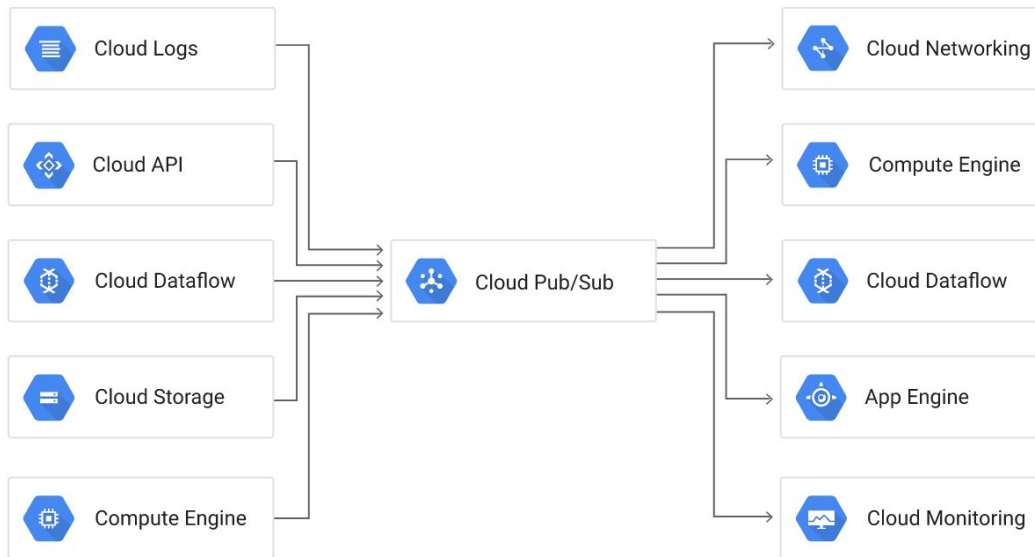
Provides more flexibility in terms of choosing right services for an architecture.





Future

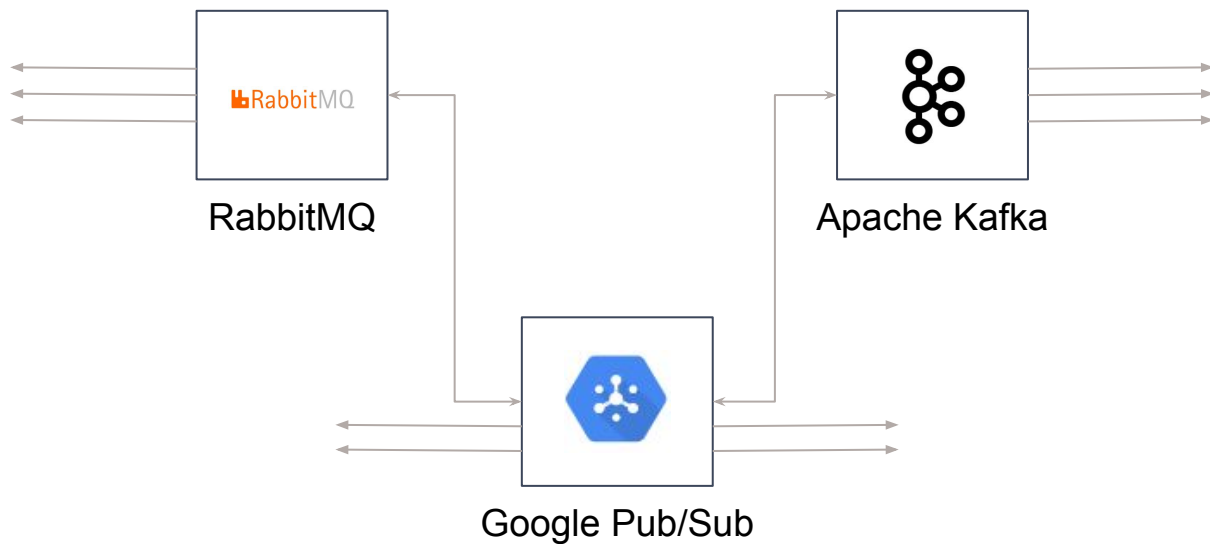
Let's look again at the current situation.





Future

My prediction is the following: soon projects will use more than one message broker, communicating to each other.





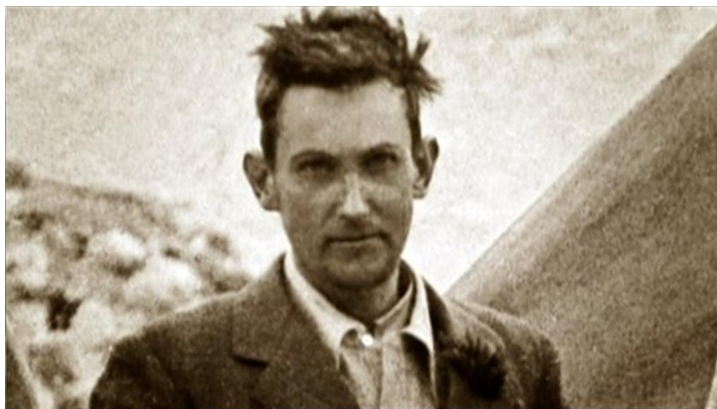
Let's see in 3-4 years, whether I was right



Conclusion



“Because it’s there”



George Mallory - English mountaineer, answering a question why did he want to climb Everest. Made 3 attempts and died during the 3rd one in 1924. It is still a mystery whether he had reached the top of it or not.



“If you don’t know that something exists, you, probably, don’t need it”



Tenzing Norgay - Nepali Sherpa mountaineer. One of the first two people reached the top of Everest in 1953.



“No matter what you’ve seen in that presentation, think twice whether you product needs it”

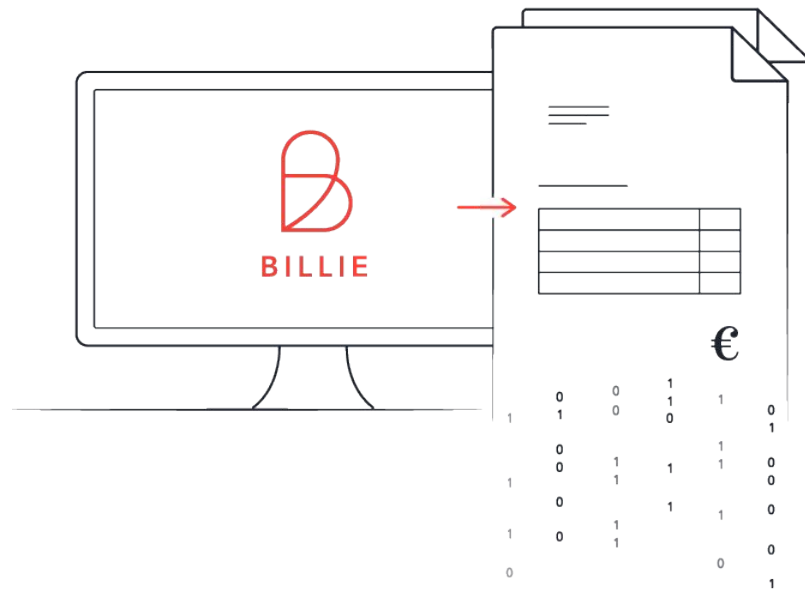


Artem Demchenkov - CTO at Billie. I hope, successfully presented these slides on Codemotion Berlin 2017.



Thank you

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We have just started, but there will be interesting:



<https://medium.com/billie-finanzratgeber/tagged/engineering>