CLOUD COMPUTING

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Software as a Service

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SaaS

- On-demand software; running applications in the cloud rather than on premises
- The CSP hosts the application and the customer can use the application
- You can find numerous free applications promising to save time and resources
- Generic Applications are created as a service
- Applications execute in the browser
- You want to create email accounts for all your employees with a particular domain – Workmail, Gsuite
- Manage your tasks and events - alexa
- Design without a professional designer – stencil or canva

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SaaS

- Scheduling social media posts in advance – buffer
- CRM – streak, salesforce
- Connecting quickly via video chat, using one link – Appear.in
- Monitor and manage projects with customizable project stages - Trello
- Collect your visitors' email addresses – sumo
- Send newsletters and automated mailing campaigns to your subscribers – Mailchimp
- Create your own, publicly available website, with simple drag and drop editor – WIX
- Manage your leads/contacts/marketing in one place – Hubspot

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Packaged Software vs SaaS

Traditional Packaged Software	Software as a service
Build your own	Plugin, subscribe & pay per use
Customers have to install, manage and maintain	Designed from the outside and set up for delivery as Internet-based services
Architect solutions to be run by an individual company in a dedicated instantiation of the software	Designed to run thousands of different customers on a single code
Infrequent, major upgrades every 18-24 months, sold individually to each installed base customer	Frequent, "digestible" upgrades every 3-6 months to minimize customer disruption and enhance satisfaction.
Version control, upgrade fee	Fixing a problem for one customer fixes it for everyone

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Modern apps

Compute

Database

Messaging

Source:https://aws.amazon.com/message-queue/

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Messaging Service


```
{
    "bookingId": "456ab773-dccb-4bc9-87b7-322ff5c29eab",
    "bookingNumber": "CDG-64453",
    "locationId": "563890",
    "customer": {
        "id": "8943",
        "email": "jacque@gmail.com"
    },
    "stayStart": "2017-09-04",
    "stayEnd": "2017-09-06",
    "price": {
        "amount": "67.80",
        "currency": "EUR"
    }
}
```


Source:https://aws.amazon.com/message-queue/

Messaging Service

- Key-value pair
- With business meaning
  - Customerid:6445
  - MessageType: NewBooking
- With technical meaning
  - ProgramName: WebServer-PID:8849
  - URL:http://myphpapplication-env.eba-isrdj3mp.us-east-1.elasticbeanstalk.com/index.php

Queuing Service

- A message queue is a form of asynchronous service-to-service communication used in serverless and microservices architectures.
- Messages are stored on the queue until they are processed and deleted.
- Each message is processed only once, by a single consumer.
- Message queues can be used to decouple heavyweight processing, to buffer or batch work, and to smooth spiky workloads.

Queuing Service

- Applications are decoupled into smaller, independent building blocks that are easier to develop, deploy and maintain
- Message queues provide communication and coordination for these distributed applications
- Message queues can significantly simplify coding of decoupled applications
- This will improve performance, reliability and scalability

Queuing Service

- Message queues allow different parts of a system to communicate and process operations asynchronously.
- A message queue provides a lightweight buffer which temporarily stores messages, and endpoints that allow software components to connect to the queue in order to send and receive messages.

Queuing Service

- The messages are usually small, and can be things like requests, replies, error messages, or just plain information.
- To send a message, a component called a producer adds a message to the queue.
- The message is stored on the queue until another component called a consumer retrieves the message and does something with it.
- Many producers and consumers can use the queue, but each message is processed only once, by a single consumer.

Queuing Service

- Messaging pattern is often called one-to-one, or point-to-point, communications.
- To send a message, a component called a producer adds a message to the queue.
- When a message needs to be processed by more than one consumer, message queues can be combined with Pub/Sub messaging in a fan out design pattern

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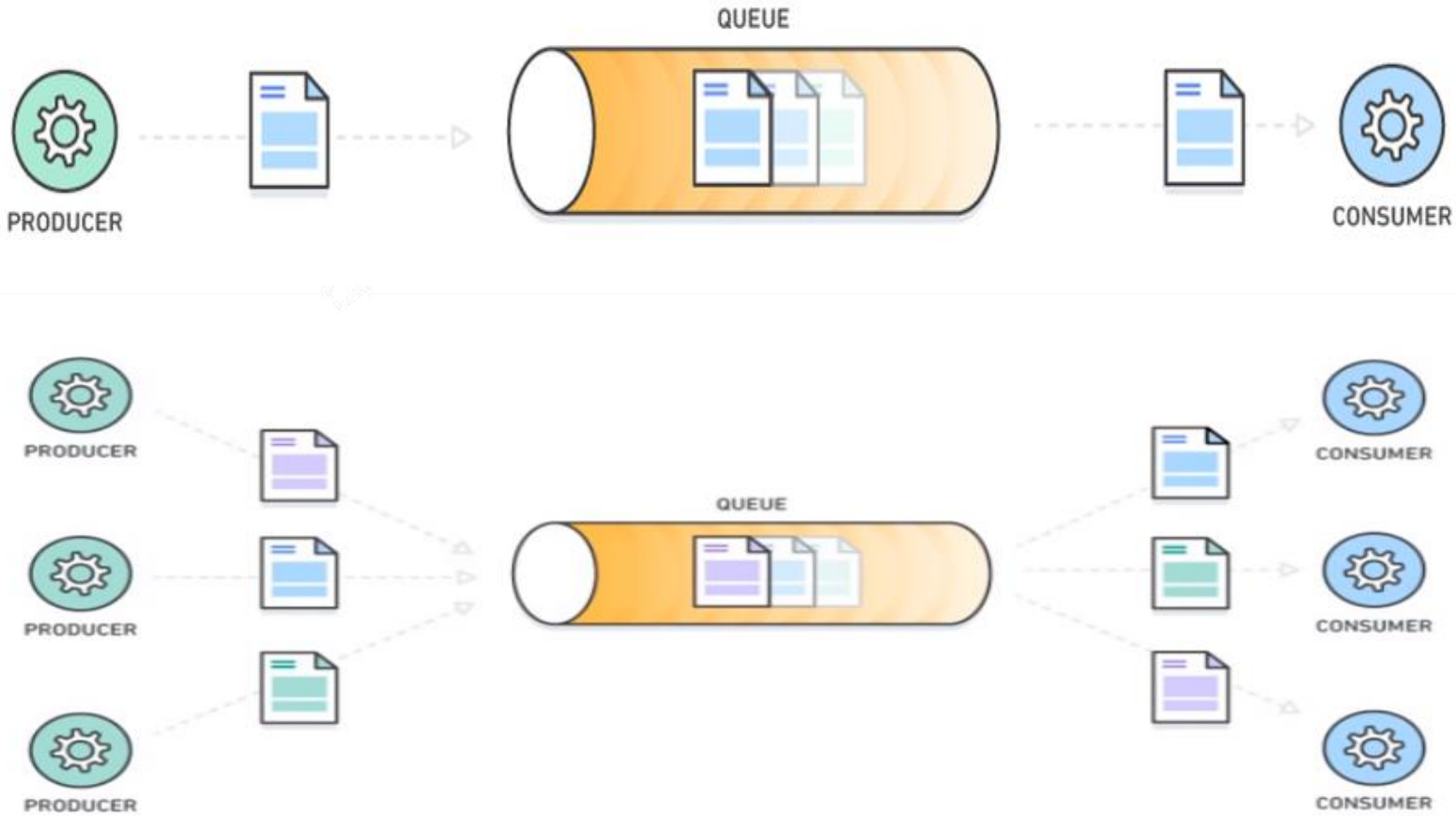
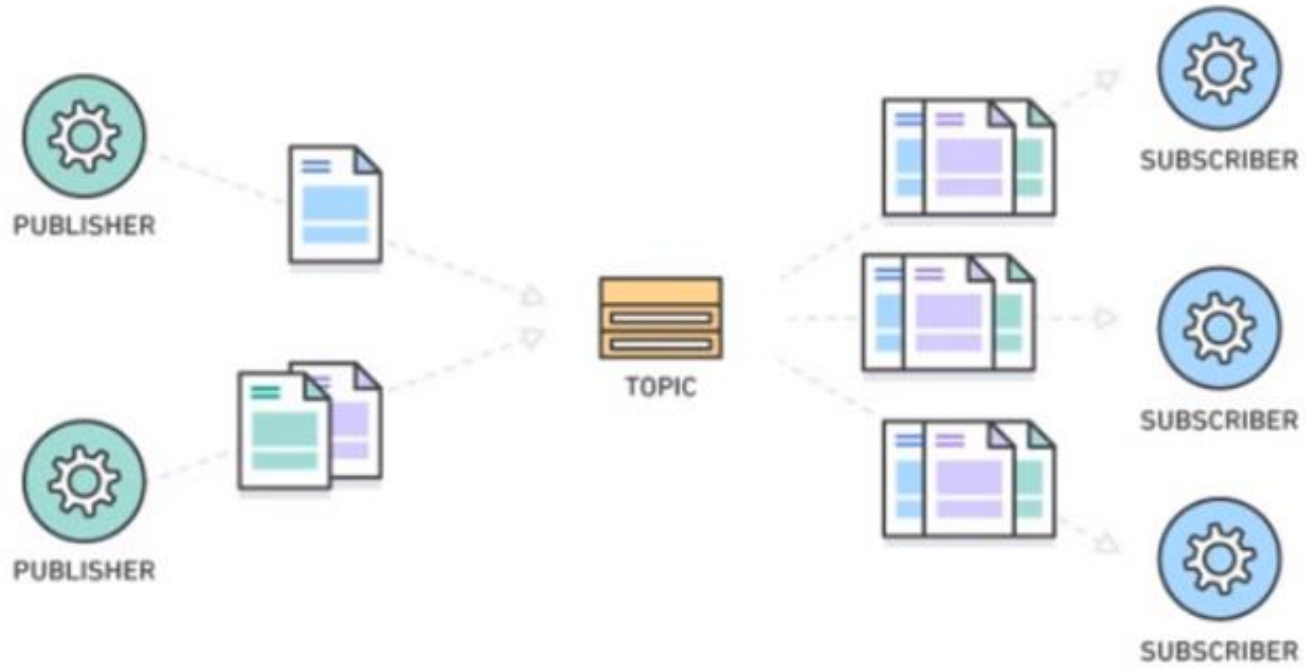
Queuing Service



Source:https://aws.amazon.com/message-queue/

Pub/Sub Messaging



THANK YOU

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