Function as a Service

Tencent

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Content

PART ONE

Background

Background

Physical Server

Cloud VM (laaS)

Docker (CaaS)

Cloud Function (FaaS)

Low Cost

Strong Expandability

Simpler Management
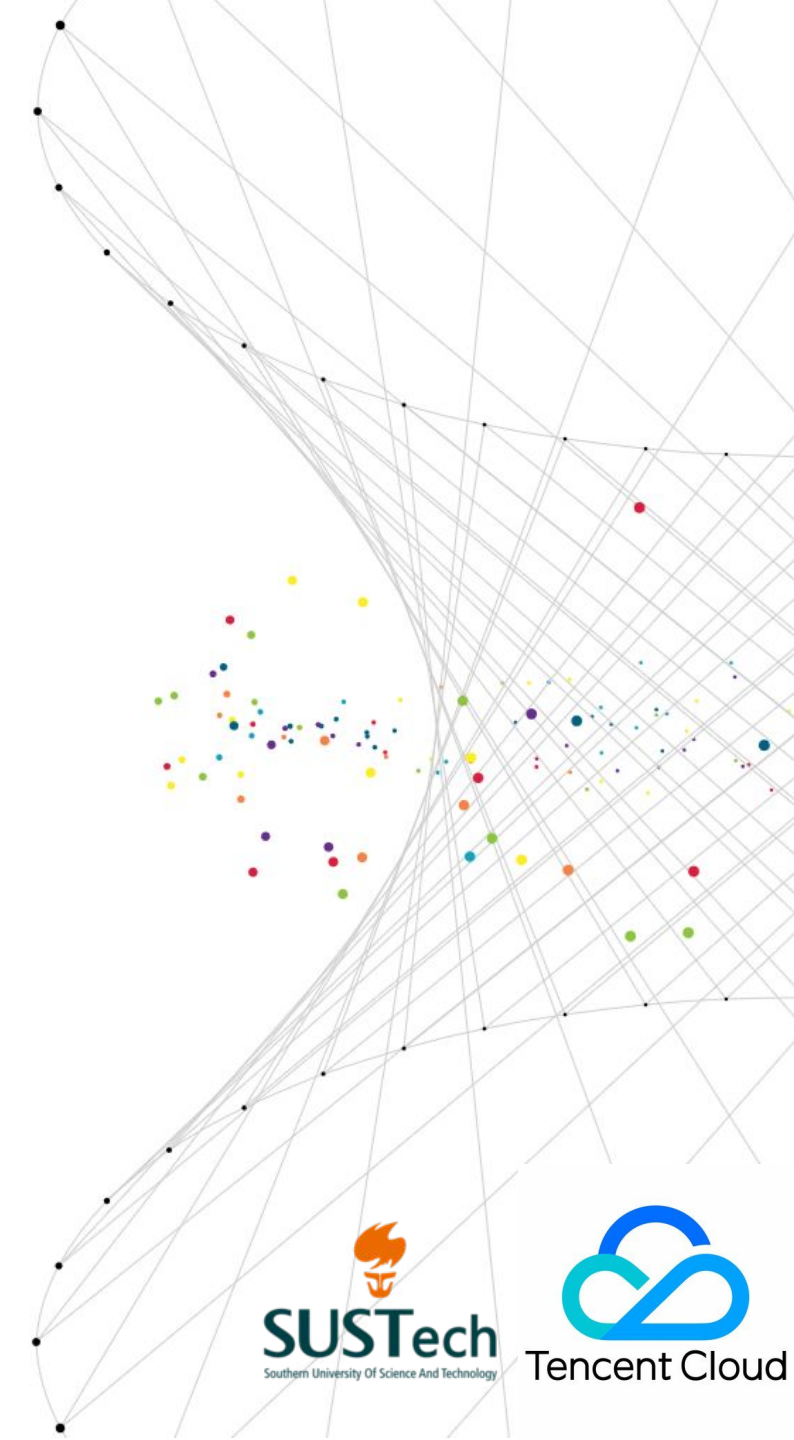
High Resource Utilization

PART TWO

Motivation

Lack of Expandability

Cannot afford unexpected demand

Decrease Complexity

Cut down the trivial functions

PART THREE

Feature & Requirements

Requirement

B2B

Cloud Function

Highly Customize

Fit Business Demanding (Slice Figure)

Embedded with Tencent Cloud

Strong Expandability

Speed Up

API Documents

Easy to read

PART FOUR

Design & Implementation

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Design
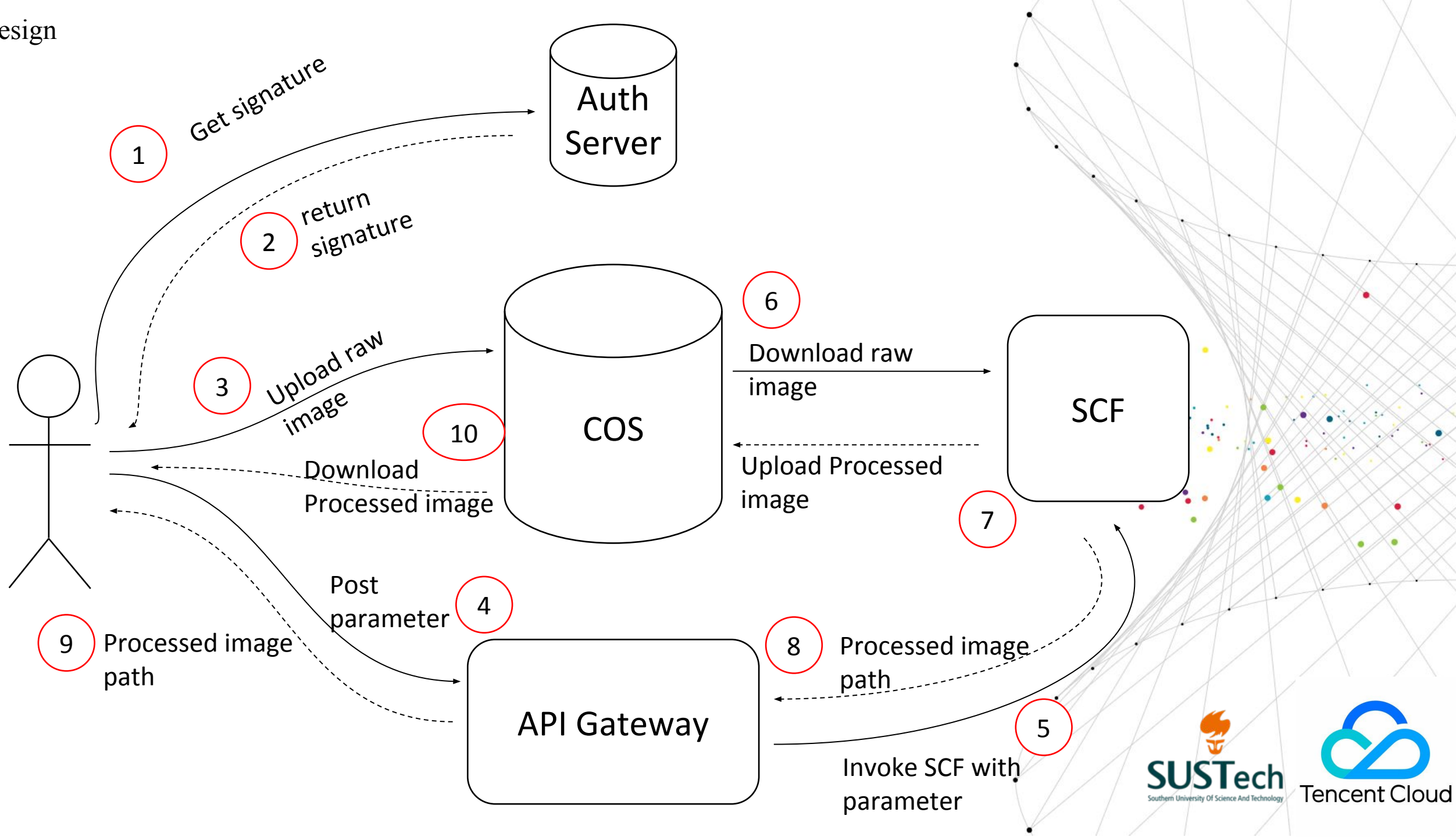
Cloud Function

- Thumbnail
- Watermark (Word / Figure)
- Round Corner
- Overlap QR Codes
- Convert Format
- Slice Image

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Search docs

Welcome to FaaS

`FaaS` `v0.3.0` `license` `MIT`

FaaS

Our project is also named FaaS, which is a project based on Tencent Serverless Cloud Function(SCF) to provide users fast images processing services. We use their SCF service to develop our cloud function, use their Cloud Object Storage(COS) to store figures and use API Gateway to custom our APIs to release to users.

Introduction

- Introduction
  - Concepts
    - Serverless Computing
    - Function as a Service
    - API Gateway
  - Advantages
  - Motivation

APIs

- APIs
  - Overview
  - Uploading
  - Processing
  - Processing Response
  - Downloading

Introduction

Concepts

> **ⓘ Note**
>
> This part will roughly introduce some concepts related to FaaS since they will help you better understand this project and the motivations behind it.

Serverless Computing

Cloud computing is popularized since Amazon released its EC2 in 2006. The past few years have seen the rapid developments of cloud computing, the models of cloud computing have changed both in its architectures and its orientation. The most recent hot topics raised from this field is widely-known **Serverless Computing**. Such a name makes this model a little ambiguous for the general public and the latest architecture **FaaS** is also little known to the public. However, more and more people are using these servers either consciously or unconsciously. They break through the wall of local computing and support more powerful online services such as online language translation, navigation, and so on.

Function as a Service

Function as a service (FaaS) is a category of cloud computing services that provides a platform allowing customers to develop, run, and manage application functionalities without the complexity of building and maintaining the infrastructure typically associated with developing and launching an app. Building an application following this model is one way of achieving a "serverless" architecture, and is typically used when building microservices applications.

API Gateway
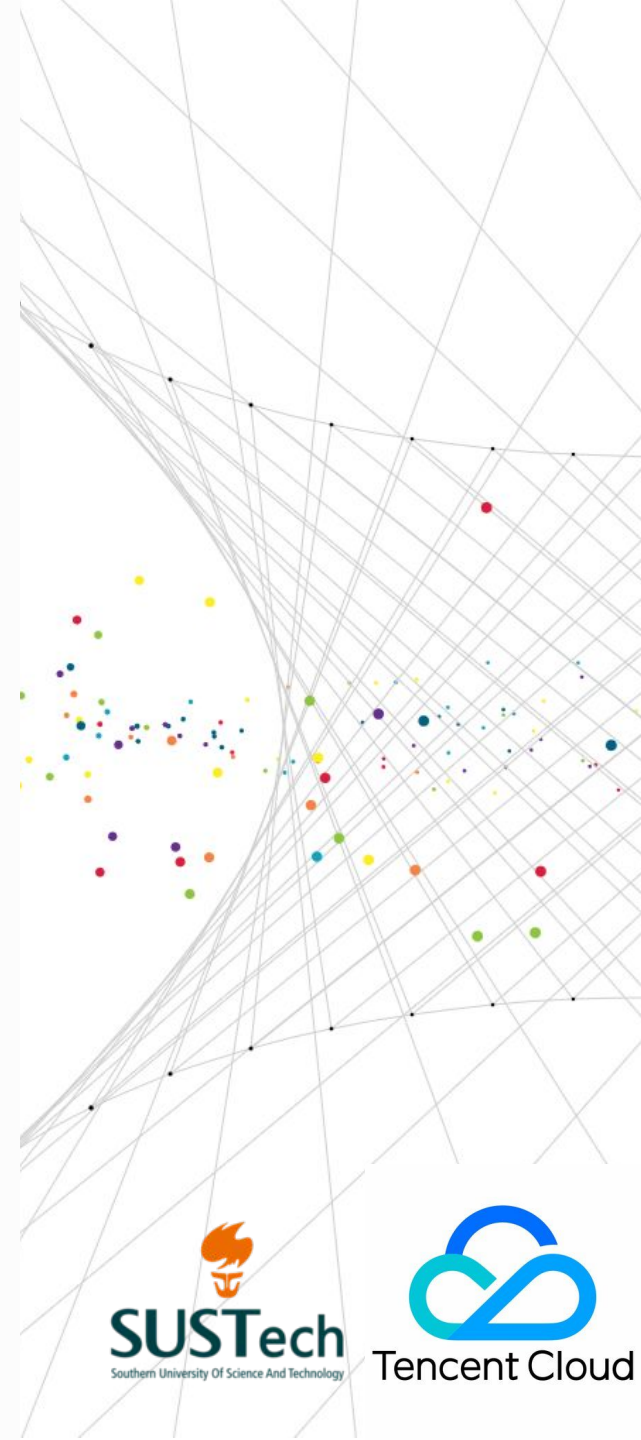
APIs

Overview

Image Processing includes 3 steps, which are uploading, processing and downloading (or showing).

Uploading

upload image to Tencent COS.

Authorization

Send a GET query for getting a temp secret key to your authorization server.

Parameter	Type	Value
method	str	"POST",which is the upload method.
pathname	str	"/", which is the path in COS.
key	str	File name

File uploading

Using Tencent COS JavaScript SDK to send a POST query for uploading file to Tencent COS server directly. The file size is limited to 20M.

Parameter	Value
Authoriza	Signature generated by previous request.
x-cos-security-token	The sessionToken of the temp secret key.

Search docs

1. **Get authorized secret key to upload image**

   For safety reasons, the user cannot get the authorization for uploading image as the administrator. Users' image will be checked and users will be returned an authorized signature for uploading an image to COS.
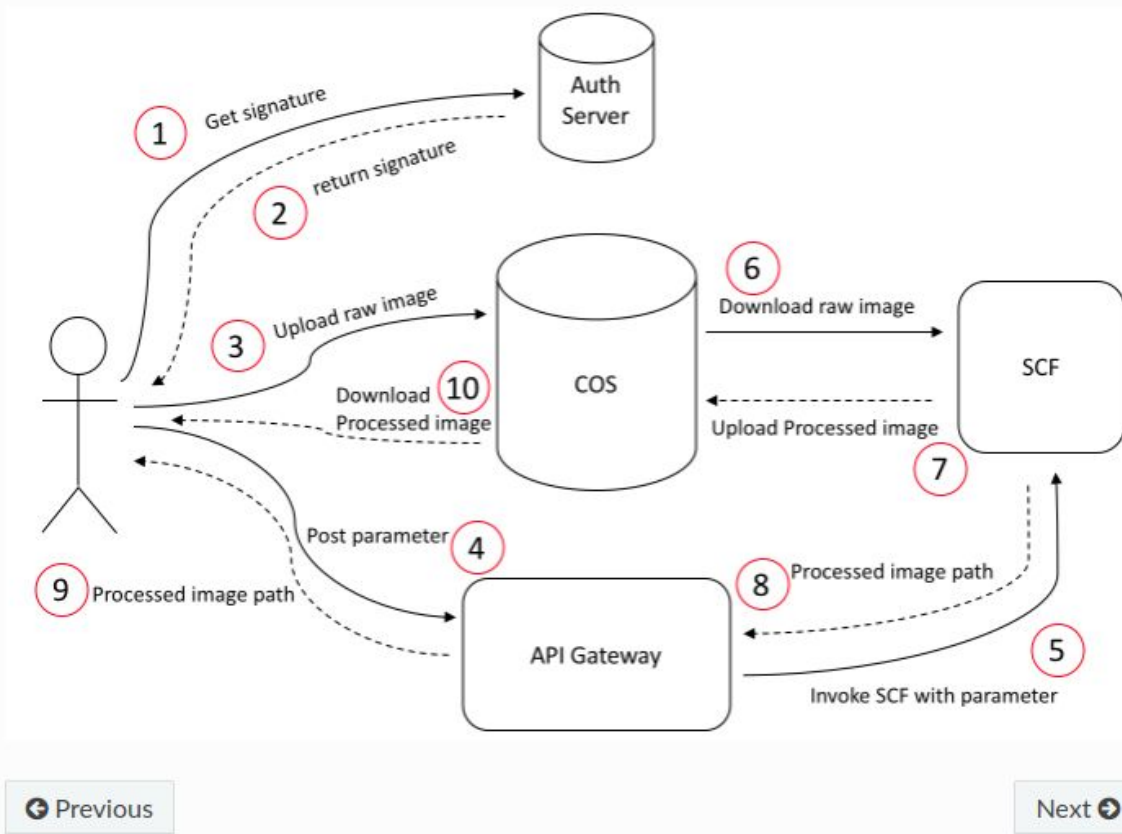
2. **Upload image with signature**

   User upload image with the signature.

3. **Post parameter to image processing**

   User post the image processing query to the API, which includes the parameters. A processed image path will be returned.

4. **Download processed image**

   User can preview or download processed image from previous path.

PART THREE

Demo

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FaaS

THANK YOU
Q&A

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