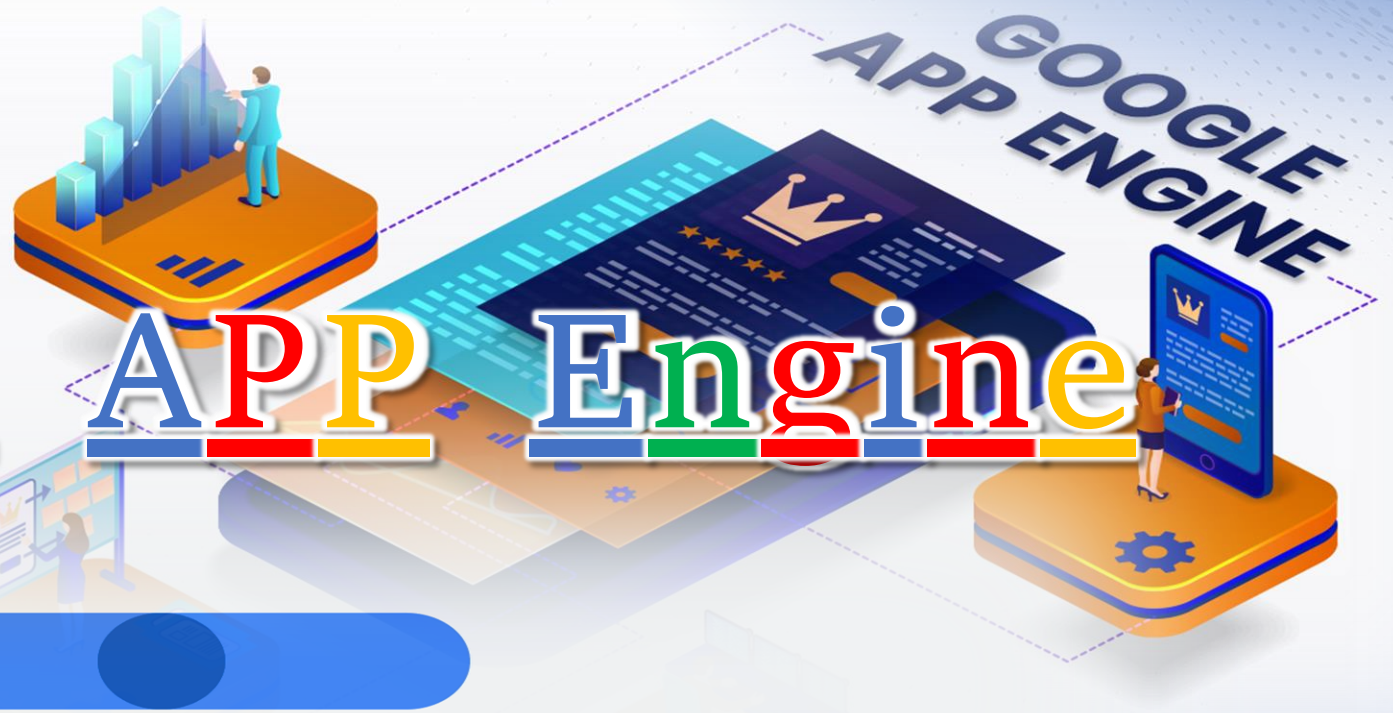
Google APP Engine



Google App Engine

Here are the headlines at which are going to discuss.

1. Introduction
2. Google App Engine Services
3. Architecture
4. Components
5. Case Study
6. Advantages & Disadvantage

Introduction

Google App Engine is a fully-managed Platform as a Service solution from Google Cloud, providing a wide range of services for building and deploying applications.

- To Build and Host Web Application in Google-managed Data Centers.

- PaaS solution
- Easy & cost effective
- Deploy scalable and reliable Application

- Provide end to end Application Management

GAE Services

Manage Infrastructure

- Google manages the back-end infrastructure.
- Serverless Platform

Support Legacy Runtimes

- Python 2.7,Go 1.11, Java8, PHP 5.5
- Support older version

Security Features

Define access policies with

- GAE firewall
- SSL/TLS certificate

Google App Engine offers a diverse range of services for application development and deployment

Several Programming Languages

- GO, PHP, Java, Python, NodeJS, .NET, Ruby
- Custom Runtimes

Application Diagnostics

- Users record data and logging (events , errors)
- Profiling-CPU profiling
- Monitor Performance

Traffic Splitting

Users route requests to different application versions

API Selection

GAE has several built-in APIs, including the following five:

Blobstore

- for serving large data objects

1

GAE Cloud Storage

- for storing data objects

3

Page Speed Service

- for automatically speeding up webpage load times

2

URL Fetch Service

- To issue HTTP requests
- receive responses for efficiency & scaling

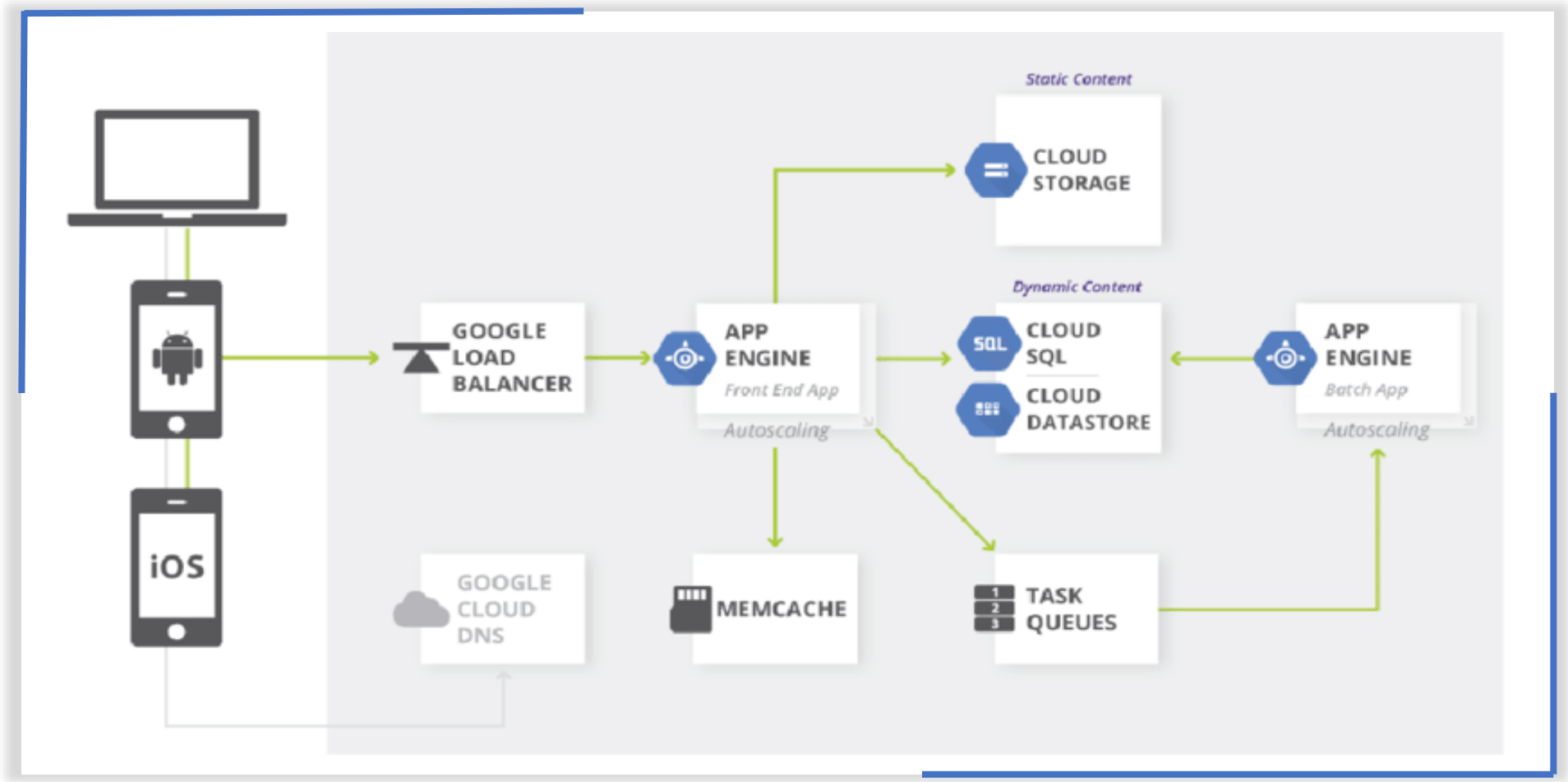
4

Memcache

- for a fully managed in-memory data store

5

Google App Engine Architecture



Work Process of GAE Architecture

START

Google Load Balancer

01

- Distribute incoming traffic across multiple instances of the application

App Engine (Front End App)

- Includes several runtime environments
- Handle the deployment and scaling of the application.

02

MEMCACHE

03

- Distributed in-memory cache
- to store frequently accessed data

TASK QUEUES

- Manage and execute tasks asynchronously.
- Task Queues worker
- Task handlers

04

Work Process of GAE Architecture

Cloud Storage

05

- To store and retrieve data
- High durability, availability, and scalability

- For SQL database with queries

06

Cloud SQL

Cloud Datastore

07

- For NoSQL database

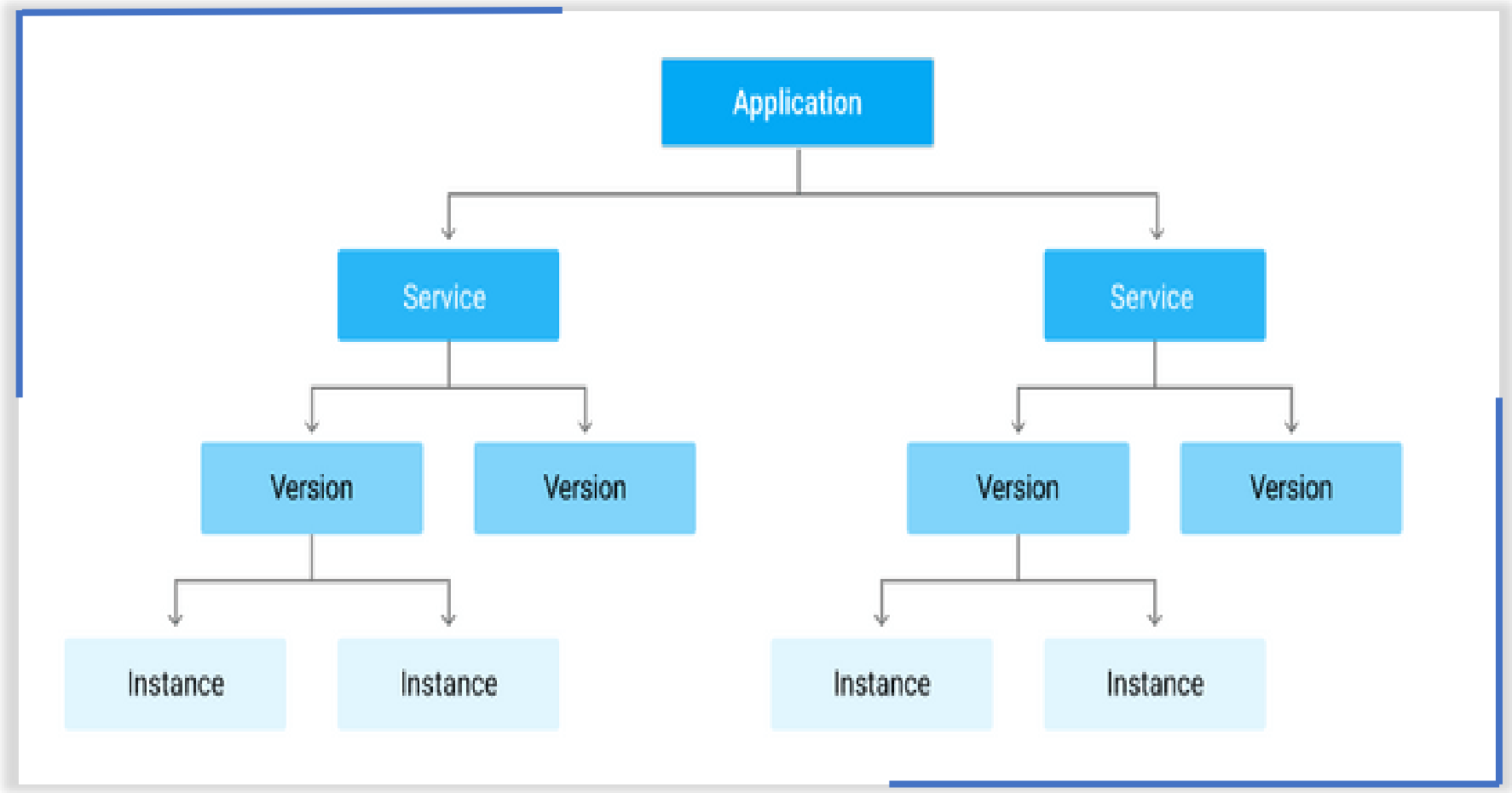
- Deal with Dynamic content

08

App Engine (Batch App)

END

Components


Application
Service
Service
Version
Version
Version
Version
Instance
Instance
Instance
Instance

Components

1

Application

- One App Project

2

Services

Multiple Micro services or App Components

- You can have multiple services in a single application
- Each services can have different setting
- Earlier called Modules

3

Versions

Each version associated with code and configuration

- Each version can run in one or more instances
- Multiple version can co-exit
- Option to rollback and split traffic.

Case Study

Snapchat

One notable case study of Google App Engine is Snapchat. Snapchat used App Engine to build and host their backend infrastructure, which allowed them to scale their application rapidly and handle millions of daily active users

Advantages

These all benefits of Google App Engine

All- Time Availability 1

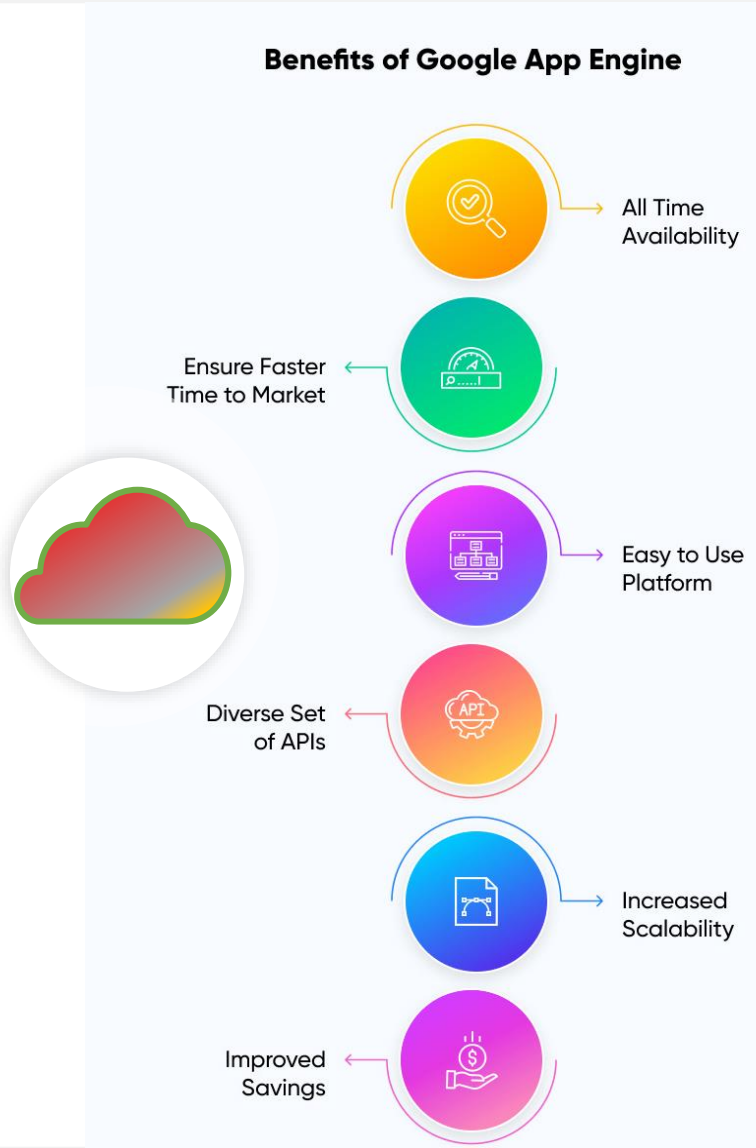
Ensure Faster Time to Market 2

Easy to Use Platform 3

Diverse Set of APIs 4

Increased Scalability 5

Improved Savings 6



Disadvantages

1

Limited Flexibility

The standard environment of Google App Engine has some limitations in terms of language support and configuration.

2

Vendor lock-in

Using Google App Engine means that you are tied to the Google Cloud Platform ecosystem, which may limit your ability to switch to other cloud providers.

References

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- https://www.techtarget.com/searchaws/definition/Google-App-Engine
- https://www.netsolutions.com/insights/what-is-google-app-engine-its-advantages-and-how-it-can-benefit-your-business/