

## ABSTRACT

An effective government should be supported with sound electronic systems for a good basis in national policy development. With the aid of various technological advancement, e-government should also include the management on disaster manifestations. This study is adapting on Malaysia's 1Gov\*Net architecture in cloud computing environment with further enhancements on other emerging technologies including Internet of Things (IoT). A framework on the cloud architecture and big data analytics for flood management is suggested.

## OBJECTIVES

Design and develop a cloud architecture which is embedded with big data analytics for the existing 1Gov\*Net Information and Communication Technology (ICT) infrastructure particularly for flood incidence and management in Malaysia.

## EXISTING SYSTEM

The existing system of 1Gov\*Net ICT Infrastructure is as shown in Figure 1. Its features include:

1. Single private cloud computing known as GCloud Consolidation Network.
2. Coordinated purchasing of IT services from all departments.
3. Reducing the effort, delays and costs associated with machines.
4. Higher value-adding business change initiatives.
5. Creating more productive and competitive environment for employees.
6. Enhancing workforce agility.
7. Improving infrastructure security.

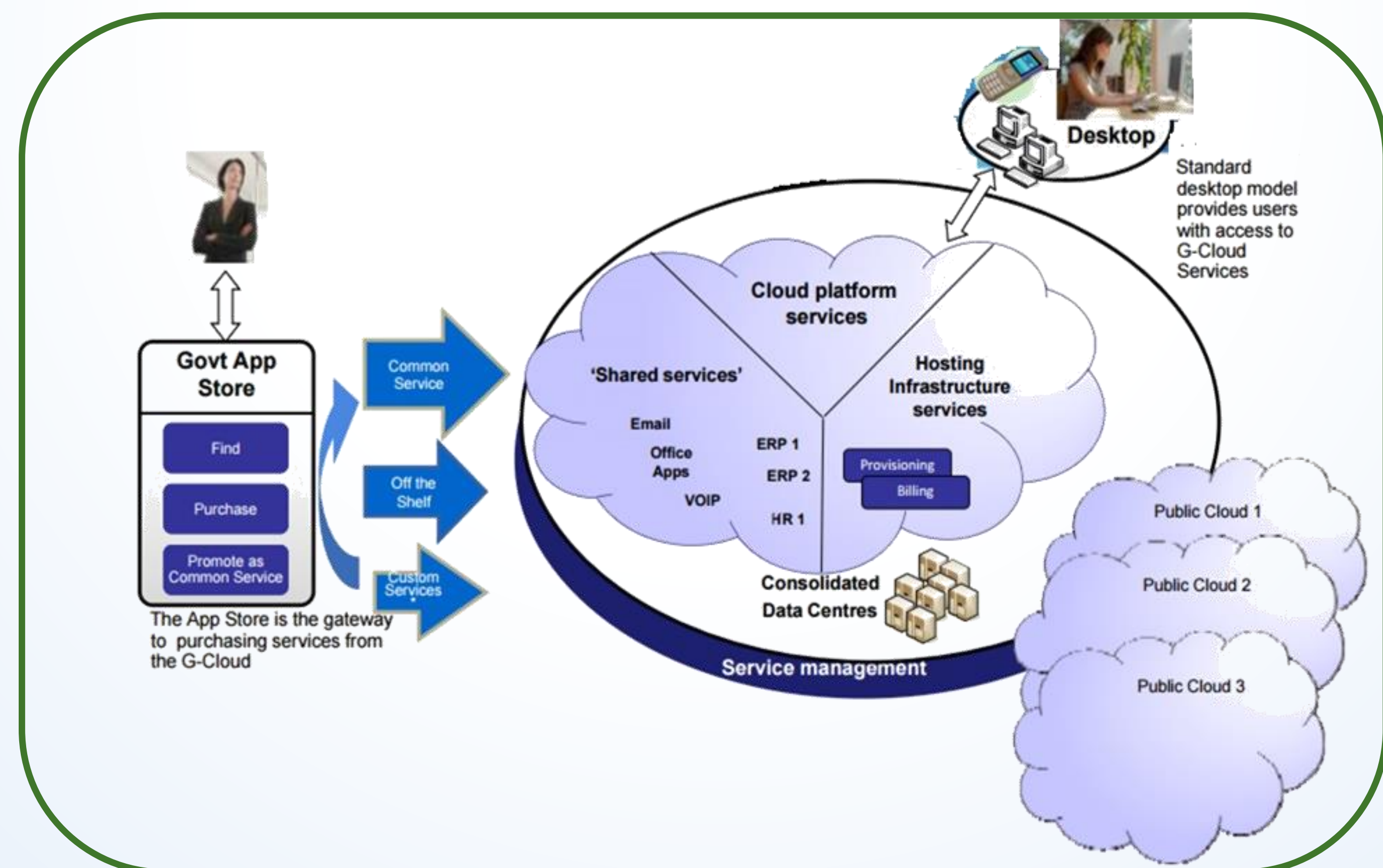


Figure 1. Overview of Current 1Gov\*Net Architecture by Using Cloud Computing in GCloud Consolidation Network

## METHODOLOGY

The proposed methodology framework for this project is as illustrated in Figure 2.

Inputs: Big data analytics from various source of the social network, Government's Cloud Computing ICT Infrastructure, and Internet of Things (IoT).

Methods: Sentiment analysis, web crawling, and statistical forecasting respectively.

Output: Flood predictive model, and flood alert Information Systems.

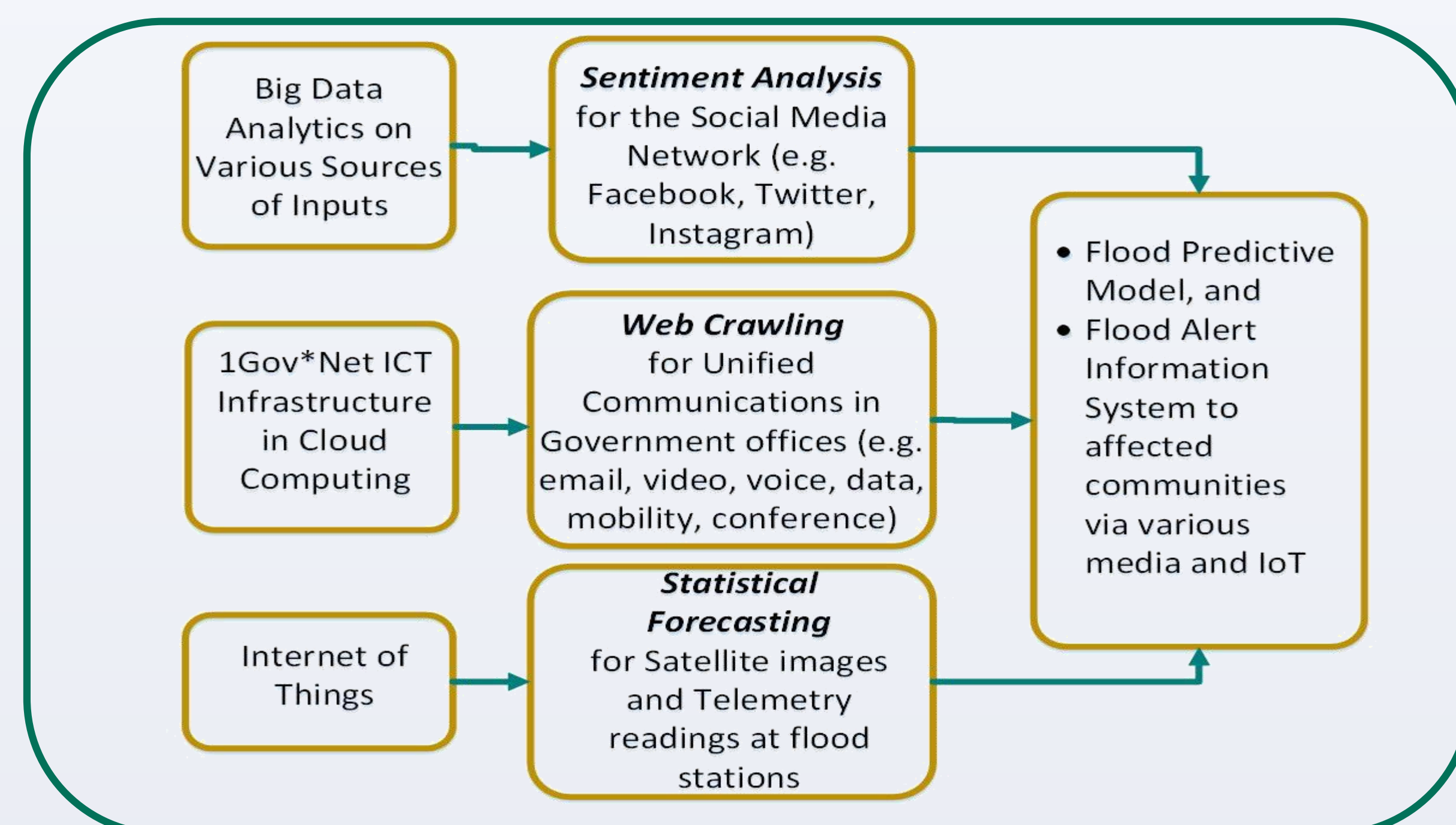


Figure 2. Project Methodology Framework

## RESULTS

The proposed cloud architecture and big data analytics for flood management is as illustrated in Figure 3 below.

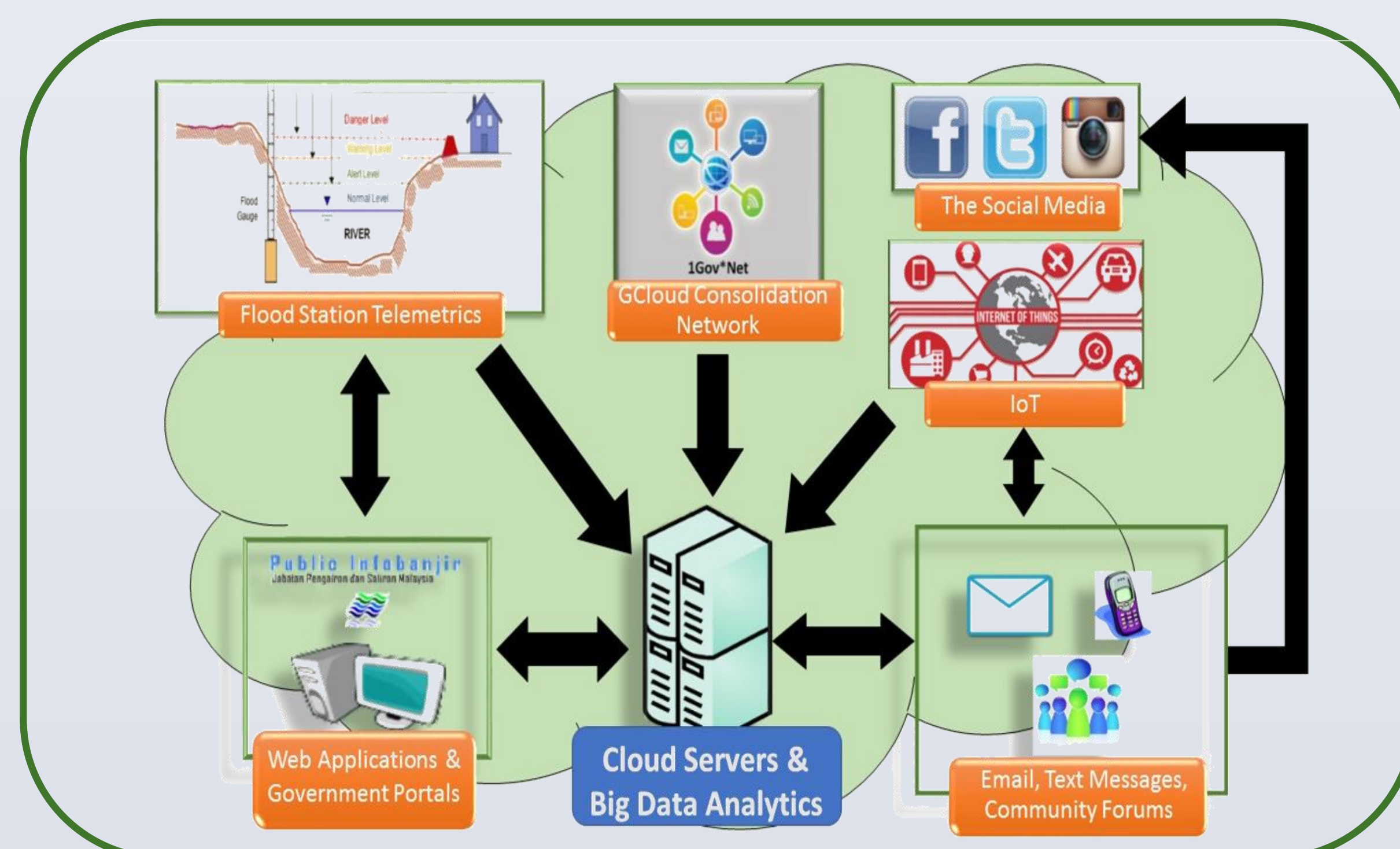


Figure 3. Cloud Architecture and Big Data Analytics for Flood Management

Advantages :

1. Integrated Government communication systems to the public and affected communities.
2. Faster but strictly monitored by the authority agencies on the news dissemination of flood incidence to the public.
3. Easy reach by public owned devices and cost effective.
4. Flood portals and servers would be equipped with data sources from both the stations and public information sharing media.

## CONCLUSIONS

It is expected that through the proposed cloud architecture and big data analytics, the problems of managing flood incidence for the states in Malaysia can be better managed by using the facilities of social media network, upgrading the existing cloud computing ICT infrastructure in the Government offices and the IoT.

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