SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

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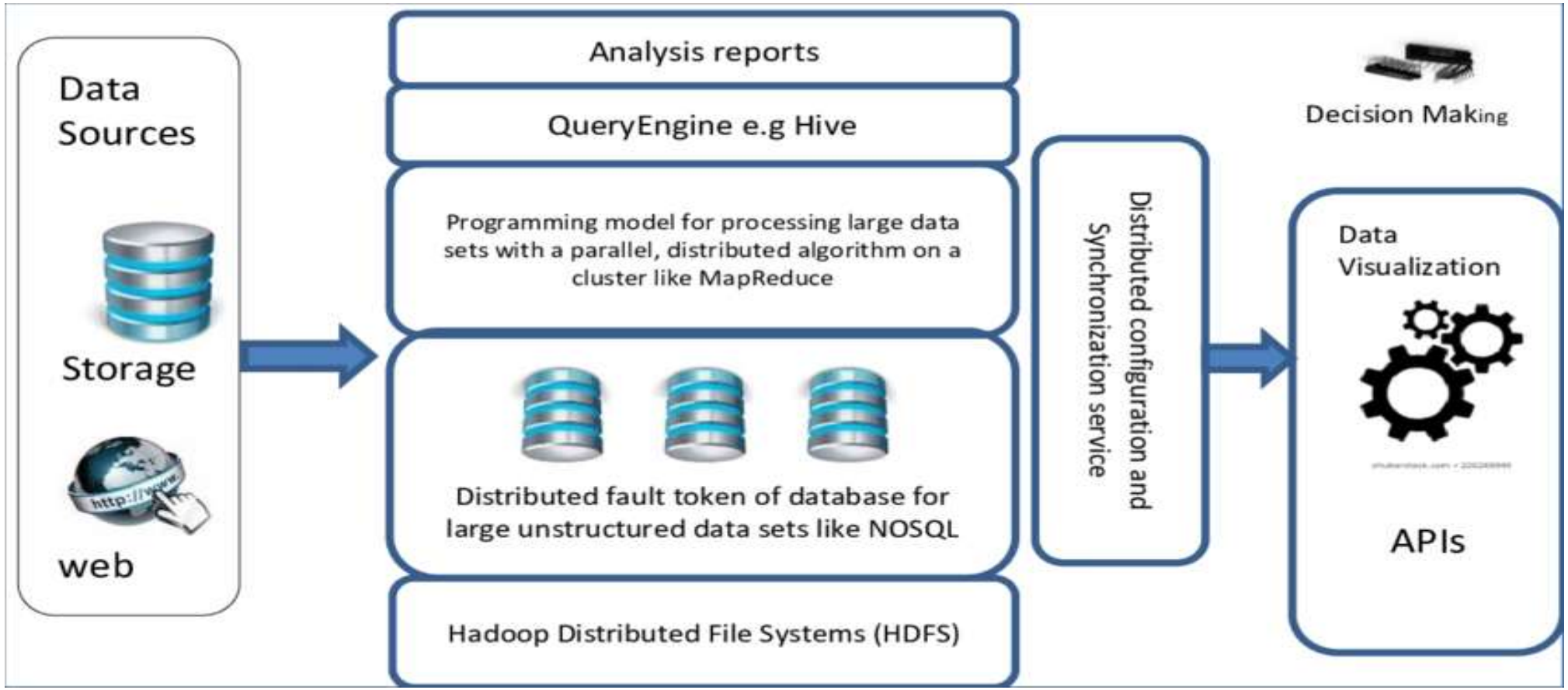
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECE308- WIRELESS TECHNOLOGIES FOR IOT

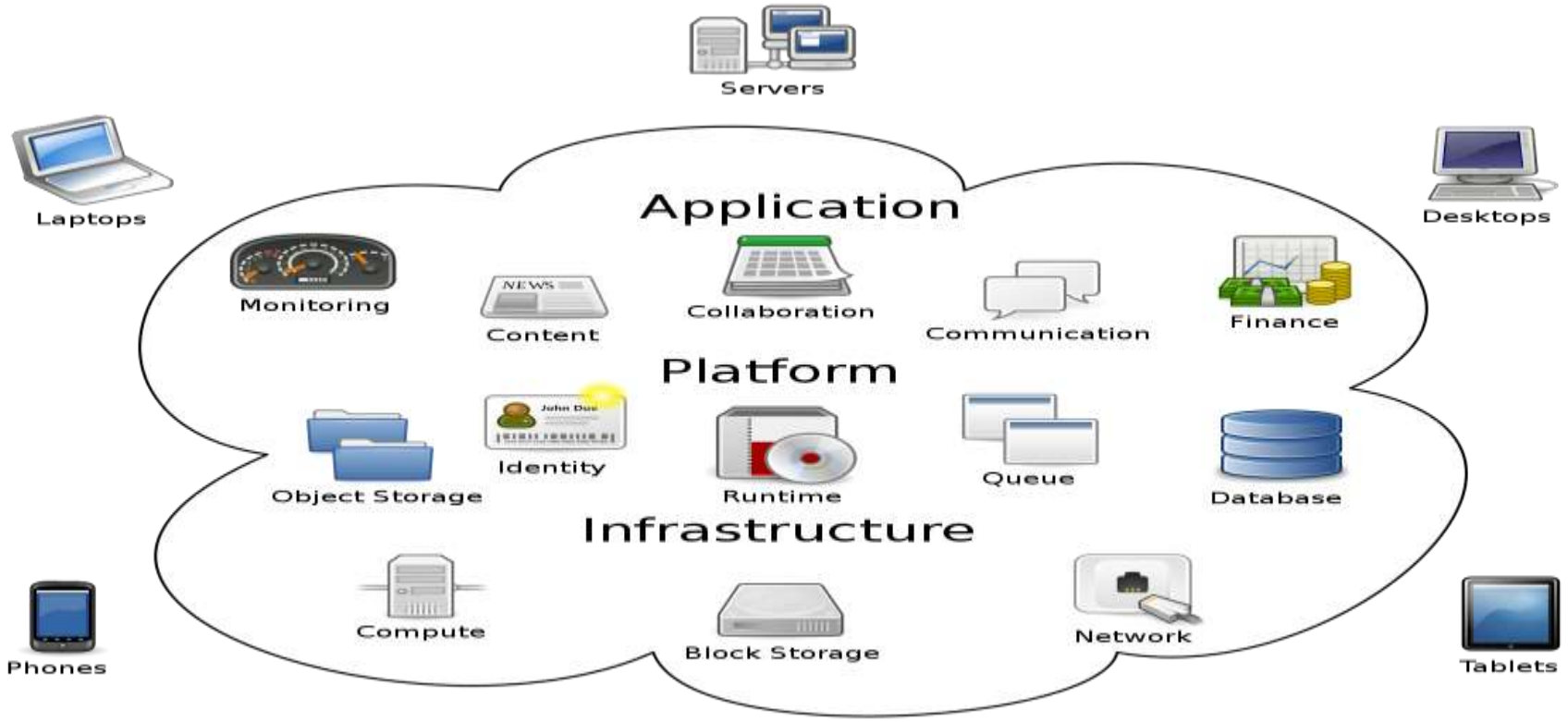
DATA COLLECTION, STORAGE AND COMPUTING USING A CLOUD PLATFORM

TOPIC 1 –INTRODUCTION

CLOUD COMPUTING



CLOUD COMPUTING



Cloud Computing

In addition, the platform provides on demand services, that are always on, anywhere, anytime and any place.

Pay for use and as needed, elastic

- scale up and down in capacity and functionalities

The hardware and software services are available to

- general public, enterprises, corporations and businesses markets

Cloud Computing

Cloud computing is an umbrella term used to refer to Internet based development and services

A number of characteristics define cloud data, applications services and infrastructure:

- **Remotely hosted**: Services or data are hosted on remote infrastructure.
- **Ubiquitous**: Services or data are available from anywhere.
- **Commodified**: The result is a utility computing model similar to traditional that of traditional utilities, like gas and electricity - you pay for what you would want!

Examples

Many companies are delivering services from the cloud. Some notable examples include the following:

- Google — Has a private cloud that it uses for delivering Google Docs and many other services to its users, including email access, document applications, text translations, maps, web analytics, and much more.
- Microsoft — Has Microsoft® Office 365® online service that allows for content and business intelligence tools to be moved into the cloud, and Microsoft currently makes its office applications available in a cloud.
- Salesforce.com — Runs its application set for its customers in a cloud, and its Force.com and Vmforce.com products provide developers with platforms to build customized cloud services.

Basic Concepts

There are certain services and models working behind the scene making the cloud computing feasible and accessible to end users.

Following are the working models for cloud computing:

1. Deployment Models
2. Service Models

Basic Concepts

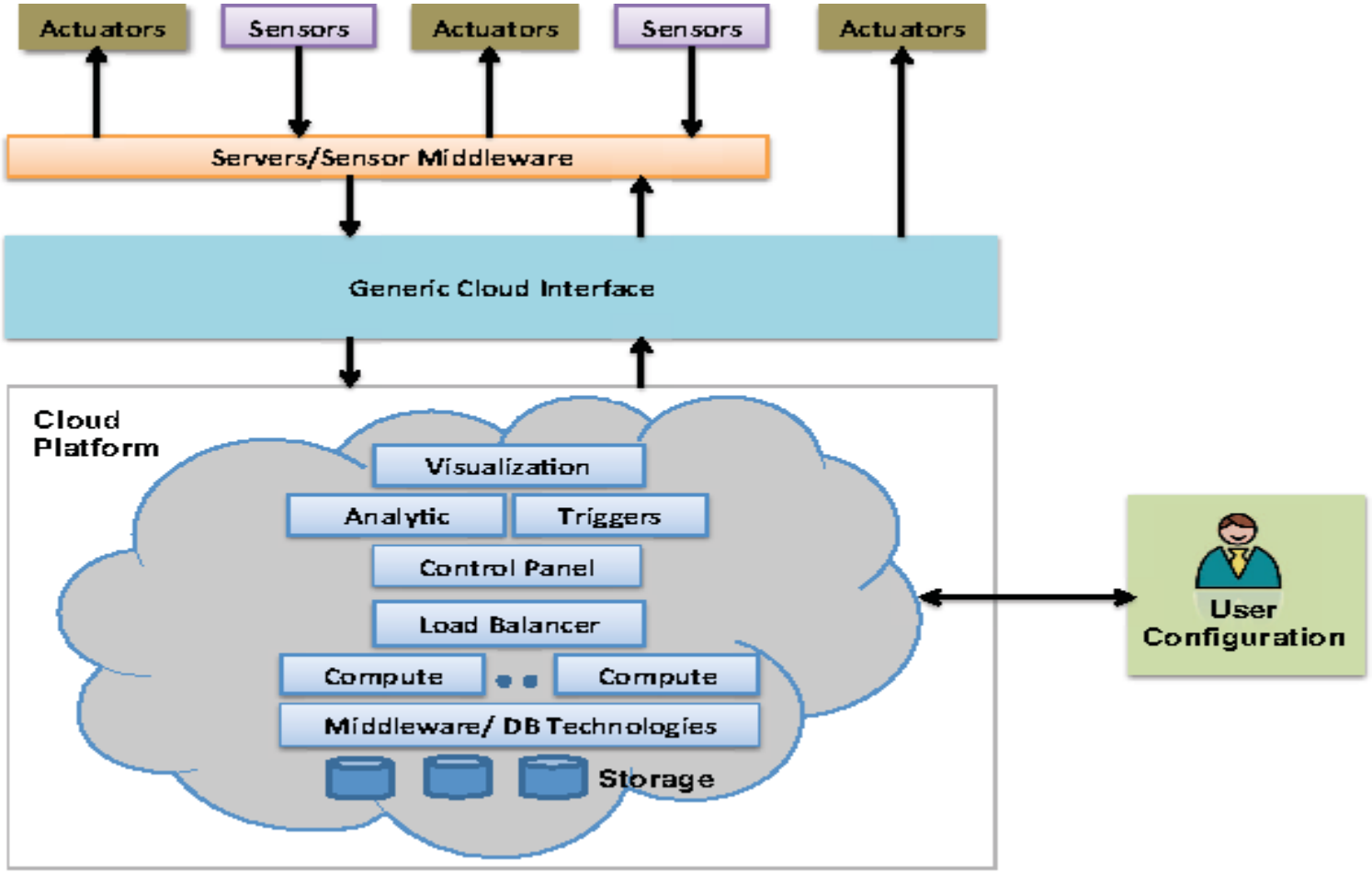


Figure 1 Proposed platform architecture

Opportunities and challenges

The use of the cloud provides a number of opportunities:

- It enables services to be used without any understanding of their infrastructure.
- Cloud computing works using economies of scale:
  - It potentially lowers the outlay expense for start up companies, as they would no longer need to buy their own software or servers.
  - Cost would be by on-demand pricing.
  - Vendors and Service providers claim costs by establishing an ongoing revenue stream.
- Data and services are stored remotely but accessible from “anywhere”.

Opportunities and challenges

- There are also issues relating to policy and access:
  - If your data is stored abroad whose policy do you adhere to?
  - What happens if the remote server goes down?
  - How will you then access files?
  - There have been cases of users being locked out of accounts and losing access to data.

Assessment

Examine the benefits of Cloud Computing

- Cost Savings — Companies can reduce their capital expenditures and use operational expenditures for increasing their computing capabilities. This is a lower barrier to entry and also requires fewer in-house IT resources to provide system support.
- Scalability/Flexibility — Companies can start with a small deployment and grow to a large deployment fairly rapidly, and then scale back if necessary. Also, the flexibility of cloud computing allows companies to use extra resources at peak times, enabling them to satisfy consumer demands.
- Reliability — Services using multiple redundant sites can support business continuity and disaster recovery.
- Maintenance — Cloud service providers do the system maintenance, and access is through APIs that do not require application installations onto PCs, thus further reducing maintenance requirements.

Thank You