

# Analysis of Implementation of Internet of Things Using Cloud Services

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**Abstract-** IoT systems permit users to achieve deeper automation, analysis, and integration within a system. They enhance the reach of these areas and their accuracy. IoT employs existing and emerging technology for sensing, networking, and robotics. Changing times have demanded the change in conventional working models. The large-scale use of Internet and its make use of technologies like Internet of Things has widened the horizons of their applications.

However, the actual realization of Internet of Things (IoT) can be made possible only through the readily available location-independent services like the Cloud computing. This paper focus to present the role of Cloud computing services in IoT implementation and how they are most suitable for Internet of Things concept. It explicitly explains those parameters from the point of view of IoT implementation and performance.

**Indexed Terms-** Internet of Things (IoT), Cloud Computing, Implementation.

## I. CLOUD COMPUTING SERVICES

Cloud Computing is observed the latest breed of technology with the immense flexibility of budget, speed, and infrastructure. It provides self-service capabilities to users with extensible features to upgrade usage based on requirement. The cloud computing technology provides particular types of services that users can access the cloud platform.

- i. Infrastructure-as-a-Service provides access to fundamental resources such as physical machines, virtual machines, virtual storage, etc. Apart from these resources, the IaaS also offers:
  - Virtual machine disk storage
  - Virtual local area network (VLANs)

- Load balancers
  - IP addresses
  - Software bundles
- ii. Platform-as-a-Service provides the runtime environment for applications. It also offers development and deployment tools involved to develop applications. PaaS has a feature of point-and-click tools that allows non-developers to create web applications.
  - iii. Software-as-a-Service (SaaS) model allows providing software application as a service to the end users. It mention to software that is deployed on a host service and is accessible via Internet. There are several SaaS applications listed below:
    - Billing and invoicing system
    - Customer Relationship Management (CRM) applications
    - Help desk applications
    - Human Resource (HR) solutions



Figure 1: The Cloud services deployment model



use by the doctors. However the healthcare data like heart-rate, temperature etc. required for health monitoring can be stored on public clouds.

### 3.6 Secure data storage

The use of cloud services for storing data is fetching increasingly popular in IoT. This has ensured that the cloud service providers provide the best data storage plans with maximum security levels being promised. This is necessary for the service providers to manage the market competition and rising demands.

### 3.7 No extra cost of infrastructure

The use of cloud for IoT also provides a cost benefit which is the most profitable of all its features. There is no extra cost for resources and infrastructure. The cloud infrastructure can be used by paying small costs according to the schemes of service providers.

## IV. CONCLUSION

The Internet of Things technology is a encouraging new field in Information and Communications technology (ICT). It can prompt the smart factor into the functionalities of diverse fields. The applications of IoT scale from Smart cities to Agriculture, Tourism, and Healthcare etc. The implementation of IoT needs the coordination of various technologies like Wireless networks, Cloud computing and networks. This paper presented the role of Cloud services in IoT. A comprehensive reasoning of the various factors was done which suggest the appropriateness of Cloud for IoT. The always-on feature of Cloud services among many others is best suited for the Internet of Things (IoT).

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