

# FULL STACK



## Introduction to Cloud Computing

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## Future of the Cloud Ecosystem





## Learning Objectives

By the end of this lesson, you will be able to:

- 🕒 Discuss the future of cloud computing and beyond
- 🕒 Describe the services and benefits of Big Data on cloud
- 🕒 Describe the services and benefits of DevOps on cloud
- 🕒 Describe the services and benefits of IoT on cloud
- 🕒 Describe the services and benefits of SaaS on cloud



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## Cloud Computing: Present and Future

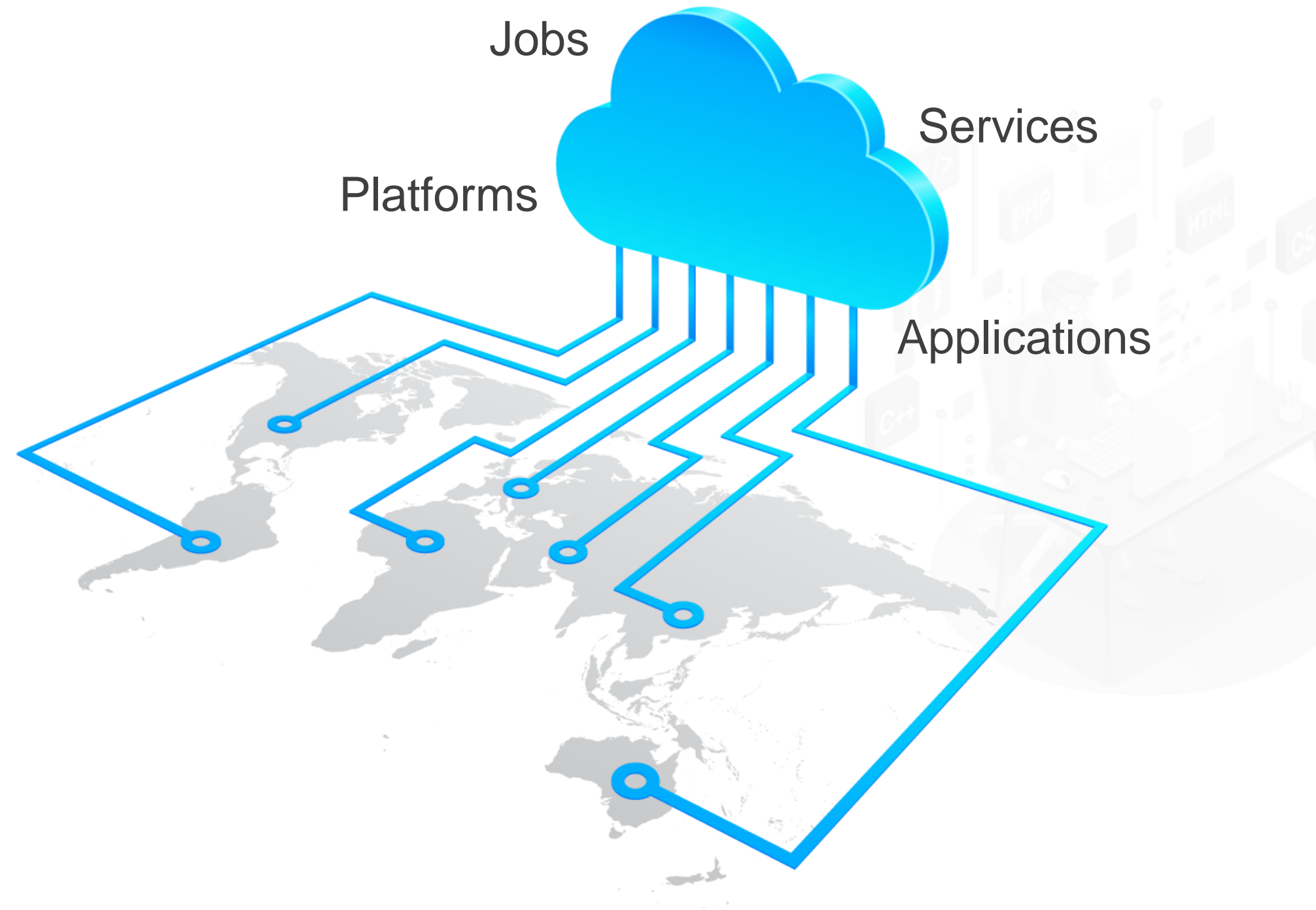
# Cloud Computing: Present

Current hybrid solutions involving cloud computing is a combination of:

- Cloud-based software services and products
- On-premise compute

Cloud computing:

- Provides security and control over data
- Is scalable and flexible



# Cloud Computing: Future

The future of cloud computing offers:

Upscaled Storage Capacity

Enhanced Performance with IoT

Storage of Software Components

Increased Adoption of SaaS

Enhanced Security



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## Cloud Computing: Beyond

# Cloud Computing: Beyond





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## Big Data on Cloud

# Big Data and Cloud



Big Data is large amount of data



Cloud is infrastructure



Big Data on cloud helps analyze large amounts of data in real-time. Their integration helps run services and products, such as wearable devices.

# Benefits of Big Data on Cloud

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**Improved  
Analytics**

**Simplified  
Infrastructure**

**Optimized  
Cost**

**Enhanced  
Security and  
Privacy**

# Big Data on Cloud Services

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Amazon EMR

Azure Databricks

HDInsight

Cloud Dataproc

Amazon Kinesis

Azure Stream Analytics

Event Hubs

Big Query





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## DevOps on Cloud

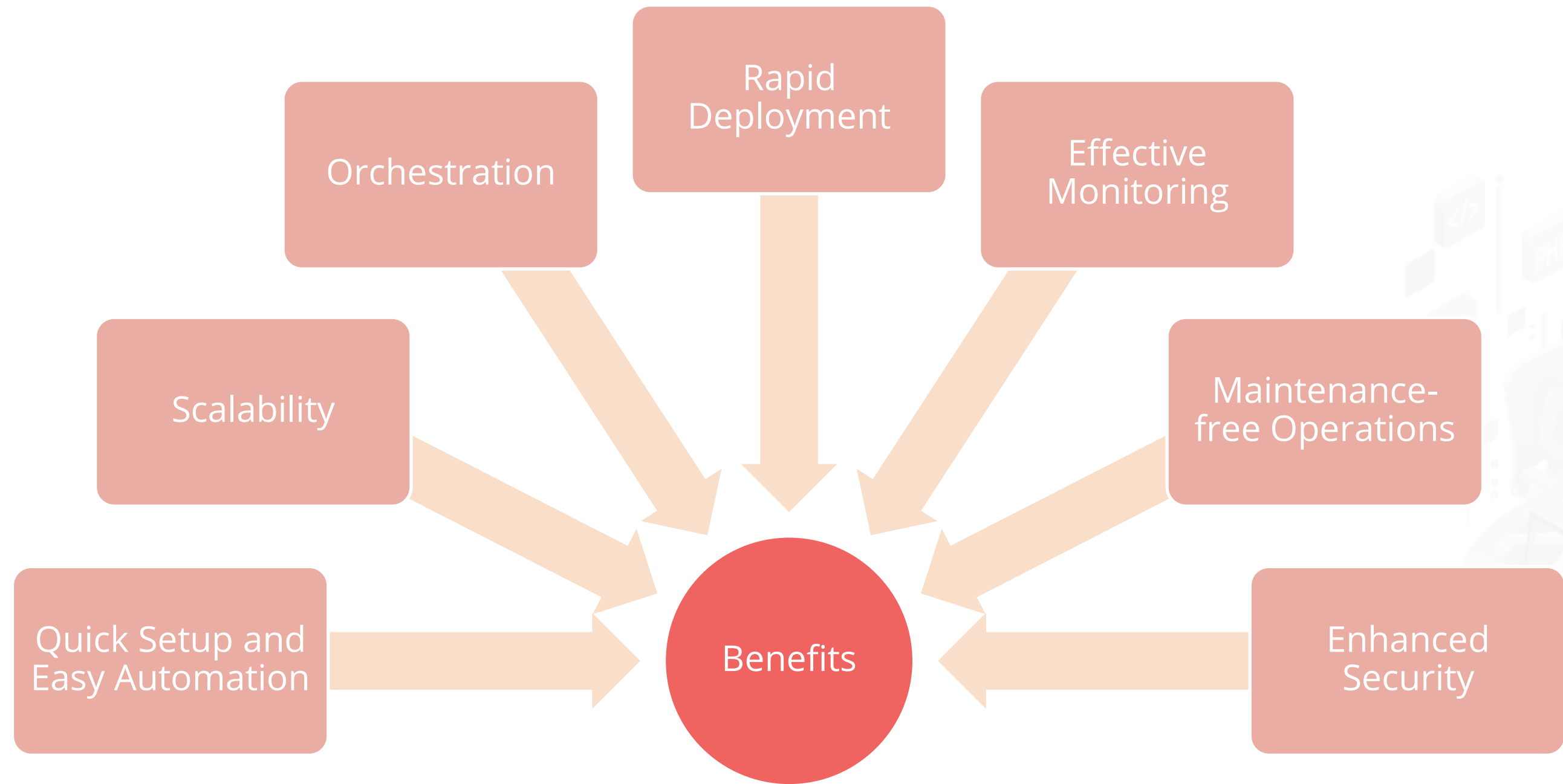
# DevOps and Cloud

DevOps on cloud:

- Meets user demands in a cost-effective manner
- Provides DevOps teams greater control over components



# Benefits of DevOps on Cloud



# DevOps on Cloud Services

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AWS Code Commit

Azure Repos

GCP – Cloud Source  
Repositories

Code Deploy

Code Pipeline

Azure DevOps

Azure Pipeline

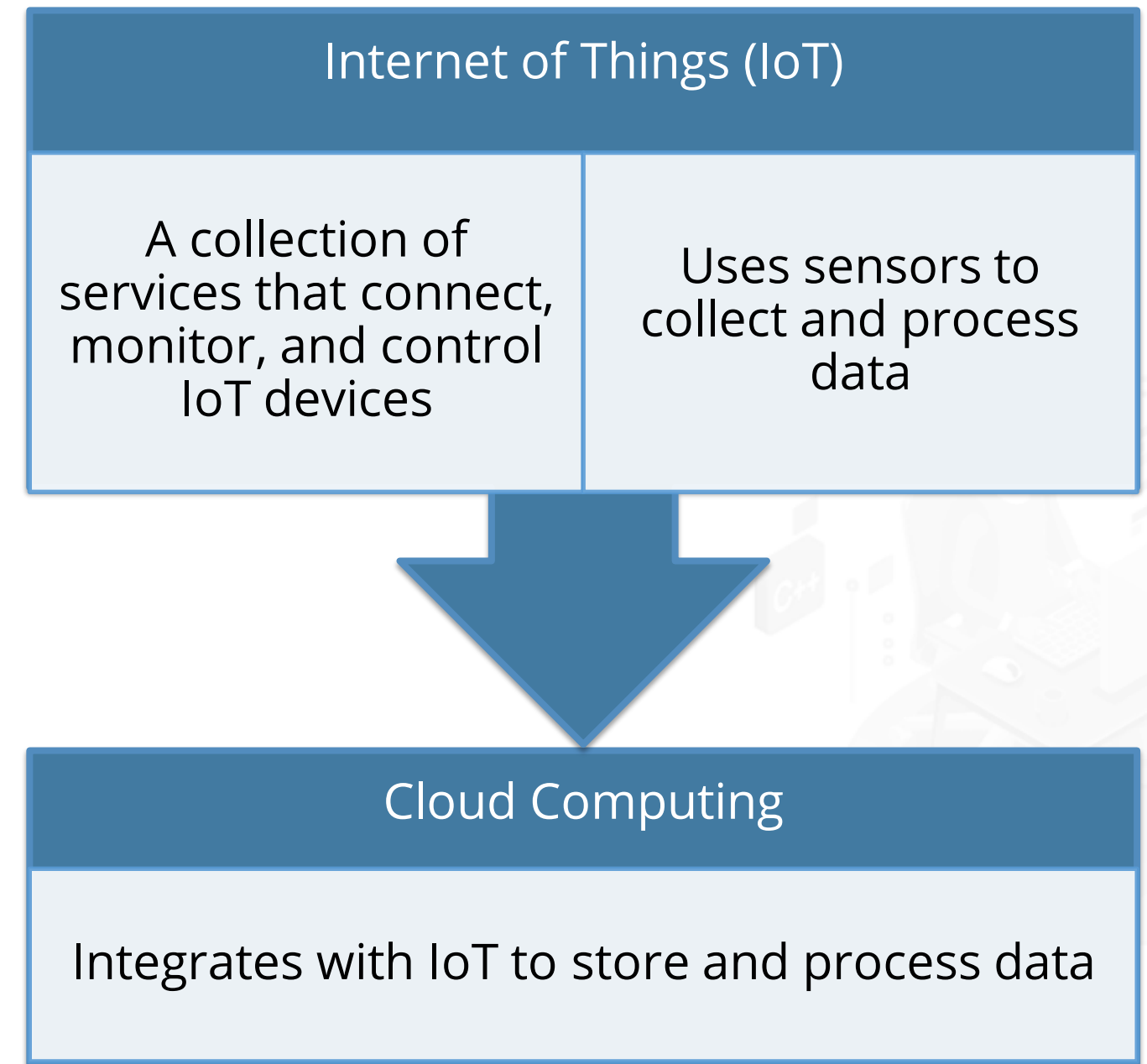
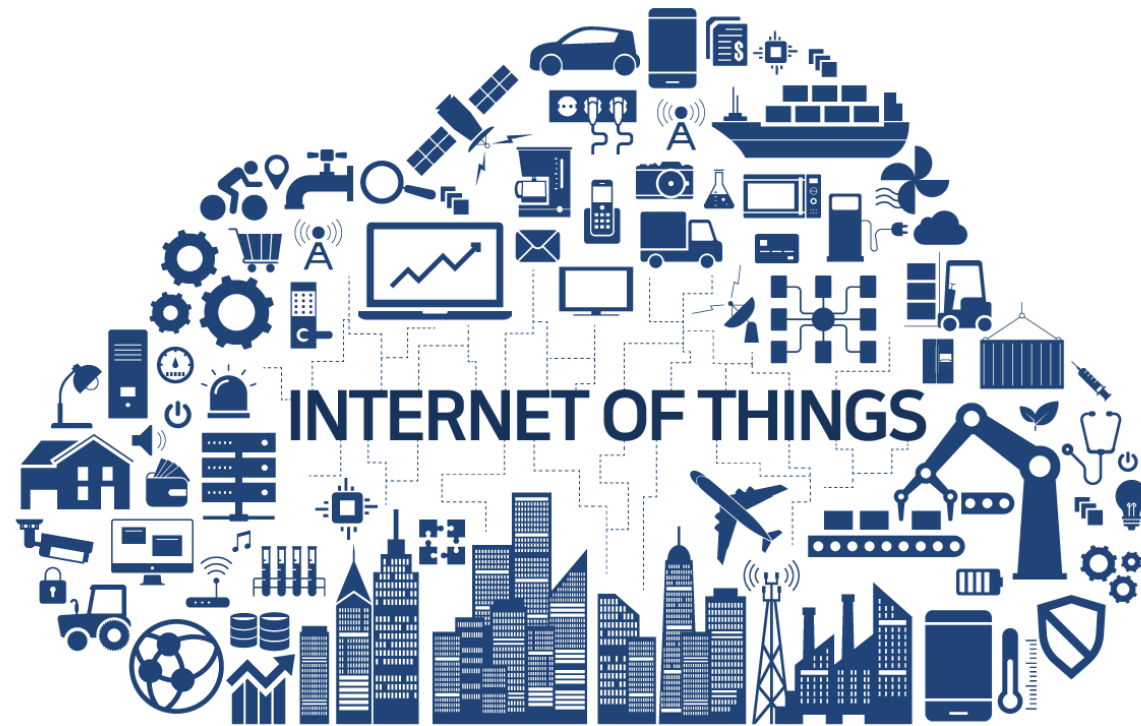




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## IoT on Cloud

# IoT and Cloud



# Benefits of IoT on Cloud

1

Reduced upfront and infrastructure cost

2

Pay-as-you-go model for storage and compute

3

Improved scalability and availability of systems

4

Increased lifespan of battery-powered sensors and devices

5

Easy aggregation of large amounts of data

6

Smart IoT devices

# IoT on Cloud Services

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AWS IoT Core

Azure IoT Hub

GCP-Cloud IoT Core

AWS Greengrass

Azure IoT Edge

AWS IoT Device

Azure IoT Central





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## SaaS

# SaaS and Cloud

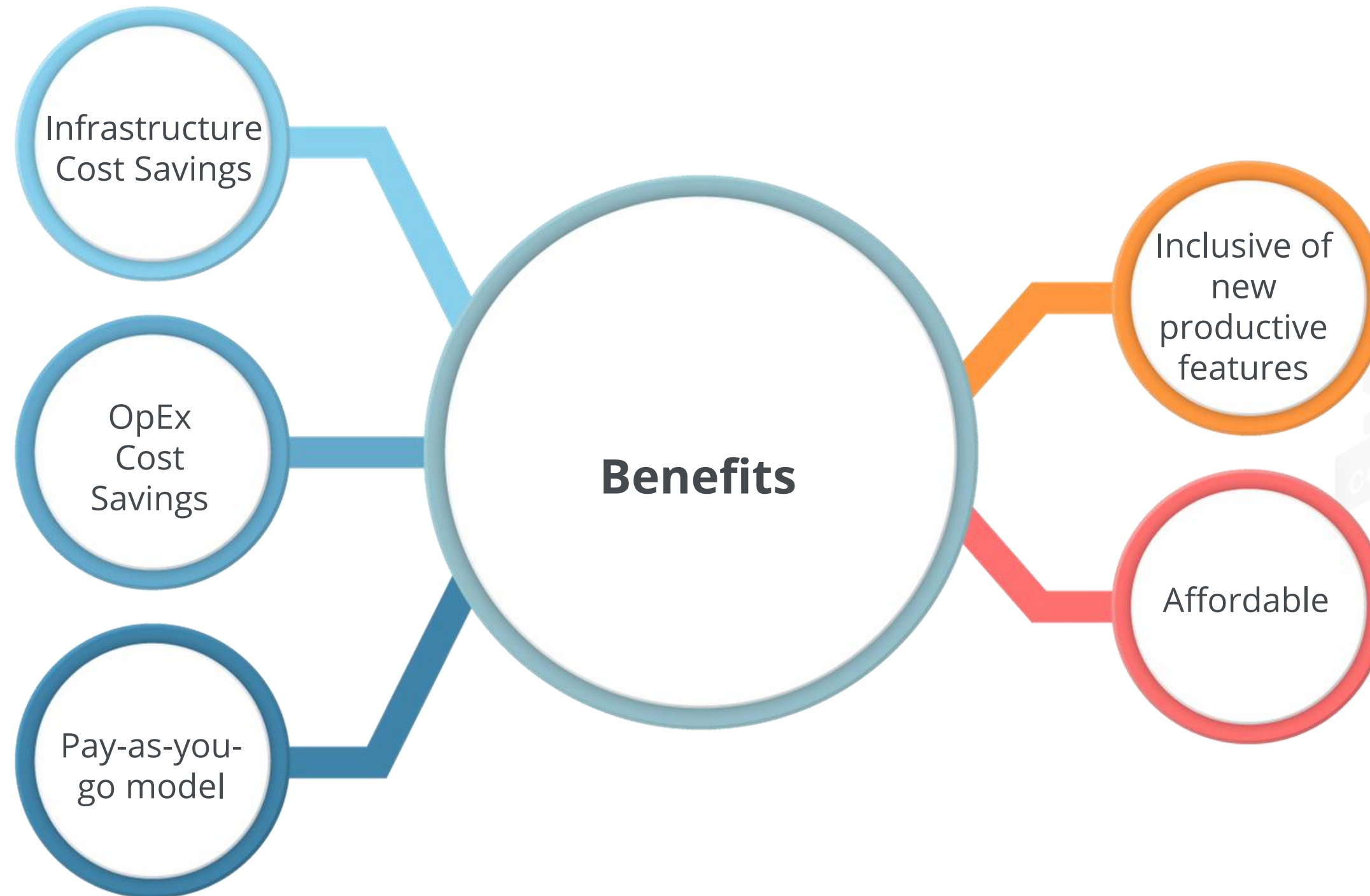
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**Software as a Service (SaaS)** allows users to access software applications that run on shared computing over the Internet.

**The cloud** provides access to applications at a reasonable price without spending a substantial upfront expenditure for hardware and software.

# Benefits of SaaS on Cloud



# SaaS on Cloud Services

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Gsuite

Office 365

Netflix

Amazon Prime Video

Hotstar





## Key Takeaways

- The future of cloud computing offers greater storage, enhanced performance and security, and increased adoption of SaaS.
- The technologies beyond cloud computing are:
  - Edge computing
  - Complexity growth
  - Specialized cloud
  - Distributed technology
  - Cryptocurrency
- Integration of cloud with IoT, Big Data, DevOps, and SaaS has increased scalability and reduced costs.

