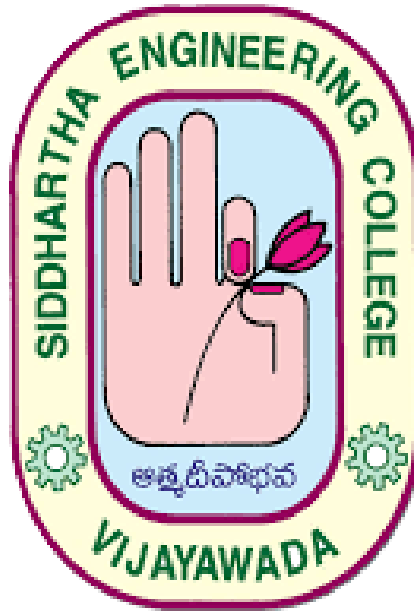# Velagapudi Ramakrishna Siddhartha Engineering College

## Kanuru, 520001



## CLOUD COMPUTING

## HOME ASSIGNMENT - 1

## Code : **20IT6301**

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**IT - B**

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## Problem Statement:

34. **Illustrate different cases where cloud computing may not be appropriate, for any reason ranging from cost to hardware requirements . In addition, mention the other cases when cloud computing is not the best solution for computing needs.**

## Solution:

There are several scenarios where cloud computing may not be appropriate or the best solution for computing needs. Some of these scenarios include:

1. High-performance computing: Applications that require high-performance computing, such as scientific simulations or complex 3D modelling, may not be suitable for cloud computing due to the high demands they place on computing resources. In these cases, it may be more cost-effective to use specialized hardware on-premises.

2. Regulatory compliance: Industries that are heavily regulated, such as healthcare or finance, may have strict data compliance requirements that cannot be met by cloud providers. In these cases, the organization may need to maintain their data on-premises to ensure compliance.

3. Latency-sensitive applications: Applications that require low latency, such as online gaming or real-time financial trading, may not be suitable for cloud computing due to the inherent latency introduced by the network. In these cases, it may be necessary to use specialized hardware on-premises or in a collocated data centre.

4. Legacy applications: Applications that were designed to run on specific hardware or operating systems may not be easily migrated to the cloud. In some cases, it may be more cost-effective to maintain these applications on-premises rather than rewrite them for the cloud.

5. Unpredictable or variable workloads: Applications with unpredictable or variable workloads may not be suitable for cloud computing due to the variable costs associated with using cloud resources. In these cases, it may be more cost-effective to use on-premises resources that can be scaled up or down as needed.

6. Security concerns: Applications that require high levels of security or confidentiality, such as government or military applications, may not be suitable for cloud computing due to concerns about data privacy and security. In these cases, it may be necessary to maintain the application on-premises or in a private data centre.

7. Cost considerations: In some cases, the cost of using cloud computing may outweigh the benefits, especially for applications with steady and predictable workloads. In these cases, it may be more cost-effective to use on-premises resources rather than pay for cloud services.

In summary, while cloud computing offers many benefits, it may not be appropriate for all computing needs, and it's important to carefully evaluate the pros and cons of using cloud computing before making a decision.

Some additional points to consider:

- Network connectivity: Cloud computing requires a reliable and high-speed network connection. Applications that require frequent or large data transfers may not be suitable for the cloud if the network connection is slow or unreliable.

- Data sovereignty: Some countries may have laws or regulations that require data to be stored within their borders. This can limit the use of cloud computing for applications that require data sovereignty.

- Vendor lock-in: Cloud providers often use proprietary technologies and tools, which can make it difficult to switch providers or move back to an on-premises solution.

- Resource sharing: In a shared cloud environment, resources such as computing power, storage, and network bandwidth are shared among multiple users. This can lead to performance issues if one user is consuming a disproportionate amount of resources.

- Loss of control: With cloud computing, organizations relinquish some control over their infrastructure and data to the cloud provider. This can be a concern for organizations with strict control requirements.

Overall, while cloud computing offers many benefits, it's important to carefully evaluate the specific requirements and constraints of each application before deciding to use cloud computing. This includes considerations such as network connectivity, data sovereignty, vendor lock-in, resource sharing, and loss of control.