Summary of Video 3 - Module 1: Introduction to Cloud Computing

This document summarizes the key notions introduced in the video transcript for Module 1, Video 3 of the GCP Cloud Data Analytics course. Each concept is briefly explained to provide a foundational understanding of cloud computing and its infrastructure.

Key Notions and Explanations

Cloud Computing

Using on-demand computing resources as services hosted over the internet, eliminating the need for organizations to manage their own infrastructure.

Cloud Platform

A virtual space accessed via a network where users can borrow computing services such as storage, hardware, and software.

Shared Resource Model

Analogous to a shared kitchen, where users access common tools without owning them individually, representing the efficiency of cloud services.

Cloud Infrastructure Components

Hardware

Includes servers, processors, memory, network switches, routers, firewalls, cooling systems, and power supplies.

Storage

File Storage

Organizes data in a hierarchical structure of files and folders; simple but limited.

Object Storage

Stores unstructured data with metadata, useful for understanding data context.

Block Storage

Divides data into labeled blocks for efficient access; costly and limited in metadata handling.

Network

Connects users to backend resources using physical hardware like routers and firewalls, enabling virtual operations.

Virtualization

Creates virtual versions of physical infrastructure, allowing cloud services to function without direct hardware connections.