

Internet Data Centers and Resource Pools



Article Overview

Internet Data Centers (IDCs) host the physical infrastructure for cloud services, while resource pools enable dynamic, shared allocation of computing, storage, and network resources to multiple users.

Internet Data Centers (IDCs)

Internet Data Centers are physical facilities that house servers, storage systems, and networking equipment to support cloud computing and online services . These centers store and process vast amounts of data, from emails to AI computations, and are connected via high-speed networks and underground cables . Modern IDCs often include specialized infrastructure for high-performance applications, such as AI workloads, which require advanced storage, networking, energy, and cooling capabilities . They are strategically located worldwide, with major hubs in the United States, Europe, and Asia, and increasingly in regions like Latin America and the Middle East .

Resource Pools in Cloud Computing

Resource pools are logical groupings of computing resources—including CPU, RAM, storage, and network bandwidth—that are shared among multiple users rather than dedicated to a single client . This pooling allows cloud providers to dynamically allocate resources based on demand, ensuring efficiency, scalability, and high utilization . Users interact with a virtualized environment, unaware of the exact physical location of the resources, which are managed through virtualization and orchestration technologies

Article Content

Understanding vSphere resource pools

Join Rick Crisci for an in-depth discussion in this video, Understanding vSphere resource pools, part of VMware vSphere 8 Certified

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These mechanisms are all types of resource pooling, which means making a collection of resources behave like a single pooled

Resource Pooling: How Pooling Compute, Storage, and Networking

Discover the benefits of resource pooling as an essential strategy for optimizing IT infrastructure costs. This comprehensive guide

What is a Resource Pool?

A resource pool is a set of resources available for assignment to project tasks. A resource pool can be assigned exclusively to a

Cloud Resource Pooling

Resource Pooling Summary Using shared equipment rather than dedicating separate hardware to each customer means that the

The Resource Pooling Principle

These mechanisms are all types of resource pooling, which means making a collection of resources behave like a single pooled

COMPUTING, STORAGE, AND NETWORKING RESOURCE MANAGEMENT IN DATA CENTERS

9.1 INTRODUCTION Current data centers can contain hundreds of thousands of servers . It is no doubt that the performance and

Disaggregated Architectures and the Redesign of Data Center

Data Centers (DCs), serving as the computing, storage, and exchange hub for global internet data, can be regarded as the brain and

Why Use Resource Pools?

Resource pools allow you to delegate control over resources of a host (or a cluster), but the benefits are evident when you use

Why is the VMware resource pool so important?

The Resource Pool is the foundation of virtual data centers, virtual desktops, high availability and other options on virtual servers.

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Resource Pooling in Cloud Computing

What is Resource Pooling? Resource pooling is when cloud computing resources are pooled for clients and users. These include

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