

Data Center Interconnection Network



Article Overview

Data Center Interconnect (DCI) networks connect multiple data centers to enable high-speed, low-latency, and secure data transfer for distributed applications, disaster recovery, and workload migration.

Overview

A Data Center Interconnect (DCI) is a network that links two or more data centers, allowing them to operate as a unified infrastructure while maintaining high bandwidth and low latency for critical applications and data replication . DCI networks are essential for enterprises and cloud providers that require geographic diversity, disaster recovery, and scalable computing resources.

Types of DCI Connectivity

- LAN Extension (Layer 2): Extends a single Layer 2 domain across multiple data centers, supporting legacy applications, virtual machine mobility, and clustering that require L2 adjacency . Technologies like Overlay Transport Virtualization (OTV), VPLS, and EoMPLS are commonly used.
- Layer 3 Extension: Provides routed connectivity between data centers for segmentation, virtualization, and backup applications. This often involves Layer 3 VPNs and requires careful bandwidth and QoS planning .
- SAN Extension: Extends storage networks across data centers, typically using Fibre Channel over IP or specialized transport solutions. Latency and distance are critical considerations for SAN DCI .

Key Technologies...

Article Content

Nov 16, 2025

Understanding Interconnection in Colocation Data Centers

Explore key interconnection approaches in colocation data centers to boost connectivity, agility, and business

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Data Center Interconnection (DCI) Types and Definitions

Access to software-defined networking to deliver flexible connection controls, network segmentation, and security to

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Designing Efficient Data Centers and Interconnection Networks

Data centers are the backbone of our online world. They house critical computing and storage resources, ensuring

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Data Center Interconnect: A Guide to DCI and Connectivity

Data center interconnect (DCI) is private network connectivity between multiple data center facilities that lets you treat

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Data center network architectures

A data center is a pool of resources (computational, storage, network) interconnected using a communication network. A data

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What is Data Center Interconnect (DCI)?

Data Center Interconnect (DCI) technology connects two or more data centers together over short, medium or long distances using

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Understanding Interconnection in Colocation Data Centers

Interconnection in data centers is crucial for businesses seeking to optimize their network infrastructure and reduce

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Data Center Interconnect Reference Design Guide

Data Center Interconnect Reference Design Guide Data centers of all sizes host significant amounts of business-critical data—data

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Ultimate Guide to Data Center Interconnect (DCI): Enhancing

A: Data Center Interconnect (DCI) technology links multiple data centers together over short or long distances,

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Data Center Interconnect Solution Overview

The term DCI (Data Center Interconnect) is relevant in all scenarios where different levels of connectivity are required between two

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Data Center Networking: A Comprehensive Guide

Data center networking integrates network assets, including switches, routers, and load balancers, to

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Data Center Interconnection: What is it & How Does it

Data center interconnection (DCI) is dedicated network connectivity that spans your data

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Accelerating Data Center Interconnection with

The data center network architecture has evolved from the traditional core-aggregation

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What is data center interconnect (DCI)?

DCI technology links data centers together to share resources. DCI provides several benefits. It lets organizations

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This white paper explains the need for multi-layer data center interconnection networks and how they need to support dynamic

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Understanding Interconnection Interconnection refers to physical and virtual data connections between companies

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Data center interconnect

Recent developments in data center interconnect (DCI) are strongly driven by the rapid growth of artificial intelligence (AI), cloud

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What is Data Center Interconnect (DCI)?

Learn what Data Center Interconnect (DCI) is, explore key essentials, interconnect options, challenges, benefits, and

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Interconnection Types and Definitions: A Comprehensive Guide by ...

Interconnection directly influences data center performance by reducing latency, increasing throughput, and improving

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Demystifying Data Center Networking: A Beginner's Guide

Explore essential data center networking components like switches, routers, and cabling.

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Data Center Connectivity: Everything You Need to Know About Cross

Despite being one of the most important components in a data center, connectivity options can be complex, confusing

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Understanding the Types of Interconnection, and When to Use Them

A new special report from CoreSite and Data Center Frontier explores how colocation can be the “nervous system” of

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Data Center Interconnect (DCI) is a vital technology that connects data centers spread across different

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Data Center Interconnection

DCI (Data Center Interconnection) is a network technology that connects multiple data centers, enabling seamless

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A Complete Guide to Data Center Network Architecture

As the name suggests, data center network architecture deals with the physical and logical arrangement of

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Data-Center Design and Interconnection Networks

A data center is a facility that houses computing resources such as servers, storage, and networking equipment. It is essential for

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Data Center Networking: What It Is, Why It Matters, And Types

Data center networking connects networking resources like routing and load balancing in a data center to store and

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Colocation and connectivity in global, AI-ready data

Colocation with multicloud access, locality control and global reach Expand globally with digital

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DCI Explained: Data Center Interconnection Guide

As artificial intelligence, cloud computing, and big data continue to grow exponentially, the demand for efficient

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