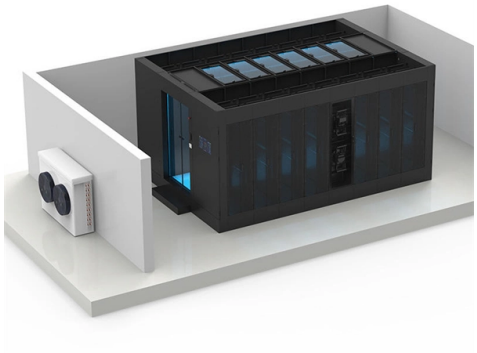
What is Data Center Interconnect



Overview

A data center interconnect (DCI) is a connection between data centers and between the components within them.

Key Takeaways

Data Center Interconnect (DCI) is the technology and infrastructure that links two or more data centers to enable high-speed, secure, and reliable data sharing and resource management across geographically separate sites. OverviewDCI allows physically separate data centers to operate as a unified system, supporting data transfer, replication, application deployment, and disaster recovery. It is essential for enterprises with multiple data centers, hybrid cloud environments, or hyperscale operations, enabling business continuity, scalability, and efficient resource utilization.

Key Components and Features

High Bandwidth Links: DCI relies on high-capacity connections, often using fiber optics, to handle large volumes of data between sites. Low Latency: Critical for real-time applications and data synchronization across sites. Scalability: Supports growing data demands without compromising performance.

Protection and Security: Ensures data integrity and confidentiality during transmission. Path Optimization: Optimizes routing between client devices and servers across multiple sites, maintaining performance and resiliency. Types of ConnectivityLAN Extension: Extends a Layer 2 network across data centers, useful for legacy applications or virtual machine mobility.

Layer 3 Extension: Provides routed connectivity for segmentation, virtualization, and backup applications, often using IP/MPLS networks.

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N Extension: Extends storage networks over distance, addressing latency and Fibre Channel transport challenges.

Technologies Used

Dark Fiber: Organizations lease fiber and manage their own equipment for maximum control. Wavelength Services: Optical wavelengths leased from service providers for high-capacity connections.

Ethernet and VPL

S: Layer 2 and multipoint connectivity options for seamless integration. IP/MPLS Networks: Layer 3 services offering flexibility and support for multiple applications. Overlay Transport Virtualization (OTV): Provides Layer 2 extension over any IP-based infrastructure while preserving fault isolation and resiliency.

Dense Wavelength Division Multiplexing (DWDM): Divides optical wavelengths into multiple channels for higher bandwidth over long distances.

Applications and Benefits

Disaster Recovery: Enables backup and failover between data centers. Resource Sharing: Allows compute and storage resources to be distributed efficiently. Cloud Interconnects: Links on-premises data centers with public or private cloud platforms for hybrid deployments.

Support for A

I and Hyperscale Workloads: Facilitates distributed computing for large-scale GPU clusters and high-performance applications.

Challenges

Complexity: Multisite DCI requires careful planning and specialized expertise. Cost: High-capacity links and equipment can be expensive, especially for long-distance connections. Latency and Performance: Maintaining low latency and high throughput is critical for certain applications.

Security: Strong encryption and protocols are necessary to protect data in transit. In summary, DCI is a critical infrastructure solution that enables modern enterprises to interconnect multiple data centers efficiently, supporting high-speed data transfer, redundancy, and scalable operations across local, regional, or global distances.

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Article Content

Data center interconnect

A data center interconnect (DCI) is a connection between data centers and between the components within them. The goal of a data center interconnect is to provide high bandwidth in order to

What is data center interconnect (DCI)?

Learn how data center interconnect technology links multiple data center facilities together to share resources efficiently and securely.

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 or more data center locations in order to provide flexibility for deploying

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 high-speed packet-optical connectivity.

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Data Center Interconnect (DCI) is the backbone of today''s digital economy. By enabling secure, high-capacity, and low-latency connectivity between data centers, DCI supports everything

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Interconnect verbindt mensen dankzij soevereine, veilige, schaalbare IT-infrastructuur oplossingen. Van Nederlandse bodem uw cloud en datacenter

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