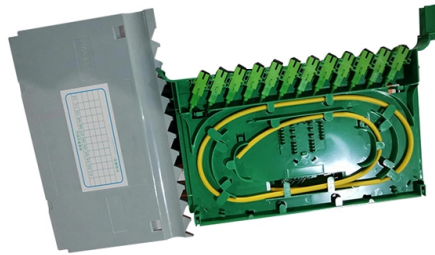


Data Center Interconnection Solutions



AI Overview

Data Center Interconnection (DCI) enables private, high-speed connectivity between multiple data centers, allowing them to operate as a unified infrastructure with predictable performance, security, and scalability.

Overview

Data Center Interconnection (DCI) refers to dedicated network connections that link two or more data centers, enabling them to share resources, replicate data, and support distributed applications without relying on the public internet (). DCI is essential for organizations with multiple facilities to achieve disaster recovery, workload migration, centralized backups, and low-latency application performance ().

Types of Connectivity

DCI solutions typically involve three main types of connectivity ():

- LAN Extension (Layer 2):** Extends a single Layer 2 domain across data centers, supporting legacy applications, virtual machine mobility, and clustering that requires L2 adjacency. Technologies include EoMPLS, VPLS, and Overlay Transport Virtualization (OTV) for IP-based L2 extension.
- Layer 3 Extension:** Provides routed connectivity between data centers for segmentation, virtualization, and file server backups. Often implemented using Layer 3 VPNs with bandwidth and QoS considerations.
- SAN Extension:** Extends storage networks over distance, addressing latency and distance challenges, particularly for Fibre Channel traffic that cannot natively traverse IP networks.

Technologies and Transport Options

DCI can leverage various transport technologies depending on distance, bandwidth, and infrastructure requirements ():

- Dark Fiber and Wavelength Services:** Provide high-capacity, low-latency connections for metro or long-haul links.
- Ethernet Circuits and MPLS Networks:** Offer flexible, private connectivity with predictable performance.
- Packet-Optical Networks:** High-speed coherent optics can deliver up to 800 Gb/s per wavelength, supporting long-distance and subsea interconnects.
- Overlay Technologies:** GRE tunnels, OTV, and VPLS.

SoGRE allow L2 extension over existing IP or MPLS networks.

Benefits

Implementi...

Article Content

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Grid interconnection delays threaten US energy growth in 2026 with a 2,600 GW backlog. Discover the economic risks & key solutions driving vital grid reform now.

Data Center Interconnect Solutions

Our fully pre-terminated solution lets you interconnect data centers up to 70% faster, eliminate splicing, and maximize pathway space. It's the next step in our journey

Press Releases | Equinix

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Explore key interconnection approaches in colocation data centers to boost connectivity, agility, and business performance with real-world examples.

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FERC Large Load Interconnection: AI Factories and Grid Rules

How FERC large-load interconnection actions help AI data centers and advanced manufacturing connect faster while managing grid stress and affordability.

The Interconnection Wall: Why FERC's June 2026 Show-Cause

The single biggest constraint on America's data center boom is no longer land, chips, or even labor it is the number of years it takes to get a large load connected to the grid. On June 18,

Data Center Market Size, Share & Forecast Report, 2034

The global data center market size is projected to grow from USD 300.64 billion in 2026 to USD 699.13 billion by 2034, at a CAGR of 11.10%

Battery Storage Market Rebuilt Around AI Data Center

The battery storage AI data center market is growing at 28 to 38% annually and is reshaping how operators solve interconnection, backup power,

Ultimate Guide to Data Center Interconnect (DCI): Enhancing

Discover the ins and outs of Data Center Interconnect (DCI) technology linking multiple data centers for enhanced connectivity and performance.

Data Center Interconnects: Powering Global Business

At the heart of this transformation lies the concept of Data Center Interconnect (DCI)—an advanced solution that enables organizations to connect,

FirstEnergy: Data Centers Must Pay Transmission

FirstEnergy proposes data centers pay full transmission interconnection costs, not spread across existing customers. Model based on gas pipeline incremental pricing used for 25+ years.

Top Data Center Interconnect Companies to Watch by 203

The Top companies in Data Center Interconnect are shaping the backbone of global digital infrastructure as enterprises accelerate cloud adoption, edge computing, and hyperscale data traffic.

Digital Realty and Blackstone announce USD 7 billion hyperscale data ...

Digital Realty (NYSE: DLR), the largest global provider of cloud- and carrier-neutral data center, colocation and interconnection solutions, and Blackstone Inc. (NYSE: BX) has announced

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Unmatched interconnection, scalable colocation and infrastructure across Europe, Middle East and Africa Equinix has 101 data centers in Europe, Middle East and Africa, strategically located in key

Digital Realty | Data Center Services & Colocation

With Digital Realty, you can leverage our full interconnection capabilities across our global ecosystem including data centers, connectivity and cloud services.

Data Center Interconnect Solutions

Data center interconnect refers to the solutions and technologies that link multiple data centers, enabling them to function as a cohesive network. This capability is

Data Center Interconnection (DCI)

Create connections between data centers, offices, and resources in real time. Build a scalable IT backbone to unlock powerful use cases for future-proofing your

Top Data Center Interconnect (DCI) Companies: Market

In today's digital age, the seamless transfer and management of data are paramount for businesses to stay competitive. This is where Data Center

6 takeaways from FERC's data center interconnection decision

6 takeaways from FERC's data center interconnection decision If RTOs fail to address large-load concerns identified by FERC, the agency will dictate the solutions, per FERC's David

Data Center Colocation | Hyperscale Edge

Cologix is building the data centers of tomorrow by integrating hyperscale edge capacity with robust interconnection. See our data center solutions here.

Interconnection Solutions for Data Centers | DataBank

Interconnection solutions enable data centers to overcome the challenges of storing, processing and managing vast quantities of data. They provide seamless connectivity, efficient data

Digital Realty Acquires US\$200m Slough Data Centre

Digital Realty is a global provider of cloud- and carrier-neutral data centre, colocation and interconnection solutions, based in Austin, Texas. Digital

Data Center Solutions and Facilities | Flexential

Scalable colocation, cloud, and connectivity solutions for secure, high-performance IT infrastructure. Explore how Flexential can support your business today.

2026 Data Center Power Report

Executive Summary One year ago, Bloom Energy's inaugural Data Center Power Report documented an emerging reality: AI-driven compute demand was beginning to outpace the grid's ability to deliver

Contact Us

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