

How to interconnect two data centers



Overview

A data center interconnect (DCI) is similar in theory to a cross connect but uses electronics, typically DWDM, to establish a point-to-point connection between two data centers so they can share resources or improve other operations such as load balancing. When you double up on datacenters, there's the associated question of how you interconnect them, Datacenter Interconnect or #DCI. Figure 2-1 summarizes the three general types of. Cross Connects represent the most basic type of interconnection. As businesses grow and their need for information increases, connecting data centers has become essential to planning IT infrastructure because it ensures smooth. Data center interconnects (DCIs) refer to the networking technologies and solutions that enable seamless communication and data exchange between geographically dispersed data centers. As organizations increasingly rely on distributed computing resources and adopt cloud services, the need for.



Article Content

How to Speak Like a Data Center Geek: Networking

In this edition of How to Speak Like a Data Center Geek, we define the various connectivity options in a colocation data center that support data

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LPO and CPO: Redefining AI Optical Interconnects for the Next Data ...

That is exactly why LPO and CPO have become two of the hottest topics across hyperscale data centers and AI clusters. At ESOPTIC, we see LPO and CPO not as competing

What is data center interconnect (DCI)?

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

Marvell to Acquire Celestial AI, Accelerating Scale-up Connectivity for ...

Celestial AI: Breakthrough Photonic Fabric Technology Platform for Scale-Up Interconnect As bandwidth and reach continue to increase, every connection point in the data center must move

Xscape is building multicolor lasers to connect chips

Xscape, a startup founded by Columbia professors, is developing lasers to drive the fiber-optic interconnects in datacenters.

Ultimate Guide to Data Center Interconnect (DCI):

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

Semtech Showcases AI Interconnect Leadership with Live 1.6T

Semtech will present live demonstrations of its portfolio of high-speed integrated circuits (ICs) at OFC 2026, booth #1812. Demonstrations will span 224G and 448G solutions for AI and data

An Intro to Data Center Interconnects

Data center interconnects (DCIs) refer to the networking technologies and solutions that enable seamless communication and data exchange between geographically dispersed data centers.

"Dualing" Datacenters: Best Practices for Interconnection

When you have two datacenters, you need the right plan for Datacenter Interconnection. Here's a summary of the common options.

AI Data Centers Ignite a Laser Shortage Wave; Nvidia's

TrendForce's recent research indicates that high-speed optical interconnects are now central to performance and scalability, especially as AI

NVIDIA's \$4 Billion Bet on Optical Interconnects Explained

NVIDIA invests \$4B in Lumentum and Coherent to solve AI data center bandwidth bottlenecks with silicon photonics. Here's what it means for the industry.

Broadcom Sian3 and Sian2M: 200G/lane optical

Data center interconnect speeds have advanced from 400G/800G (100G/lane) to 800G/1.6T (200G/lane), making the energy efficiency and signal

Co-Packaged Optics (CPO) Market Trends 2026: AI Data Center

Explore the future of co-packaged optics (CPO) in AI data centers. Learn how silicon photonics, optical I/O, and high-speed optical interconnect technologies are shaping next-generation

AEP expects to add 24 GW of load by 2030, mainly

American Electric Power expects its utilities will interconnect 24 GW of new load by 2030, with 18 GW coming from data centers, William Fehrman,

Lancium Gigawatt AI Data Center Campuses

At Lancium, we specialize in energy technology and infrastructure, enabling large gigawatt-scale data centers to seamlessly interconnect with the power grid. Our

Data Center Interconnect: A Guide to DCI and Connectivity

Explore how data center interconnect works, and what to consider when connecting facilities, clouds, carriers, and network partners.

Data Center Interconnect Reference Design Guide

So how does a network architect interconnect data centers that are resilient and scalable? This document tries to clarify data center interconnect (DCI) and offer

Unlocking Success with DCI: A Comprehensive Guide

Discover how Data Center Interconnect (DCI) enhances connectivity, scalability, and performance across modern enterprise networks.

The next big shifts in AI workloads and hyperscaler

AI workloads are reshaping data center economics, power planning, and leasing decisions. Their influence is already evident across most new builds

Data Center Interconnect Market Size, Share, and Growth Analysis,

Data Center Interconnect Market size was valued at USD 11.66 Billion in 2024 and is poised to grow from USD 13.2 Billion in 2025 to USD 35.59 Billion by 2033, growing at a CAGR of

Celestial AI

Together, we are helping define how next-generation AI systems are built, from chip to package to rack to data center. This is not just about infrastructure. It is about

Understanding Interconnection in Colocation Data Centers

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

POET Technologies and Lumilens Secure \$50M Deal to Replace

Data center operators that cannot scale interconnect bandwidth efficiently face a choice: slow the expansion of AI capacity, or increase power consumption per GPU — costs that feed

Data Center Interconnect Solution Overview

Stretching the network space across two or more data centers can accomplish many things. Doing so also presents a challenge, since providing these LAN extension capabilities may have an impact on

Arista unveils 800G platforms to power AI data center interconnects

Arista unveils 800G platforms to power AI data center interconnects Modular 7800R4 and fixed form 7280R4 designed to support two-tier network designs October 30, 2025 By Ben Wodecki

Lightmatter's \$400M round has AI hyperscalers hyped

Photonic computing startup Lightmatter has raised \$400 million to blow one of modern data centers' bottlenecks wide open. The company's optical

High-Speed Interconnects Market Valued at USD 40.2 Billion in 2024 ...

The high-speed interconnects market is witnessing robust expansion, propelled by the increasing need for low-latency, high-bandwidth connectivity across data centers, AI, IoT, and 5G

NVIDIA Data Center GPU Specs: A Complete

This report proceeds as follows: we first detail the evolution of NVIDIA's data-center architectures, then systematically compare the current GPU lineup and platform

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