

Construction of Interconnected Data Centers



Article Overview

Interconnected data centers require careful planning of power, cooling, networking, and redundancy to ensure high availability, scalability, and operational resilience.

Planning and Site Selection

Constructing interconnected data centers begins with strategic site selection, considering factors such as power availability, fiber connectivity, climate, land suitability, and regulatory conditions. Early planning is critical to align the site with projected IT load, scalability, and total cost of ownership, ensuring long-term operational efficiency and flexibility (). Developers must also account for grid interconnection challenges, as modern data centers demand large, dynamic loads that typical grid infrastructure may not support. Flexible solutions like hybrid energy systems, fast-start generation, and grid-forming technologies can mitigate delays and maintain reliability ().

Infrastructure Components

Key components of interconnected data centers include:

- **Servers and Storage Systems:** Rack and blade servers, along with high-capacity storage, form the core of compute and data handling ().
- **Networking Equipment:** Routers, switches, firewalls, and load balancers enable communication within and between data centers. High-speed fiber-optic cabling su...

Article Content

Understanding Data Center Interconnection

When you are making the decision to house your equipment and data in a colocation facility, data center

Intra-data center interconnects, networking, and architectures

A critical piece of this infrastructure is the network connectivity between storage and compute elements within the data center. In this

New Data Center Developments: November 2025

The demand for new data centers shows no signs of slowing. With new projects announced each week, keeping track

What is data center interconnect (DCI)?

Learn how data center interconnect technology links multiple data center facilities together to share resources

Understanding Interconnection in Colocation Data Centers

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

Roadmap: The AI data center stack

Robotics, automation, and AI-powered software are filling the gap across three distinct phases of the data center lifecycle: initial

What Is Data Center Interconnect (DCI)? A Comprehensive Guide

Learn everything about Data Center Interconnect (DCI): its benefits, key technologies, options & how it enables high

Data Center Interconnection: A Smart Connectivity Strategy

Data center interconnection (DCI) is a dedicated, high-speed connection between two or more data centers. Rather than sending

Mega Global Data Center Projects Planned (2025-2030)

Here are 20 of the most significant data center construction projects scheduled between 2025 and 2030, reflecting the

Data centre construction cost index 2025-2026 | Turner

Now in its ninth year, our report remains the construction industry's only cost index specified to the data

Designing Efficient Data Centers and Interconnection Networks

They house critical computing and storage resources, ensuring that applications, data, and content are always

JLL 2026 Global Data Center Outlook

Key highlights Nearly 100 GW of new data centers will be added between 2026 and 2030, doubling global capacity. The global data

Data Center Interconnection

Data Center Interconnection With the rapid growth of the digital market fueled by SaaS services, remote work, and

Data Center Interconnect Solution Overview

Data Center Interconnect Solution Overview The term DCI (Data Center Interconnect) is relevant in all scenarios where different

Building a Data Center: An In-Depth Guide to Construction

Building a data center is the construction process of a facility to house computer systems, storage, and IT equipment for data handling.

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

Top 10 Data Center Construction Companies 2026

Top data center construction companies such as AECOM, Holder Construction, Jacobs, Turner Construction Company, DPR

Where Data Center Construction Is Concentrated: Map

The data center construction boom is fueled by tax breaks and electricity access. This map shows where Big Tech is

What is Data Center Interconnect (DCI)? | Flexential

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

Data Center Construction: Building the Digital Backbone of a

This article explores the key drivers, construction trends, challenges, and future outlook shaping the data center

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

Navigate the world of data interconnection with DataBank's comprehensive guide. Learn about different types of

What Is Data Center Interconnection, And Why Is It So Important?

If that data center does not cover the function you need, other interconnected data centers will cover it through data

Why the United States Is Building Data Centers at Unprecedented Scale

Data centers have moved from niche digital infrastructure to assets central to the United States' economy, security,

Top 15 New Upcoming Data Centers in the USA (June -2026)

The United States is experiencing the largest wave of data center construction in its history. According to Blackridge's global data

Data Center Construction Recent News | Data ...

Explore the latest news and expert commentary on Data Center Construction brought to you by the editors of Data

Data Center Construction: A Step-by-Step Breakdown | FMP

To protect the value of your equipment and data, a good construction methodology should be followed. Your facility

Data Center Interconnection: What is it & How Does it Work?

Could data center interconnection be the missing piece in your strategy? Discover what it is, how it works, benefits,

How to Design and Build a Data Center

Take on data center design by factoring in these considerations, including space, power, cooling, performance,

Data centers at crossroads of tech and resilience: PwC

Explore strategies for optimizing data center infrastructure to balance scalability, reliability and efficiency amid energy

Data Center Interconnectivity: Driving Seamless Operations

Facilitate seamless operations with data center interconnectivity insights. Learn how interconnected systems drive

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