

Cold aisle of the computer room



AI Overview

The cold aisle is the space between the front faces of two rows of server racks, where cool air is supplied for intake into the servers.

Understanding the Cold Aisle

In a typical data center, server racks are arranged in alternating rows to create hot and cold aisles. The cold aisle is formed by positioning the fronts of two rows of servers facing each other. This is where the servers draw in cool air to maintain optimal operating temperatures . The coolest air in the computer room is concentrated in this aisle, making it the primary area for effective server cooling .

Airflow and Cooling

Cold air is usually delivered through perforated floor tiles or vents connected to a raised floor system, which acts as a plenum for conditioned air from the computer room air conditioning (CRAC) units . The cool air rises through these tiles directly into the cold aisle, where it is drawn into the front of the servers. After passing through the servers, the now-warmed air is expelled into the hot aisle, located behind the racks, and eventually returned to the CRAC units for re-cooling .

Key Points

- Front of servers faces the cold aisle; the back faces the hot aisle .
- Cold aisles are the coolest areas in the data center, designed to maximize cooling efficiency

Article Content

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Hot Aisle Containment vs. Cold Aisle Containment:

Assuming a computer room is configured in such a way that either is an option, hot aisle

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Hot and Cold Aisle Containment: What You Need to Know

How aisle containment works Aisle containment is a physical means of separating hot (exhaust) and cold (supply) air.

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Hot Aisle vs Cold Aisle Containment Explained (Data

Hot aisle and cold aisle containment are foundational concepts in data center design. When

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Hot Aisle vs Cold Aisle in Data Centers: Technical Impact, ROI, and ...

What Are Hot Aisle / Cold Aisle Configurations? Data centers are ovens if left unmanaged. Hundreds, sometimes

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Data Center Temperature: Hot And Cold Aisle Containment

Hot and cold aisle containment systems are crucial for data center temperature. Click to learn about airflow, cooling

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Data Center Containment: Types, Benefits & Challenges

The air from the enclosed hot aisle is returned to cooling equipment via a ceiling plenum or duct work, and then the

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Data Center Design: Hot Aisle & Cold Aisle – Length

Proper aisle planning isn't just about airflow—it's about optimizing safety, serviceability, and system

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Data Center Hot Aisle/Cold Aisle Layout Design

Data Center Hot Aisle/Cold Aisle Layout Design Looking for ways to keep your Data Center Server Room cool?

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Cold Aisle Containment: An Essential Strategy for Data Center ...

Cold aisle containment is a critical design approach in modern data centers aimed at enhancing cooling efficiency. It

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Explore hot and cold aisle containment for your data center

Hot and cold aisle containment can help you maintain the best air flow, temperature and humidity in the data center to

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Why should the computer room design hot and cold aisles, design ...

Why should the computer room design hot and cold aisles? Because the computer room uses the hot aisle and cold aisle to change

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The Data Center Hot/Cold Aisle Containment Debate

Another issue is the fact that in cold aisle containment the server room will be kept at a high temperature, as opposed

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Data Center Hot and Cold Aisle: A Quick Guide

Cold Aisle The cold aisle is the space in front of server racks where cooled air

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What is the Purpose of a Hot Aisle & Cold Aisle

The segmentation of data centers and server rooms into alternating cold and hot aisles has been

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Data Center Aisle Containment

Traditional open aisle data centers use perimeter PAC (precision air conditioning) or CRAC (computer room air conditioning) units to

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Cold Aisle Containment: The Ultimate Guide To

Additionally, cold aisle containment tends to be easier to implement compared to hot aisle containment, as

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Hot & Cold Aisle Containment: Implementation Guide 2026

Hot Aisle Containment (HAC): This methodology isolates the hot aisle, transforming the rest of the room into a cold air

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Hot vs. Cold Aisle Containment: What's Better? | SERVPAC

Unlike cold aisle contaminants, hot aisles are more forgiving for racks and equipment that live outside the containment architecture,

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Hot Aisle vs. Cold Aisle Containment: DCIM Guide

Compare hot aisle vs. cold aisle containment strategies and learn how DCIM software optimizes data center cooling

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Why should the computer room design hot and cold aisles, design ...

The airflow organization in the equipment room completes the isolation of cold and hot aisles, which maximizes energy efficiency and

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Move to a Hot Aisle/Cold Aisle Layout

Hot aisle/cold aisle layout makes sense for the vast majority of new data centers or data center expansions. However, retrofitting an

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How to Make the Right Choice? Comparison between the Enclosed Cold ...

Not all data center computer rooms are suitable for arranging enclosed cold aisles and hot aisles. It mainly depends

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Hot and Cold Aisle Containment Systems: How They

Hot aisle containment (HAC) and cold aisle containment (CAC) are the most efficient ways

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Cold Aisle | BladeRoom Data Centres

A cold aisle is a cooling strategy where the fronts of server racks face each other, creating a dedicated pathway for cool air from the

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The Advantages And Disadvantages Of Hot-Aisle, Cold-Aisle

But there are some disadvantages to cold-aisle containment. Allowing the discharge air from the hot aisle to fill the

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Hot and Cold Aisle Containment: What You Need to Know

Hot aisle containment systems isolate the hot aisle using a similar enclosure system to that of a cold aisle with a sealed

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Data Center HVAC Systems

Learn how Data Center HVAC Systems work using cold and hot aisle strategies and air cooled versus liquid cooled IT

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Explore 30 hot aisle, cold aisle, structural, door, roof, flexible containment and airflow-control products for

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Hot Aisle Containment vs. Cold Aisle Containment ...

However, because every computer room is unique, there is no one definitive solution. For this reason, it is important

Contact Us

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