

Hot vs. Cold Aisle Containment



Some data centers focus on just hot aisle or cold aisle containment. The best approach for aisle containment in data centers will be dictated by site conditions. At most sites, it is easier to implement a cold aisle containment solution because there are typically cable trays and other obstructions above the hot aisle. It is very difficult to implement if there is not a return plenum.

Hot aisle or cold aisle containment is a layout design for server racks and other computing equipment in a data center. The goal of a hot aisle/cold aisle containment configuration is to conserve energy and lower cooling costs by managing air flow.

Hot aisle/cold aisle containment data center design requires that a data center manager lines up server racks in rows with the cold air intakes facing one direction and hot air exhaust facing the other direction. This makes one side of the row hot and the other side cold.

The system is built around an air conditioning unit called the CRAC or computer room air conditioning unit. The side of the row that is made up of cold air intakes will typically face the CRAC output ducts. This is known as the cold aisle. The hot aisle is where the hot side of the row typically pours into the CRAC intake. Cooling capacity will increase. Keeping the hot aisle separated from the cold aisle is the core of aisle containment.

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