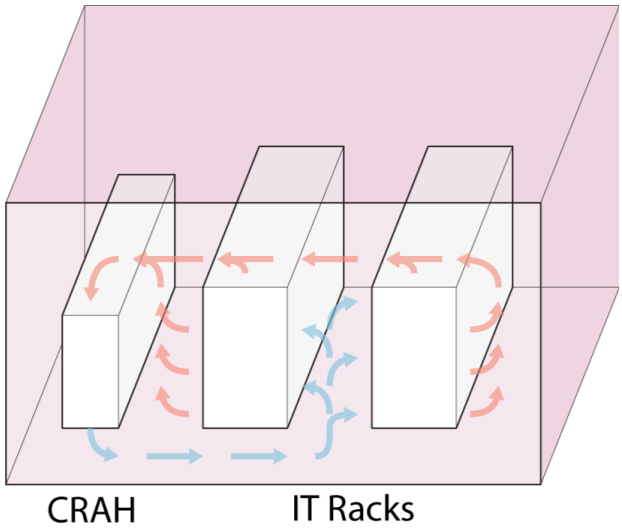
Air Cooling



Air cooling is a data center cooling method that uses fans and air conditioning units (often within the computer room in the form of CRAHs) to circulate cool air between IT racks, expelling the hot air from computing equipment.

Considered the most traditional cooling method, air cooling is used by approximately 80% of data centers. It is most suitable for smaller data centers, because it is sufficient for smaller heat loads while being cost-effective and easy to implement on a small scale. However, for larger data centers with a more significant heat load, air cooling is insufficient and must be supplemented or hybridized with other methods like liquid cooling.

In cooler climates, some data centers can reduce energy consumption by circulating ambient cool air to cool equipment (known as free cooling), bypassing the energy-intensive process of conditioning the air.

On average, air-cooled data centers have a relatively inefficient power usage effectiveness of 1.70, but a near-zero water usage since they do not directly use water for cooling, not considering their indirect water use.

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