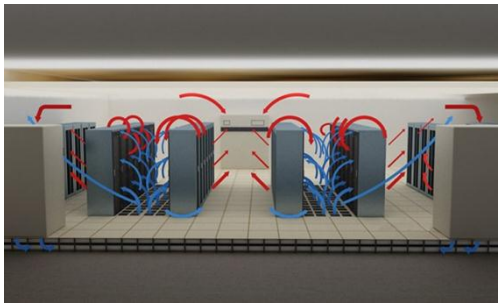
Air-Trap Containment System can help your Data Center reduce your carbon Footprint

As rack densities inevitably climb, the challenges for air-flow management become more severe. The infrastructure struggles to deliver a sufficient volume of cool air to the equipment and to move exhaust air to the air handlers. As it's forced to deliver colder air at a greater CFM, the cooling scheme consumes more energy from the fans through the pumps, down to the chiller. And even under minimal loads, the efficiency of these systems is suspect. Due to the open architecture of the data center room, hot aisle/cold aisle cannot attain complete air separation.

Therefore, here comes in the COLD-AISLE Containment System or HOT AISLE Containment system. **AIR-TRAP** can provide you all kinds of Air-Flow blocking solutions, which is lightweight constructed and highly flexible. It can reduce the energy used by the cooling systems, which helps you to save money. Also, AIR-TRAP is an environmental friendly product. It helps to conserve the resources like water and energy without using additional energy.



Bypass air problem

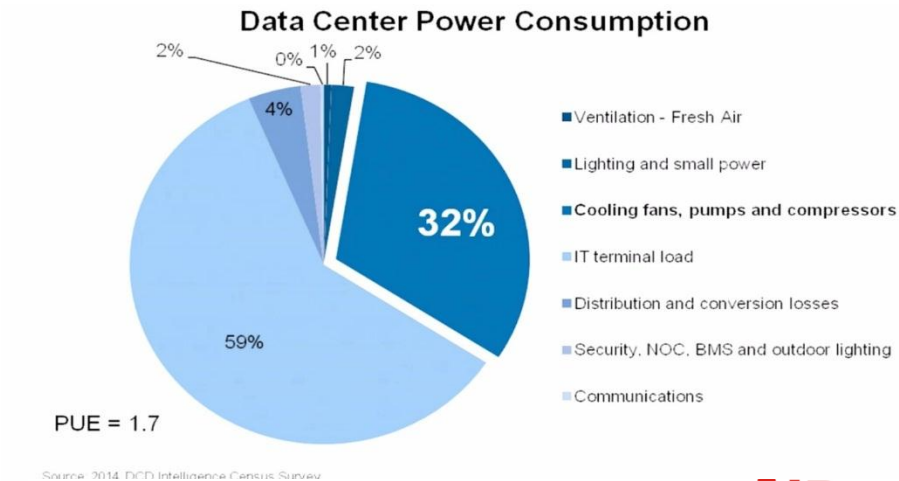
- **Increase the Cooling Capacity without adding cooling system**

Example of Air-Trap Cold Aisle Containment System

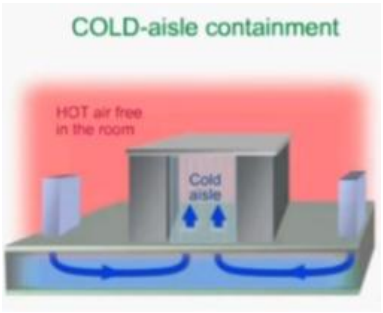
The Data Center produces heat when it is operating, and it is cool-downed by the air- conditioning cooling system. The **Air-Trap** Containment System provides a room to separate the hot/cold air in the aisle of the Data Center. The air is isolated for the cooling system, which can be cool-downed effectively. The containment system can provide a better condition for the Data Center. The efficiency of the cooling system can be increased without adding cooling system, which can reduce the energy and money usage. So, the Data Center becomes more environmental friendly with the **Air-Trap** Containment System.

- **How much energy does a Cooling System Consume inside a Data Center ?**

A recent study supported by ***DCD Intelligence*** in Year 2014 show that roughly **32%** of the total energy which require in a whole Data Center is dedicated to cool equipment. Which mean a small adjustment can make a large difference.



- **Increase CRAC and chilled water set points**



As the air is isolated and concentrated in the aisle, the cooling capacity of the Computer Room Air Conditioning Unit (CRAC) can be increased. The set point of the CRAC can be increased due to the reduction of cold air loss to the surrounding. On the other hand, the chilled water set points can also be increased. The CRAC can maintain the same or even better situation for the Data Center with lower energy consumed. Besides, it can reduce the chance of the CRAC overloading and extend the CRAC's life. These can save money and energy.

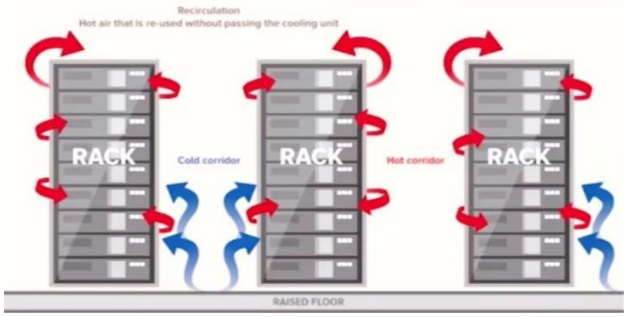
- **Effective blocking system and the Power Free Auto-Retract Feature**

Blocking system is important in an **Air-Trap** Containment System. A good blocking system can effectively isolate the air between the aisle and the outside area. It helps to separate the air in the aisle and reduce the cold air loss to the surrounding, which enhance the cooling effect. Besides, the Power Free Auto-Retract Feature allows the door automatically close after open. All actions are in mechanical mechanisms to perform without electricity applied.

Auto-Retract System ensure Containment Door is closed all the times.

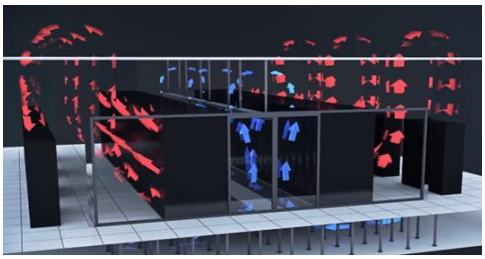
- **Prevent hotspots and Reduce heat related failures**

The **Air-Trap** Containment System can trap the cold air in the room. It can prevent the hotspots produced that may cause equipment failures. Furthermore, it can maintain the cooling effect for a longer period of time after power failure. As the cooling effect can be maintained for a while, there is more time to switch on the backup power for the Data Center before overheated. It can greatly reduce the chance of Data Center failures.



Recirculation problem inside a Data Center

- **Highly flexible**



Typical design on Cold Aisle Containment System

The **Air-Trap** Containment System is custom-designed. It is suitable for most of the customers. The materials are flexible in size, and they can be transported easily. Besides, it can be modified, refitted or even further expansion without reconstruct the whole **Air-Trap** Containment System. These can reduce the waste production and the exhaust gases produced by the trucks during transportation.

- **Decrease the production of carbon footprints**

The **Air-Trap** Containment System enable to conserve resources without using additional energy. Besides, the life of the CRAC can be extended due to the set points increased. As the results, the reduction of the energy consumed can lower the production of carbon footprints. On the other hand, the materials are flexible and can be modified easily. They can minimize the production of waste and exhaust gases during construction and transportation, which can also reduce the carbon footprints.

For additional information on Cold / Hot Aisle Containment System, contact us at **852-3427 8306** or **sale@inaxtech.com** for more