



Interstitial — Brief Overview

# THE INTERSTITIAL ELECTRO-MECHANICAL DISTRIBUTION SYSTEM

In today's critical environments, good Data Center design demands the most efficient, effective distribution of conditioned air, chilled water piping and electrical wiring possible.

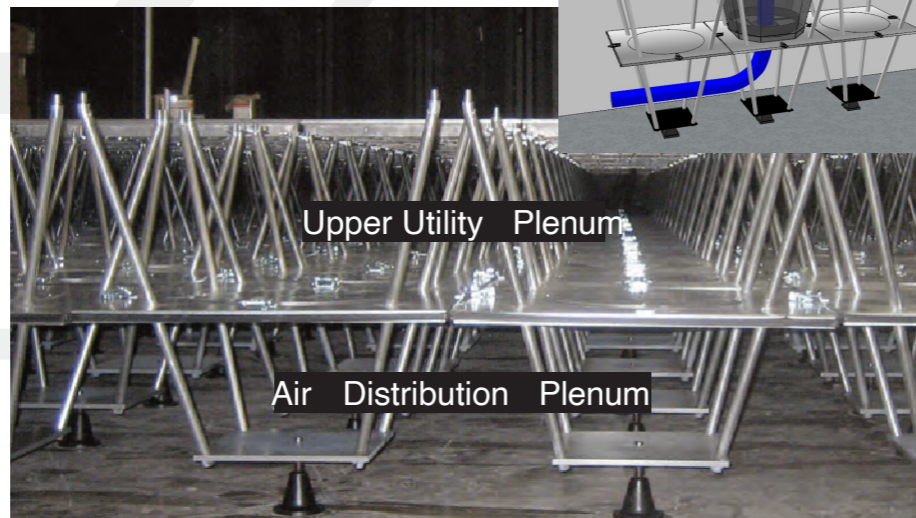
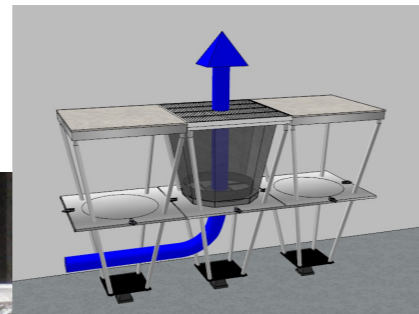
The Interstitial electro-mechanical distribution system meets these requirements by isolating wires and pipes in its upper utility level from supply air in the unobstructed and virtually leak-free lower plenum. True, effective static regain maximizes fan power efficiency to distribute pressurized air uniformly throughout the space regardless of a room's dimensions or heat load or number of floor panels that are removed. Pipes and wiring in the upper utility plenum are easily accessed without ever disturbing air flow.

## Dependable Air Distribution Protects your Equipment and saves Energy

For over 50 years air delivery in computer rooms has relied on "precision" down-flow air handling units (AHUs) that discharge conditioned air into the cable-clogged, leaky space under conventional raised floors. More recently adaptations of these units are often used without raised floors and the room is flooded with supply air, that air is then contained using a hot/cold aisle containment device. The fact that this doesn't work is eloquently demonstrated by the extreme swing in airflow throughout a cold aisle, and the underperformance of precise air delivery to the servers. These problems exist even though the typical data center design provides at least 20-25% more cooling units than are actually required to meet the room's heat load.

Interstitial solves all of these problems. It's a precise air delivery system that functionally distributes all services, while adding another level of sustainability to the data center.

Wires, cables, and hoses are installed in the upper tier, which is completely isolated from the supply air in the lower plenum.



30 panels removed from the floor without effecting the structural integrity of the system makes the installation of pipes, wires and cables a simple and fast installation or reconfiguration

## The Functional Floor

### Interstitial Offers Many Mechanical Benefits

- ▶ For the life of the space, no matter how many changes are made to it, the room will always have pressurized, unobstructed airflow regardless of cable cutouts, floor joints, or number of floor panels removed... wiring cables and hoses will never block airflow;
- ▶ Ventilation Effectiveness throughout the facility, which means genuine air changes and the elimination of extreme airflow swings within a cold aisle. You will never need cumbersome containment structures, or supplemental cooling (e.g., in-row a/c, portable coolers, propeller fans, or expensive fan-equipped air flow panels);
- ▶ True N+1 redundancy. A single back-up air conditioning unit will back-up any downed unit, eliminating the need for unnecessary additional cooling equipment often required in traditional rooms because of "zone cooling" limitations;
- ▶ The freedom to size and select the best air-conditioning system for the particular application with the options to use fewer and larger cooling units. This saves upfront equipment costs, reduces on-going energy consumption, and frees up valuable floor space for data equipment.

### Interstitial Makes It Easy to Install Cables, Pipes and Wires

Cables, power wiring, piping and/or hoses are housed in the upper utility plenum, where they are completely isolated from the air stream. They are always up off the floor and easy to reach. Working on them always takes place in the ambient room environment. Because the wires are safely and wisely separated from the air stream—there's no need for costly plenum rated cables.



All cabling is easily installed in cable trays without disturbing airflow.



Power cables are simply laid in the upper utility plenum—install 232 cabinets in 1 day



Easy to access cut outs without losing airflow or requiring gaskets

### Other Wiring Advantages Include:

- ▶ The system is stringerless regardless of finished floor height. Without compromising Interstitial's remarkable structural integrity, an unlimited number of floor panels can be removed for fast, safe wire installation;
- ▶ Wires, pipes or hoses, and cables can be separated from each other in a variety of easy-to-install and easy-to-relocate modular cable trays.



**INTERSTITIAL  
SYSTEMS**

Sustainability Follows Functionality



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