

# PLANNING A NEW DATA CENTER?

When you peel back all the layers of the data center, its ultimate success depends on **maximizing operational reliability and sustainability** so you can stay competitive.

Two primary factors that determine uptime and competitiveness involve the selection of equipment purchased and sustainable design/engineering practice.

Get them right and you'll be well-positioned for optimal success.

Get them wrong and you can expect your data center to face challenges that compromise its efficiency, effectiveness and longevity.

**KEY FACT:** One of the most critical and first decisions you'll have to make that impacts the viability of your operation and competitiveness is how mechanical and electrical services are distributed throughout the data center...

...many don't discover that until it's too late.

**Here are some of the air, piping, power and cable considerations that often aren't factored into design decisions:**

- The methodology used to distribute those services and the impact that decision has on the effectiveness and efficiency of the facility initially and long-term;
- The effects of the distribution method on related issues such as effective and efficient cooling of IT hardware, type and size of cooling units selected, and effective redundancy of the A/C equipment;
- The ability to upgrade the facility to a variety and/or combination of liquid cooling methods;
- The distribution method chosen for air determines whether containment is required, which in-turn impacts sprinklers, smoke detectors, lighting and security;
- Power and cable distribution has an effect on airflow, floor space, ceiling heights, roof structure, and worker access for the life of the building;
- The overall flexibility to move, add and make changes in IT equipment;
- The CAPX and OPEX...all of which will impact competitiveness, revenues and margins.

## The Mistakes You Want to Avoid

With many decision makers involved, some may not have an intimate understanding of what's happening in the room and will be unaware of these inevitabilities:

- Not all the servers in a cabinet are cooled effectively resulting in a skewed PUE;
- The room's design is limited because of ineffective air distribution which results in more costly and burdensome wire and cable distribution;
- Your needs will constantly be changing more than one may think—adapting to liquid cooling should not be overlooked.



# SO, WHAT'S THE SOLUTION...

Choose an effective and efficient air, piping, power and cable distribution methodology... BEFORE you begin the design of your data center.

And, be prepared to accommodate changes so they have a minimal impact on operations, leaving you with a LifeLong Building System - not a day one solution.

## A Few BENEFITS that Make the Interstitial Electro-Mechanical Distribution System Superior to a Conventional Raised Floor or an On-Slab Design

### **BENEFIT #1: Interstitial separates airflow from wire and pipe distribution which gives you a practical and flexible environment.**

*The air plenum is pressurized which means air will be precisely distributed to servers over much larger areas. This means rooms can be configured differently so the space is utilized more efficiently. This gives you the ability to install more cabinets in the same overall space or construct smaller rooms.*

### **BENEFIT #2: Interstitial's effective air distribution eliminates the need for costly containment methods.**

*Containment is necessary for on-slab applications and used widely with conventional raised floors. The TIER E/A solution allows data centers to be built without the need for costly, burdensome containment methods.*

### **BENEFIT #3: Interstitial is perfect to upgrade an existing facility to a liquid cooled data center.**

*Installation of piping and/or hoses are easily installed in the systems upper utility plenum in accordance with best practices and being code compliant. Any data center can be easily retrofitted to liquid cooling of any type and it's the ideal solution for a purpose built Next-Gen data center.*

### **BENEFIT #4: Interstitial's unique upper utility plenum makes cable distribution and modifications simple and easy.**

*The cost to distribute power cables and/or busway and structured cabling overhead is far more time consuming and costly than underfloor. One customer completely installed all the power cables for 232 cabinets...in one day! This also makes moves, adds and changes easier and faster for power, structured cable and piping.*

Interstitial's underfloor air, pipe and wire distribution methodology positions you for operational sustainability, efficiency and effectiveness.

**NEXT STEP:** Contact us and let's discuss your needs and HOW we can save you time and money with our unique data center air and wire distribution system.

