

# Data Center Update June 2011

24/7 Service Hotline: 877.682.5127

Welcome to our update, created to provide you with a fresh perspective on critical environments.

## Innovative In-Desk Cooling for Trading Desks

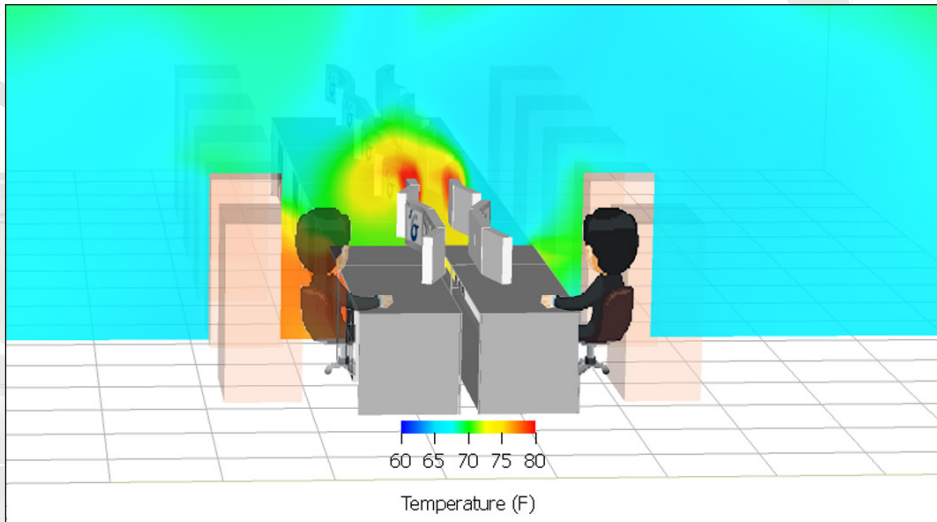


Figure 1 Trading floor with overhead Air Conditioning

Many of today's legacy trading floors that utilize overhead air conditioning systems have shortfalls. In these applications, overhead ductwork is used to force air into the space to condition the PCs under the trader desks and the cluster of monitors on top. This usually results in a drafty room with traders complaining of cold backs and warm legs.

In actual installations, we have recorded temperatures under the desktops as high as 90°F. Figure 1 shows a mock up using 6Sigma CFD software demonstrating a row of trader desks. Notice how the heat is trapped under the desktops with a traditional overhead cooling system. Some have added fans to direct the hot air that is trapped under the desktops upward and away from the traders. This panacea has yielded inadequate results.

A new technology known as in-desk cooling is now available and it removes the heat at the source. It is a small fan coil unit that utilizes environmentally friendly CO<sub>2</sub> or water and can be placed between a pair of trading desks to remove the heat produced from the PCs and monitors. These units are sized to handle up to 2,600 watts of sensible load which is large enough to condition several high density trader desks.

In-desk cooling has several advantages to traditional overhead cooling systems. Figure 2 illustrates the use of an in-desk cooling



By Tamas Petofi, an integral member of the RDMC Mechanical Engineering Staff and thought leader in CFD Analysis.

system. Notice the improvement in comfort level under the desk. These units contain dual 120V fans configured for A+B power inputs and can be powered from an existing plug strip as they have a low power requirement. They contain no compressors or other rotating parts, are quiet, are electrically benign and, therefore, have a low carbon footprint. These products are available through TROX AITCS and SBF1 and can be tied into a BMS network for monitoring.

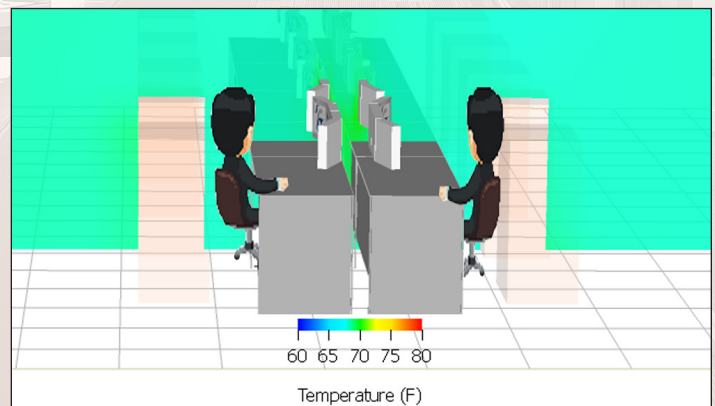


Figure 2 Trading floor with in-desk Air Conditioning

If you need expert help with air conditioning your trading floor or other critical environment needs, contact RDMC at 212-764-7272 or email us at [info@rd-mc.com](mailto:info@rd-mc.com)!



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