



## Cold aisle containment, airflow efficiency continue to pay off

### Background:

Williams-Sonoma's 20,000 sq. ft. data center in Rocklin, Calif. was not meeting cooling requirements with six running CRAC units. The raised-floor facility already had three 20-ton CRAC units and three 30-ton CRAC units in use. Unless the company found a way to improve cooling efficiency, they would have to install yet another 30-ton unit to sufficiently cool their data center.

### Goals:

Williams-Sonoma turned to Instor to improve cooling efficiency by developing custom cold aisle containment and airflow efficiency solutions. The data center also wanted to better manage power using a monitoring and management system for the facility.

### Solutions:

Instor began by containing 12 pods with SealTech's clear Seiden Crystal, class A1 fire-rated curtains and a custom-engineered, retractable ceiling. The self-contained ceiling by Cooler Bytes was designed to roll back onto itself in case of fire: The clear vinyl roof is mounted with a fuse link on one side and is able to retract with a spring-loaded wheel on the other. We tied the retractable ceiling into the EPO fire suppression system with resettable electronic fuse links.

To better manage airflow, we engineered custom rear cabinet doors with a cooling vent fin designed to push exhaust heat up, allowing it to return to the CRAC unit faster. We sealed off more than 80 holes of varying shapes and sizes in the 18" raised floor with customized Sealeze brush grommets.

Instor also installed a facility management system from Geist to control and monitor all CRAC units remotely. We set up thermal sensors within each pod to enable observation of the server temperatures in real time, and we set up power meters at transfer switches and PDUs.

With the RLE monitoring, Williams-Sonoma was able to get a true PUE reading and consistently monitor and adjust data center conditions. Any cabinets replaced after the initial project were installed with Server Technology's Per Outlet Power Sensing (POPS) units so the data center could further monitor and control power down to the outlet level.

Williams-Sonoma spent \$90,000 for CRAC modifications and containment and achieved ROI in less than six months. They received \$25,000 in PG&E rebates and continue to save \$12,000 per month on power at 10 cents/kilowatt.