DBC

Demand Based Cooling™

Demand Based Cooling Case Study #2

Before and After Results Using the Demand Based Cooling System

AdaptivCOOL™ Greener Data

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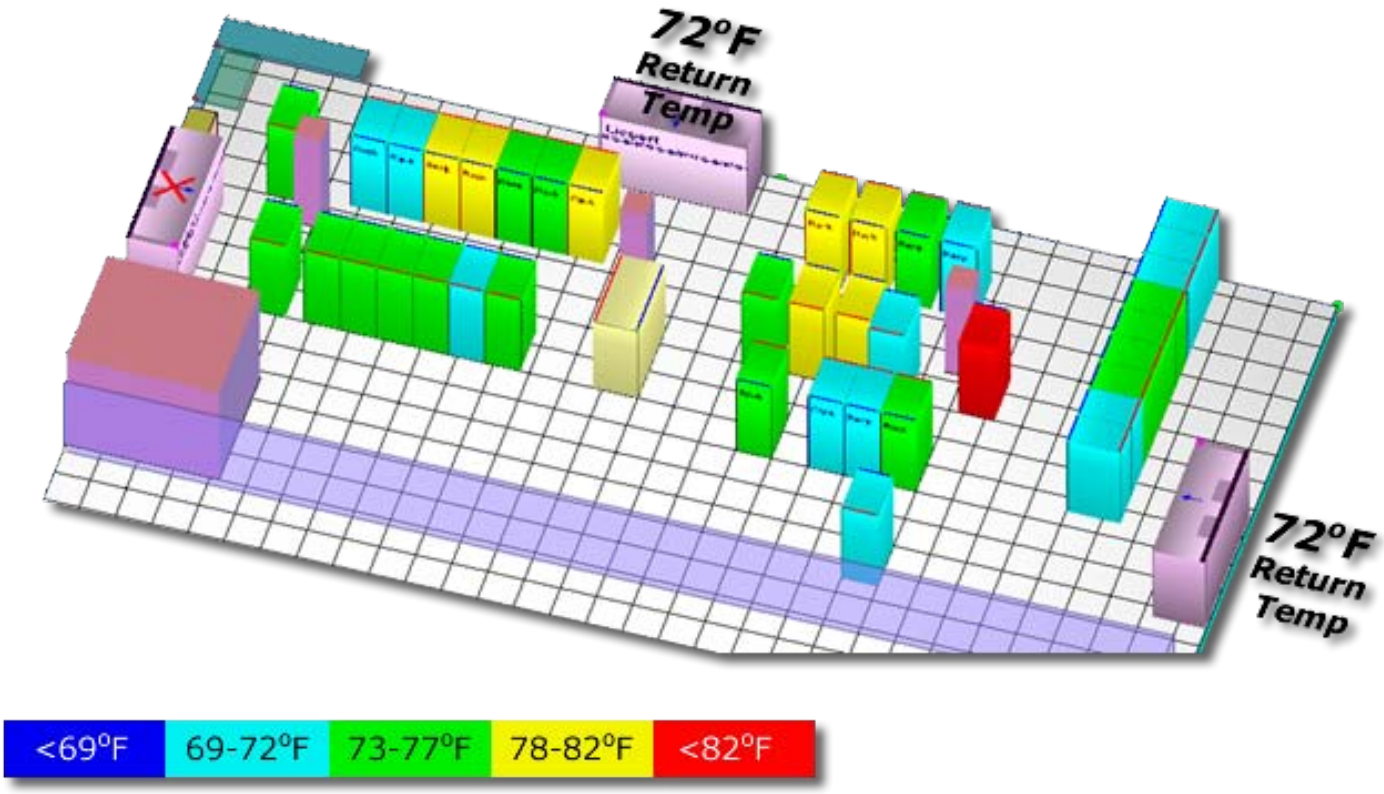

SITUATION:

The customer's data center was experiencing hot spots up to 84F at some server racks while other areas with no IT load were extremely cold. Energy usage was higher than expected in this unbalanced room.

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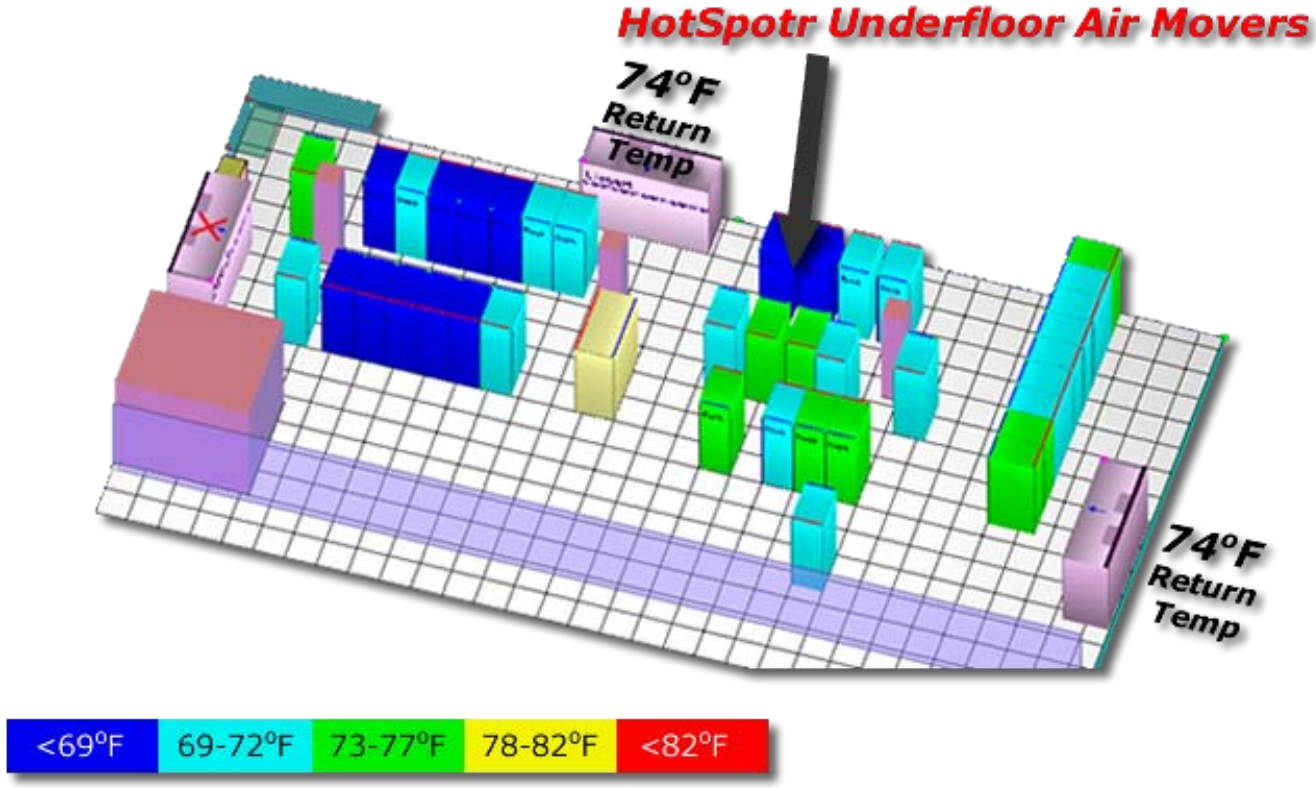
TOOLS USED:

On Site Data Center Audit by AdaptivCOOL Team and CFD Simulations



SOLUTION:

CFD simulations showed significant wasted cooling and insufficient airflow from some tiles near high density racks. Redistribution of underfloor airflow and installation of Demand Based Cooling system controlling two HotSpotr underfloor air movers eliminated hot spots and brought maximum rack temperatures below 77F. Overcooled areas were eliminated. Additionally, a CRAC failsafe device was installed to lead/lag 2 of the 3 CRACs and provide automatic failover in the event of a CRAC failure on any running CRAC. Energy usage for cooling was reduced by 24%. The return on investment was less than 12 months

Notes:

The customer ran only 2 CRACs before and after, alternating the 2 CRACs at the far ends of the room, the Center CRAC always runs. The energy savings were due to the CRACs not running their compressors, Glycol, pumps and DryCooler fans as much since there was less humidification/ dehumidification fighting occurring with better cooling distribution to heavy IT loads. The CRAC Failsafe was installed to allow higher CRAC setpoints and a mechanism other than manual intervention to turn on the redundant unit if there was a failure on one of the 2 running CRACs.

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