



Airflow and Temperature Management Solution Report

Prepared for:

Christian Living Communities
7000 Belleview Avenue, Suite 150
Greenwood Village, CO 80111

Christian Living Communities had a heat issue in their data closet that contained vital computing resources. DP Guardian offered a Geist solution to bring things under control quickly and painlessly for the customer. As a result, CLC is confident that their data is living in a secure and stable environment.





Objective

Improve airflow and temperature management in Christian Living Communities communications/server closet to protect critical computing and network equipment.

Evaluation

Problem statement:

- The entrance door for the communications closet must be kept open to allow for air circulation.
- Keeping this door open is a compliance concern.

“Before” conditions:

- Average temperature recorded throughout the closet was 85.1° F with the door closed.
- Communications/server closet is approximately 4' X 6' with 8' drop ceiling.
- An undersized exhaust fan is attempting to remove air through the space.
 - A single ceiling unit 10" diameter fan at 150 cubic feet per minute (CFM).
- Supply vent at closet door registered “zero” CFM with the door closed.
 - This is due to a lack of negative pressure created in the space by the undersized exhaust fan.
- Approximately 750 Watts of power are being consumed in this space requiring approximately 200CFM at 70° F.
- The total “system” is cooled via the buildings HVAC system which turns down on nights and weekends.



Recommended Solution

- Install RAC10 fan solution.
 - This is a temperature controlled system that can provide up to 1100 CFM dynamically.
 - The situation was evaluated and the suggestion was made that CLC purchase the Geist RAC10 unit.
 - The proposed solution was installed.
 - Two additional temperature sensors installed to manage closet temperature.
 - RAC10 System was pre-programmed and setup to maintain 72 ° F temperature levels within the closet.

Final Results

“After” Results:

- Temperature is now maintaining 72 ° F inside of the communication/server closet a 13 °F difference from before the installation of RAC10.
- The door to the communications closet remains closed.
- Redundant exhaust fans are currently providing a measured 700 CFM.
- Ambient supply air vent (approximately 1' x 2' in size) in door registered 675 CFM measured, with noted suction when opening the door for access to the closet. Note: this supply vent may need to be increased in size if additional load is added into the space.
- Average temperature throughout room measured 73.1 ° F.

Geist Americas

800.432.3219
geistglobal.com

Geist DCIM
1.877.449.4150
geistglobal.com

Geist Europe

+44 (0) 1823 275100
geistglobal.com

Geist Asia

China
+86.755.86639505
geistglobal.com

Hong Kong
+852 90361927
geistglobal.com