

Containment Case Study



IMMEDIATE PERFORMANCE RESULTS

Based on a customer installation in 2012, the client sought to improve energy costs associated with existing racks that included components to monitor and graph fan speed and power at the rack/row level. Upon completion of a new aisle containment system, immediate results were observed with significant decreases in fan speed and power usage (refer to graphs and cut-over date of 10/9/2012 representing the completion of containment system).

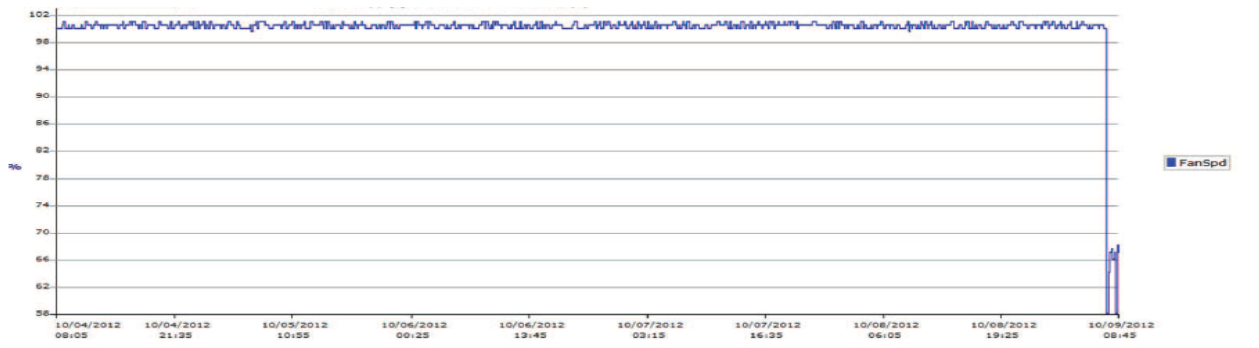
TYPICAL RESULTS FROM CONTAINMENT UPGRADES

Our customers typically see a 20-30% decrease in their cooling costs. One graph (Figure A) is for server fan speed and the other is for the total cooling (Figure B). The customer noted that fan usage was down from 100% to 70% and a drop in overall cooling from 37kW to 33kW. Some elements of ROI can be hard to measure. For example, with containment, users gain increased cooling capacity which frequently allows the additional benefit to shut down a CRAC unit. The chart below shows the effect of return air temperatures on CRAC performance. This

Effect of Return Air Temperatures on CRAC Performance Rating			
Cooling Unit	Supply Air Temperature	Return Air Temperature	Cooling Capacity
Standard 10-Ton CRAC	60°F	70°F	7.8 Tons
	60°F	90°F	15.5 Tons
	60°F	105°F	20.7 Tons
Standard 30-Ton CRAC	60°F	70°F	23.0 Tons
	60°F	90°F	46.0 Tons
	60°F	105°F	61.3 Tons

Source: ANSYS Corp

Fan Speed Usage - Figure A



Overall Cooling Usage - Figure B

