



IMPROVING DATA CENTRE PUE - MISSION CRITICAL FACILITIES

ISSUE

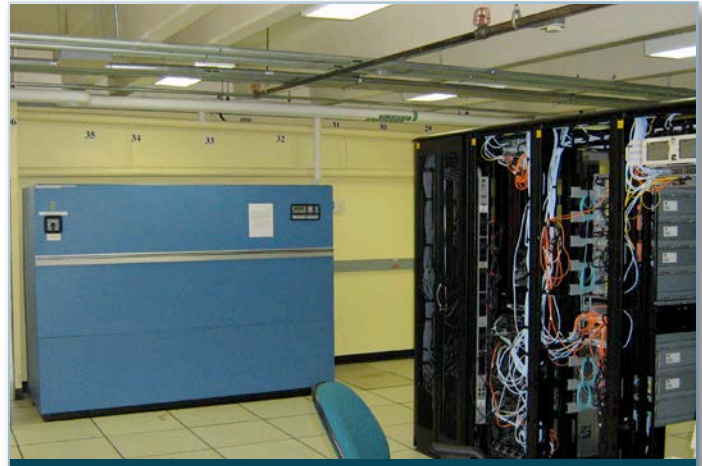
The Power Utilization Effectiveness (PUE) for this facility was 2.45, significantly outside of the industry benchmark of 1.6 for modern data centres.

ACTION

Dimax connected their Building Performance solution and began tracking from the data centre's power quality meter; intelligent UPS units; and building automation system, monitoring power usage and equipment performance.

Some significant performance-related issues were identified, including:

- Compressors were not operating at equal efficiency
- Under floor supply air plenum temperature was stratified largely as a result of differing supply air temperatures from the down flow units
- Fan energy usage was high as a result of operating all down flow units (including back-up)
- Temperatures emanating from the discharge of server racks were lower than necessary as a result of the data centre space temperature being excessively cool
- Down flow units were not running efficiently as a result of operating them well outside their design parameters
- Supply air from the under floor cavity was blending with return air in the space, lowering the efficiency of cooling for the servers



- 2 data halls at 15000 square feet each.
- HVAC system comprising 12 DX cooled down flow computer room air conditioning units.
- Make-up air units with electric heating to provide satisfy ventilation requirements.
- Honeywell Excel 5000 BAS.

RESULTS

Without replacing equipment or compromising the risk in this critical environment, *Dimax* identified several measures to address the issues noted above. Almost immediately PUE dropped to 1.92, a 22% improvement.