



DataCenter Thermal Assessment

Claridion DataCenter Thermal Assessment

Enables the visualisation, over time and space, of the thermal behaviour within the computer room. Such a view will help in reducing energy consumption, by adequately adjusting, for example, the air conditioning output.

Features

- Makes use of Claridion CoolVu technology, which is non intrusive and based on a wireless infrastructure (802.15.4 RF)
- Allows the visualization, over time, of those temperature variations having a direct impact on the hosted systems.
- Integrates real time data with the CoolSim simulation tool to improve evaluations of "what if" scenarios.
- Helps in precisely identify the hot spots (higher failure risks) and cold spots (energy overconsumption)

Benefits

- Outages reduction
- Energy savings
- Optimisation of systems performance
- Direct visualisation of impacts from eventual modifications
- Active involvement

Claridion DataCenter Thermal Assessment is an independent environmental audit designed to evaluate the data center current situation in order to identify not only operational risks but also opportunities to improve energy efficiency ratio.

Environmental considerations, expansion requirements, risk management concerns or simply a careful financial approach, they all suggest that a thermal optimisation of the data center is quickly becoming a critical aspect of IT.

Phase 1 : Measure and Analysis

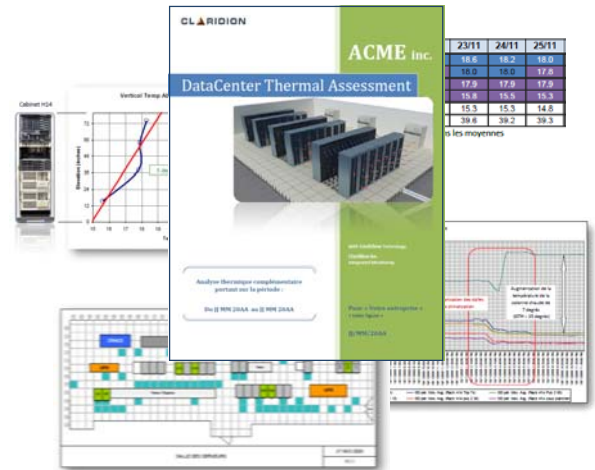
Thanks to the CoolVu technology (wireless environmental sensors), Claridion will gather data, during a predetermined period of time (ideally 1 week), through the automatic collection of statistics related to the local environmental condition. It will then be possible to assess the thermal dynamic over time of the room and thus help in identify constraints, operational risks or improvement opportunities.

The results of this analysis will be presented by one of our experts and will be part of a detailed report, covering :

- Dynamic thermal analysis of the racks
- Vertical and horizontal temperature absorption curves
- Detailed and commented graphs
- ranking compared to industry standards (ASHRAE 2008) concerning risk management and energy efficiency.

The provided report can constitute an excellent support to a budget request.

To complement this assessment, Claridion can also model the room in a virtual format to perform a global simulation through the service CoolSim (see Phase 2).



Phase 2 : Modeling and Simulation

A realistic portrait of the thermal behaviour of the room is obtained through the analysis of the collected data. In order to extend the resulting assessment, Claridion takes advantage of CoolSim; a software tool specialised in thermal and airflow simulation through CFD (Computational Fluids Dynamics) methods.

Integrating real measured data with those predicted by CoolSim, the simulation becomes extremely representative of the actual situation and very useful in the evaluation of "what if" scenarios like anticipating the outage of an air conditioning unit or the impact of adding a new, high density rack.

Such a service could be used as often as necessary to find and analyse possible improvement to the data center.

