



Efficient Energy for Green IT  
Consult. Validate. Deliver.

# TECHNOLOGY - INFRASTRUCTURE MANAGEMENT SOLUTIONS

TIM Infratech is uniquely focused on technology infrastructure management, offering solutions, products, services and software to help manage your data center operations and infrastructure with the most efficient technologies.



Our Value Added Services

Consult

Design

Supply

Install

Stabilize

Sustain



## Real-Time Locating System (RTLS)

A real-time asset management solution that completely eliminates the manual process of tracking and managing your physical IT assets.

- Easy deployment for quick value realization and rapid ROI
- Real-time IT asset tracking using RFID technology
- 100% accurate, free of human error



## Power Saving Solutions for R & D Labs

An automated solution that helps you achieve reduction in power consumption and calculation of savings of energy bills.

- Reduce energy costs
- Accurate and rapid ROI
- Customizable solution
- Online report generation



## IT Operations Management

The ITOM solution is related to the out-of-band management of compute IT infrastructure devices.

- Centralized and Out-of-Band remote management of IT
- Minimize MTTR (mean time to respond and mean time to resolve) hence reduced downtime costs
- Integration of physical and virtual infrastructure for better management
- Improved uptime and enhanced SLA



## Power and Environmental Rack Based Management

Enables control and monitoring of your power consumption, capacity requirements, load trends along with cooling requirements at the rack level.

- Get accurate data for cooling requirement
- Intelligently manage power consumption
- Shrink carbon footprint
- Reclaim lost capacity in the data center
- Optimize critical data center infrastructure to drive down costs



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## DATA CENTER INFRASTRUCTURE OPTIMIZATION (DCIO)

In DCIO services, we understand the granular details of the DC capacities designed, utilized and available in the data center by utilizing industry best hardware sensors (non-intrusive) and the software solutions (monitoring and CFD modeling). Based on the detailed study we provide our recommendation that helps DC managers to fully Optimize the data center capacities.



### Ratification of Data Center Design

Traditionally, data center designs have relied on thumb rules, best practices and the instincts that come only through experience. These are not exact sciences. In fact, history has shown time and again that problem with initial design are frequently found during the commissioning and testing stage problems that could have been avoided if a simulation had been performed earlier in the design phase.

- In data center ratification we test, verify and confirm the cooling and power performance of your design before the first brick is laid
- The ratification is done by simulating the airflow throughout your design, answering the questions that had previously been left to chance. How will your design perform under failure? Will your cooling system provide enough cold air to all IT equipment? Have you over engineered to be safe.



### Recover Lost Capacity

Most data centers never achieve the capacity for which they were designed. The cost of this lost capacity dwarfs all other financial considerations for a data center owner/operator. While designing of the data centres, the racks are designed for defined capacities i.e. space, power load, heat load and weight. At the time of provisioning, these capacities are never utilized optimally due to lack of proper monitoring and provisioning tools. By utilizing non-intrusive monitoring technologies for power & environment along with real time CFD, we evaluate the capacity utilization within each rack and find the scope of capacity optimisation. The prime keep IT availability on priority and to find the scope of objective is to optimization with in rack. The parameters considered for in rack capacity optimisation are airflow, thermal profile, power, space & weight.



### IT Availability

While working on energy efficiency initiative, it is very important to understand and ensure that any change made in DC for efficiency optimisation will not affect the IT availability. For example- tweaking the cooling temperatures to improve energy efficiency may be a threat to your IT availability as it may create hot spot somewhere in data center. In DCIO, we help the customers in simulating different scenarios which leads to improvement in data center energy efficiency and see if this change is going to create a threat for IT availability.



### Cooling and Air Flow Optimization

Cooling efficiency is defined as the effectiveness of airflow and temperature delivery to IT hardware from cooling units. While we work on efficiency optimisation, the primary criteria is to maintain the IT reliability/availability.

- Monitoring the cooling requirements in the data center and benchmarking it against the installed cooling capacity to understand the scope of optimization
- Identify the cooling problems- Air recirculation, mixing, leakage, short-circuiting, air flow balancing and achieve rack demand cfm/cooling.



### Space Optimization

Real estate cost shares a big part of TCO and is known to be one of the important data center capacity parameter. The data center space in turn can be divided into white space and rack U space.

- Data center equipment positioning has great impact on equipment efficiency. Optimal utilisation of U space in conjunction with other capacity parameters allows effective utilization of white space as well means more IT can be hosted in existing data center.
- Better utilization of rack U space and white space
  - Reduce or defer CAPEX cost while deferring expansion of data center.



### Active CFD Analysis

Provides a baseline 3D visualization of the data center along with temperature and airflow patterns. The differentiation our CFD solution has is that our model is calibrated with real time monitored data. It helps identifying the cooling requirements and zones of overheating or over cooling along with restrictions in air flow that can compromise reliability and availability of equipment's.

- Airflow pattern and pressure distribution under the raised floor
- Distribution of air flow rates through perforated tiles and other opening on raised floor data center
- Airflow pattern and temperature distribution in the room for both raised floor and non raised floor
- Predict the future airflow distribution and environmental conditions after any proposed change for energy optimization.



### Rack Based Power / Thermal Mapping

- Monitor the real time environmental conditions of the rack at multiple points.
- Monitor the airflow/CFM requirement and availability.
- Predict the future state of rack after any proposed IT deployment
- Identify the racks having hot spots or are over cooled.



### Predictive Analysis with real time data simulation

The predictive analysis is done with the help of innovative technologies using real time data. This helps the customer to take the informed decisions. The before – after scenario can be simulated which helps the data center owners in their drive of efficiency improvement.

- Quantify how much extra IT load can be installed in each of existing racks
- Predict and visualize, how future changes will affect availability, physical capacity and cooling efficiency (Move, add and change)
- Relate the distributions of space, power, cooling and IT to each other to show capacity
- Visualise and simulate both scenarios of containment (Hot and cold aisle) to analyses the difference & which one will be more beneficial?
- Predict the data center temperature change along with time stamp due to one or more cooling device failure.



### Cooling Failure Analysis

It is very important to study & analyse the possible impact of cooling failure on data center. It is important to precisely predict the impact of one or all cooling unit's failure on the each rack heat dissipation with reduction of CFM level. The transient simulations help in predicting the temperature raise per second in such event.

- What will be the thermal level in data center if any or all cooling units fail
- Predictive analyse to understand the how much time data center team have to either make the cooling unit up or to switch off the servers.

#### Contact us

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