

# 6SigmaRoom: Data Center Design and Operations

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## Data Center CFD & Physical Capacity Planning

6SigmaRoom is the industry's **leading data center CFD tool**. It is part of the 6SigmaDCX software suite, which integrates IT and engineering operations in capacity planning. Our simulation technology allows you to safely predict the impact of change on a data center's resilience, physical capacity and cooling efficiency. 6SigmaRoom can be used at any stage of the data center life-cycle — from design all the way through to operations.

## Supported by Our Industry-Leading Solver

Our CFD solver is the fastest and most accurate in the industry. It is one of the many reasons why 6SigmaRoom is trusted to deliver accurate results for data centers of any size.

Over the years, we have fine-tuned the solver so it runs optimally on any compute hardware — from your laptop to a cloud computing platform.

## Data Center Suppliers & Vendors

As a data center infrastructure supplier, you can use 6SigmaRoom to design cooling units, floor grilles, cabinets and containment systems to maximize their performance, then prove their capabilities to your clients.

## Data Center Owners & Operators

As a data center owner-operator, you can use 6SigmaRoom's powerful solver to forecast the complex space, power, cooling, network and weight issues that arise during capacity planning, and ensure that your data center is scalable, efficient and resilient.

## Data Center Designers

As a design consultant, you can use 6SigmaRoom to validate your data center designs, understand the impact of external factors on generator and chiller performance, and troubleshoot existing data center issues such as hot spots.



# 6SigmaRoom Features

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## Extensive DCIM Integrations

By syncing with over 15 DCIM and ITSM tools, 6SigmaRoom automatically stays up-to-date with your current inventory and future deployment plans.

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## Transient Simulation

From utilizing IT load variations to failing parts of your power and cooling infrastructure, transient simulations offer clear insight into how your DC performance fluctuates over time.

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## Import 2D & 3D CAD Geometries

Import your existing CAD drawings or geometries to streamline your simulation projects.

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## Data Center Metrics

Visualize performance with The Green Grid's integrated Performance Indicator and view industry plots including ASHRAE, PUE & SLA compliance.

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## Solve Anywhere

Our fast and automated parallel solver can scale to make the most of your processing power. Or you can expand into the cloud with secure, scalable and unlimited on-demand compute power.

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## Failure Analysis

Ensure you're maintaining your facility's resilience: test the impact of switching off fans, pumps, chillers or any part of your power network.

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## Comprehensive Library

With over 4000 intelligent objects, DCX has the most comprehensive data-center-specific library of any CFD suite.

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## Reporting

Export world-class images and movies in gif, wmv and other formats. Create a customized, automated report to demonstrate your latest design at the click of a button.

## External Modeling

DCX allows you to analyze the impact of external environmental factors, including wind profiles, terrain roughness, humidity, solar gain and even exhaust emission contamination from generators.

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## Data Network Module

View data network connectivity on both a physical and logical level. This module delivers insight into your existing and available capacity, helping you plan server and switch port allocations efficiently.

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## Use More Fresh Air

Be more efficient: test the latest indirect and direct free cooling systems, including sprays and wet media.

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## Controls

Model any modern control system, including VFDs, master/slave, grouped or staged controls, or even plug in your own control algorithms through our API.

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## Power Network

Connect the entire power network to show single line diagrams, RPP and PDU panel schedules, breaker overloads and phase balance.

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## 1D Flow Network

Model liquid and air network of piping and flow devices to create a visual illustration of how water flow and airflow is directed around your model.

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## Non-DC Scenarios

Investigate human comfort and contamination concentrations across clean rooms and office spaces.

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## What-If Analysis

Run what-if failure scenarios on any element of your design to test layouts and study the implications of different power, loading and cooling scenarios.