

EcoStruxure™ IT Design CFD

Hotspots, recirculation, and inefficient airflow are invisible until they cause real damage to equipment, uptime and budget. Traditional simulation tools take hours to run, require specialized expertise, and slow down decision-making at exactly the moment speed matters most.

EcoStruxure IT Design CFD delivers full-physics airflow simulation results in minutes — accurate enough for the most demanding engineers, intuitive enough for anyone managing a data center.

Computational Fluid Dynamics (CFD) is physics-based simulation that reveals how air moves and heat builds — giving you the insight to optimize cooling performance and prevent costly thermal failures.

Key Benefits



Instant CFD analysis

Run a complete airflow and thermal simulation in minutes directly in your browser, no specialized hardware required.



Visualize what you can't see

Identify recirculation zones, cold aisle bypasses, and underperforming coolers before they become operational problems



Cooling optimization metrics

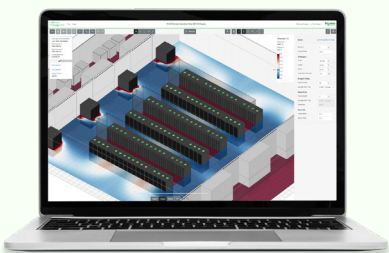
IT airflow effectiveness and efficiency metrics give a clear, quantified picture of cooling performance and exactly what to change to improve it.



One-click reporting

Generate a comprehensive cooling analysis report instantly. Share simulation results with stakeholders, contractors, or customers

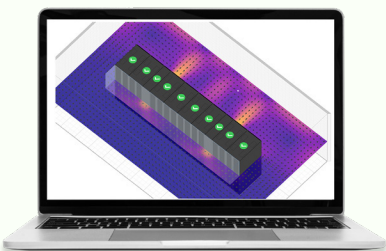
Design it right, from the start



EcoStruxure IT Design CFD creates a live, three-dimensional thermal model of your data center whitespace. Configure your room layout and equipment and run a full simulation in a fraction of the time of legacy tools — with results you can act on immediately.

- **Runs entirely in your browser.** Nothing to install, no simulation workstation required.
- **No CFD expertise needed.** Designed for data center practitioners.
- **What used to take hours now takes seconds.** Over 10× faster than CPU-based solvers.
- **Accuracy grounded in 20+ years** of award-winning, peer-reviewed research and patents.

Integrate into existing project



Import data from a wide range of DCIM and planning tools to ensure flexibility across your existing ecosystem.

Prefer to work from a CAD file or drawing?

IT Design CFD also accepts plan view imports from common design tools, so your layout is ready to simulate in moments.

Already using EcoStruxure IT Advisor?

Import your data center layout directly into IT Design CFD

se.com/itdesigncfd



Built for real data center decisions

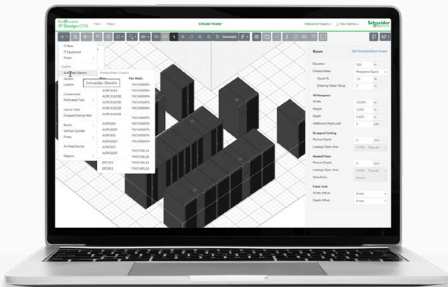
Scenario	Challenge	IT Design CFD Solution approach	Customer value
Validating a high-density deployment	Risk of installing new high-density racks without understanding heat impact and airflow constraints	Simulate thermal behaviour before deployment and analyze rack density impact	Confident deployment decisions, reduced risk, optimized cooling strategy, improved reliability
Testing a cooling retrofit before committing budget	Uncertainty if proposed cooling upgrades will solve overheating issues	Run simulations to test cooling changes (e.g., airflow, containment, equipment placement)	Data-driven investment decisions, avoided unnecessary costs, validated cooling performance
Diagnosing and resolving a thermal problem	Existing environment experiencing overheating or hotspots with unclear root cause	Perform thermal analysis to identify hotspots and airflow inefficiencies, then test corrective actions	Faster issue resolution, minimized downtime, improved operational efficiency and system stability

Whether you're the data center operator making the call or the engineer advising on it, you're working from physics-based simulation, not guesswork.



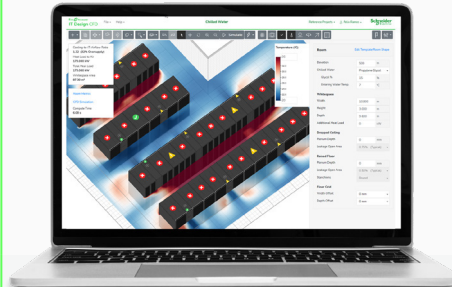
1. Build your model

with an intuitive drag-and-drop interface



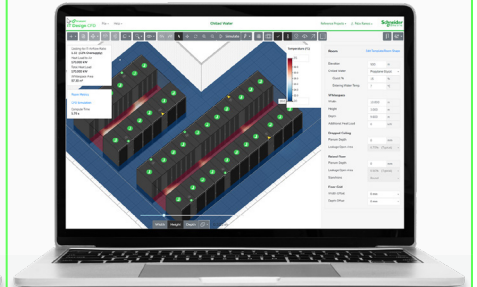
2. Simulate in seconds

not hours, with the industry's most accurate solver



3. Analyze your results

and optimize with industry-leading airflow metrics



IT Design CFD in EcoStruxure IT

A **DCIM** ecosystem covers planning, monitoring, control, forecasting, and reporting. **EcoStruxure IT Design CFD** anchors the design and validation layer, ensuring that every physical infrastructure decision is thermally validated before it becomes a real-world risk.

Try it on your own data center. Free 14-day trial at se.com/itdesigncfid

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