

Applied Math Modeling Releases CoolSim 3.2

New Version Makes Data Center Thermal Modeling Easier and More Cost Effective

March 10, 2009 – Concord, NH – Applied Math Modeling Inc. announced today the release of CoolSim 3.2 for modeling the thermal environment of data centers. CoolSim 3.2 adds many new features for the rapid creation and analysis of data centers, including the ability to model the placement of thermal loads within equipment racks, the modeling of supply ducts and diffusers, and CRAC failure analysis. CoolSim is the most cost-effective, comprehensive, easy-to-use tool in the market for the quick and easy analysis of data centers.

With CoolSim 3.2, users quickly determine such things as the maximum equipment loading for a given data center, the optimal placement of cooling and/or thermal loads, the effect of failed cooling units, and the opportunity to reduce operating costs by reducing cooling capacity.

Features of the new CoolSim 3.2 release include:

- **Modeling supply ducts and diffusers**
In addition to the non-raised floor modeling capabilities introduced in CoolSim 3.1, CoolSim 3.2 now supports the ability to model supply ducts and diffusers.
- **Modeling individual servers in an equipment rack with blanking and un-blanking**
In addition to the “average rack thermal load” approach, CoolSim 3.2 has added the ability to position specific loads at any height in the equipment rack with a commensurate size and flow-rate from a library of popular IT equipment.
- **Performing multiple simulations concurrently for the rapid study of CRAC failure**
The analysis of CRAC failure is an important consideration of any data center. With CoolSim 3.2, CRAC failures can be modeled concurrently. Using the easy to use GUI, CRAC’s can be cycled on and off for multiple scenarios, then submitted to the high performance computing cluster concurrently.
- **Addition of AdaptivCool active tiles to the CoolSim library**
Applied Math Modeling Inc. has partnered with Degree Controls Inc., to incorporate the AdaptivCool HotSpotr floor tiles into CoolSim. CoolSim 3.2 models the HotSpotr feedback loop, providing coupled predictions of airflow and temperature, providing an excellent means for predicting the benefit of adding the HotSpotr solution to an existing or new data center.
- **Addition of new Liebert and APC Cooling Units**
In addition to the existing array of cooling objects in the CoolSim library, the most recent Liebert and APC CRAC units have been added, including inline and overhead models.
- **Improvements in output postprocessing formatting**
The hallmark of CoolSim postprocessing is the html report and embedded graphics that can be viewed and manipulated on any computer, anytime, anywhere. In CoolSim 3.2, the structure of the html report has been greatly improved, allowing for easier navigation from one image to another.

Paul Bemis, CEO of Applied Math Modeling said: “CoolSim 3.2 is a major step forward incorporating many new features that increase the fidelity and functionality of CoolSim data center simulations. CoolSim users can create and analyze data center design alternatives faster and more accurately than ever before. The new features added to CoolSim 3.2 make it the easiest and most cost-effective data center thermal analysis tool on the market, providing insight that can be obtained in no other manner.”

CoolSim has an easy-to-use graphical interface that enables users to quickly create a model of their data center. The model is then automatically submitted to a hosted high-performance computing (HPC) cluster for processing using ANSYS/Fluent computational fluid dynamics (CFD) technology. Once the simulation is complete, HTML output reports and 3D visual images are produced and sent to the user. This mechanism allows users to perform multiple “what-if” studies of their data centers to determine the optimal placement of existing equipment, new or alternative designs, or the effect of adding new equipment to an existing room.

“At Applied Math Modeling, we believe the application of 3D CFD technology should be made easy to learn, easy to use, and easy to remember. CoolSim 3.2 delivers on this goal for data center thermal modelling while continuing to increase the functionality and fidelity of the virtual thermal math model. The use of CFD for modeling data centers is a “best practice” that can now be employed by anyone with a basic understanding of data center cooling and design.”

"We are extremely pleased to be partnering with Applied Math Modeling on the implementation of our AdaptivCool HotSpotr floor tiles into CoolSim 3.2," said Rajesh Nair Chief Technology Officer at Degree Controls Inc. "The implementation of the HotSpotr was extremely well done with a high degree of accuracy and should prove to be very beneficial for illustrating its potential benefit. "

About Applied Math Modeling

Applied Math Modeling Inc develops and supports engineering simulation applications for specific target markets. As a strategic “value added” partner to ANSYS, Applied Math Modeling develops unique graphical user interfaces (GUIs) for target markets that require specific modeling tasks, driven by the rich set of industry proven ANSYS simulation engines. These applications are then delivered to the market using a hosted “Software as a Service” (SaaS) model that is particularly well suited for periodic or occasional users. This unique approach reduces end user IT complexity and cost. Visit www.koolsim.com for more information or info@koolsim.com

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