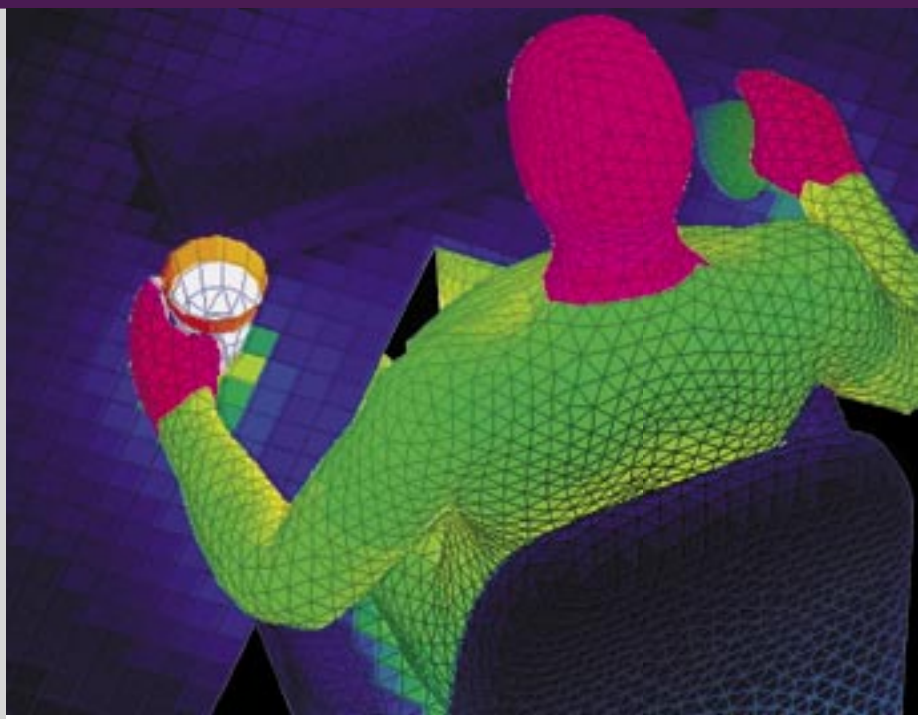
RadTherm® 9.0
Thermal Analysis Software

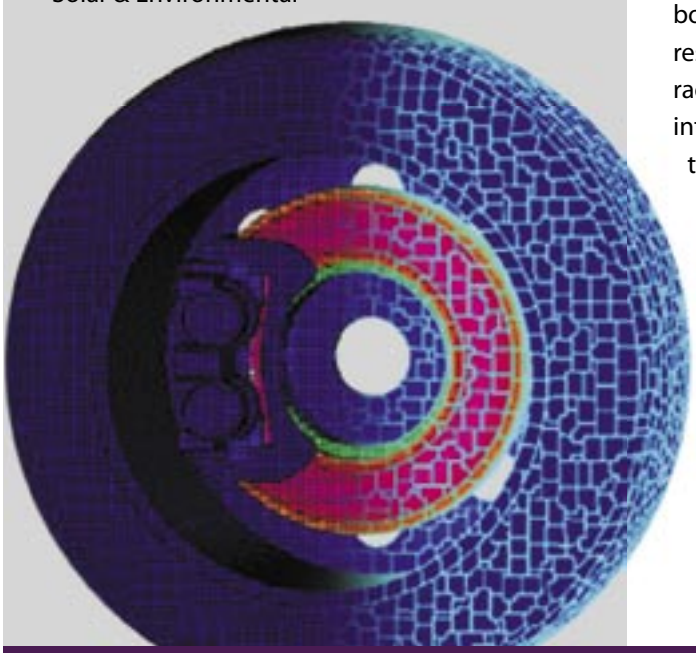
Principal Features

Complete Thermal Analysis
Multi-bounce Radiation
Conduction
Convection
1-D Advection
Natural Environments
Rapid Analysis, Unlimited Model Resolution
Engineer-Designed Graphical User Interface
Data Exchange with CFD

Benefits
Faster Product Development
Reduced Reliance on Testing
Increased Productivity
Improved Product Quality
Innovative Energy Management

Common Applications
Architecture
Underhood / Underbody
Electronics and Enclosures
Climate Control
Heat Shield Analysis
HVAC Design
Passive Cooling / Heating
Brakes & Clutches
Solar & Environmental





System-Level Thermal Analysis

RadTherm is a professional thermal modeling tool intended for comprehensive heat management design and analysis. RadTherm is equipped with everything but your surface mesh: pre-processing for conductivity and mesh normals, boundary condition set-up, an optimized thermal solver, and post processor/ results viewer. With minimal effort you can analyze conduction, multibounce radiation, and convection (steady-state or transient). All functions are integrated into one carefully designed graphical user interface allowing users to analyze designs very quickly and accurately.

RadTherm's highly-optimized algorithms handle even the most complex thermal questions. Written entirely in portable C++, RadTherm maintains speed and file compatibility across platforms. A state-of-the-art voxel-based ray tracer is used to compute radiation view factors and solar projected (apparent) areas. This ray tracer provides the fastest radiation exchange solver on the market.

Natural environments are supported through weather data inputs and solar loading based on global position. Multi-bounce solar effects through glass captures greenhouse effects while faceted terrains provide accurate reflections and shadowing.

ThermoAnalytics®

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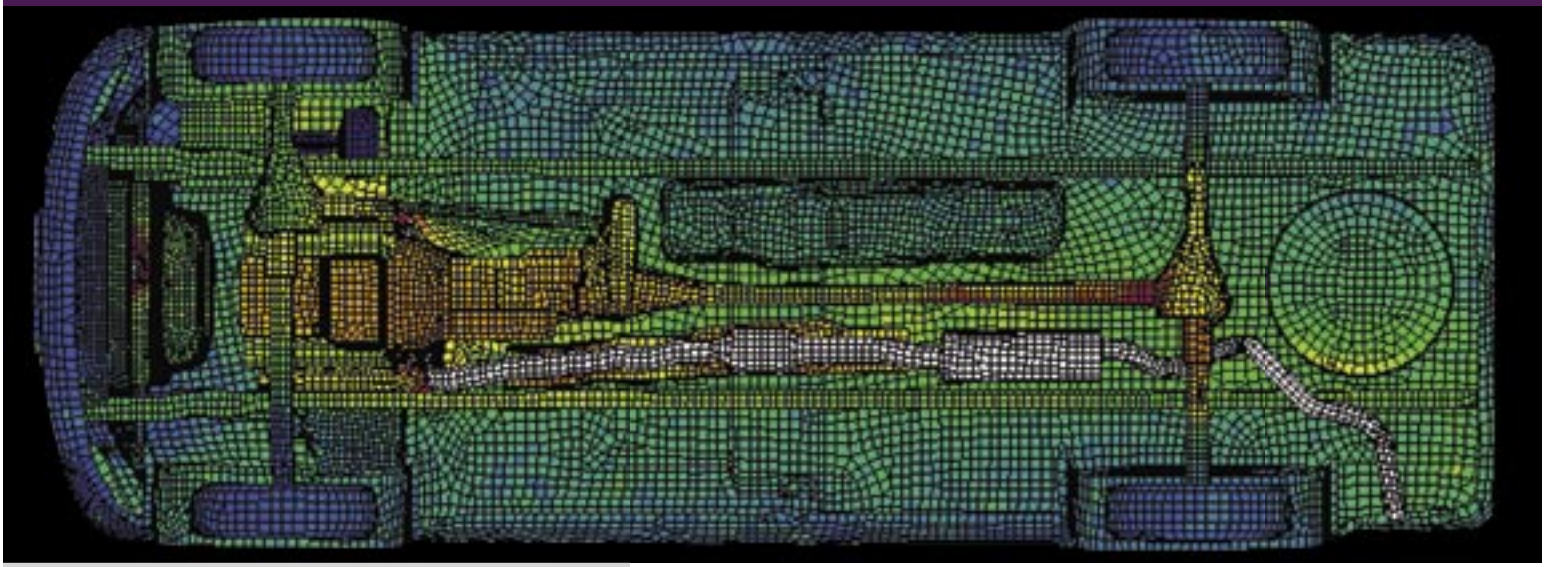


Version 9.0 Features

Face to Face Conduction
Simulates part to part contact
Reduces meshing time
Support for contact resistance

Solid Conduction (steady state)
Support for solid 3D conduction
Solid solution coupled with full conjugate heat transfer analysis
Clipping plane display of internal temp.

Human Comfort Module Available
Supports integration of biothermally accurate human models. Licensed separately.
Steady state and transient thermal response
Output included thermal comfort index

Aerothermal Heating
Blunt and round nose
Wing leading edge

Complex Multilayer Parts
Planar mesh objects with up to 20 layers
Solid, air, or vacuum layers
Mixed solid/air layers

Parallel Processing
Shared memory licensing
2 CPU Speedup Average 1.8
4 CPU Speedup Average 3.3

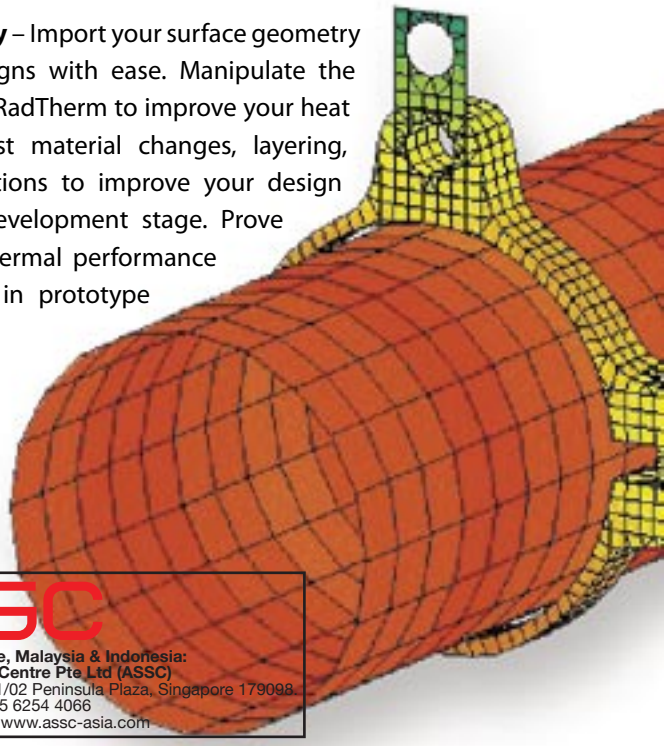
Fluid Stream
1-D Advective fluid flow in ducts automated setup
Multiple fluid nodes in a single part
Automated connection to geometry
Node placement can be visualized

Total Thermal Solutions

Deliver Solutions – to comprehensive heat management problems. RadTherm predicts the full temperature distribution of your product or system. From these results, you can modify your design and test the thermal response to the change. For example, active and passive cooling can be tested for cost-benefit analysis.

Deliver Speed – RadTherm is the industry benchmark for speed, accuracy, and flexibility. Faster setup and thermal analysis save you time and money. This translates into better customer focus and quicker time to market for products.

Deliver Flexibility – Import your surface geometry and change designs with ease. Manipulate the geometry within RadTherm to improve your heat management. Test material changes, layering, or surface conditions to improve your design at the earliest development stage. Prove your product's thermal performance before investing in prototype construction.



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