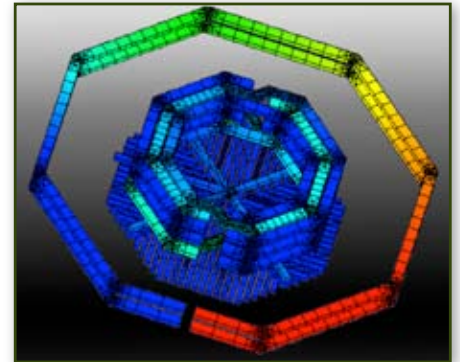




# EDA 3D Analysis Suite

The EDA 3D Analysis Suite enables rapid development of 3D analysis and visualization features within current EDA physical design flows. The software component suite provides unique productivity and time-to-market (TTM) advances to tool developers, including 3D model creation from industry standard design data, interrogation, meshing, and visualization that brings significant advantages to all aspects of electronic design—on-chip, packaging, and PCB. This extensible 3D technology is readily integrated into applications via a set of robust APIs to enhance 3D functionality of existing EDA tools to form the basis of entirely new applications that serve emerging markets.

Integrating with your application the EDA 3D Analysis Suite provides all the pre-processing and visualization necessary to link your 2D application to your 2.5D and/or 3D proprietary solver capability (Figure 1). The suite consists of a 3D modeler, a mesher subsystem that includes utilities to implement adaptive meshing, and a graphics display that is integrated and accessible through a unified API to streamline developer learning curves and accelerate development time.



## Key Features

- Integrated software components for rapid implementation of 3D analysis and visualization
- Robust 3D modeling for both simple and complex forms
- Flexible meshing tools for a wide range of solver applications
- Advanced visualization for complex multi-layer designs
- Object oriented C++ software toolkit

## Key Benefits

- Time-to-Market – Rapidly implement complex 3D IC and system applications
- Innovation – Deploy new 3D applications to gain first-to-market advantage
- Conserve Costs – Standardize core 3D technology across multiple applications
- Manage Resources – Maintain focus on your high value, differentiating design and analysis technologies

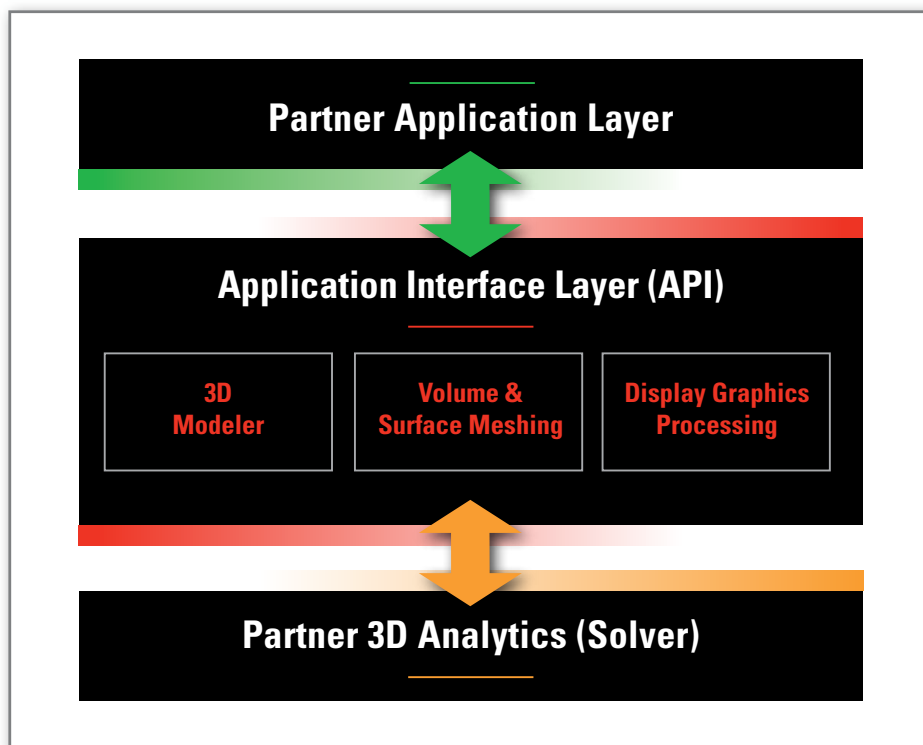


Figure 1



## ACIS Inside

The fully functional modeler supplied within the suite enables creation of 3D models via data read from your application's IC layout and technology file information, or package and PCB layout.

The modeler supports the following classes of EDA applications:

### RF Design and Analysis

- On-chip embedded passive components
- Full 3D modeling for simulation-based extraction

### Parasitic Extraction

- Victim – Aggressor analysis Cell Design
- Characterization of 3D effects for thermal and signal integrity modeling
- Manufacturing variations (modeling CMP, etch, diffusion variations)

### System-in-Package

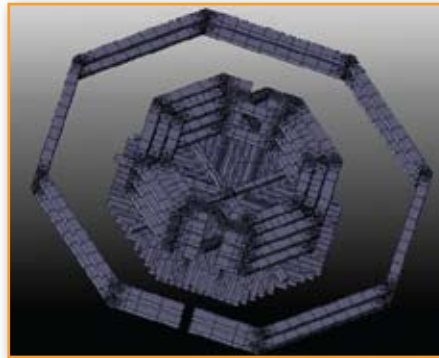
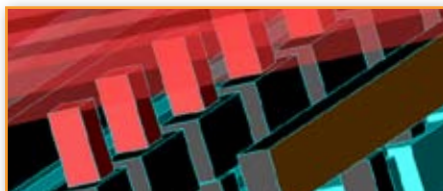
- Multi-chip-module
- Multi-die packages
- Die-to-Package and package-to-board 3D modeling

### Stacked Die (Through Silicon Vias)

- Complex multi-layer 3D modeling
- Non-rectilinear shapes
- High capacity

### TCAD

- Device level modeling and meshing
- Interconnect modeling
- Complex physical profiles



## Meshing

The EDA 3D Analysis Suite offers both pre- and post-processing for 2D and 3D solvers:

- Advanced meshing capabilities integrated with the 3D model
- 2D surface and 3D volumetric meshing
- Automatic meshing with a rich set of refinement options
- Support for anisotropic elements
- Adaptive meshing utilities

The mesher subsystem includes:

### Surface Meshing

- Triangular elements
- Quadratic elements

### Volumetric Meshing

- Tetrahedral elements

### Meshing Controls

- Anisotropic
- Mapped (geometrically regular)
- Adaptive

## Advanced Graphics

The resulting 3D models are visualized using a high-performance, multi-platform graphics engine. The state-of-the-art visualization engine provides extreme capacity and advanced features like colors, shading, textures, reflectivity, and adjustable cutting planes.

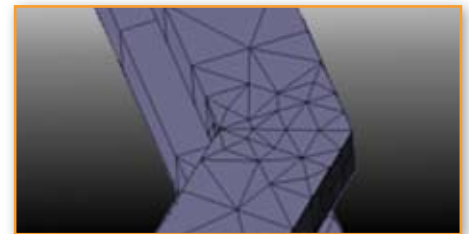
## Plug and Play

The advanced functionality offered by the EDA 3D Analysis Suite is delivered as a set of C++ libraries that are easy to add to any new or existing application.

## Support and Services

Spatial offers training and support services for application developers to benefit from Spatial's years of experience and expertise in 3D application development.

Our Professional Services' experts focus on resource conservation during development, as well as code optimization and acceleration of time-to-market, to maximize your product's revenue potential.



## Platform Support

The EDA 3D Analysis Suite supports a wide range of 32- and 64-bit platforms.

## For More Information

To learn more about the EDA 3D Analysis Suite and our free evaluation program please visit: [www.spatial.com](http://www.spatial.com)  
 email: [info\\_spatial@3ds.com](mailto:info_spatial@3ds.com)  
 phone: 303-544-2900

