Robust, Bidirectional CAD Interfaces for Engineering Simulation

Unequaled Depth, Unparalleled Breadth

With direct interfaces to all major computer-aided design (CAD) systems, support of additional readers and translators, and an integrated geometry modeler exclusively focused on analysis, ANSYS offers the most comprehensive geometry-handling solutions for engineering simulation in an integrated environment.

Bidirectional, Associative and CAD-neutral

Easy Fit, Adaptive Architecture

The industry-leading ANSYS® Workbench™ computer-aided engineering (CAE) integration environment is CAD-neutral and supports bidirectional, direct, associative interfaces with all major CAD systems.

With geometry integration solutions from ANSYS, you can use your existing, native CAD geometry directly, without translation to IGES or other intermediate geometry formats. ANSYS has offered native, bidirectional integration with the most popular CAD systems for more than 10 years. ANSYS also provides integration directly into the CAD menu bar, making it simple to launch world-class ANSYS simulation technologies directly from your CAD system.

Parameter and Dimension Control

Advanced Technology, Best in Class

ANSYS geometry-handling solutions include best-in-class CAD integration technology in an industry-leading, CAD-neutral CAE integration environment. This provides direct, associative, bidirectional interfaces with all major CAD systems, including Autodesk Inventor, CATIA V5, CoCreate Modeling, Autodesk® Mechanical Desktop®, Pro/ENGINEER, Solid Edge, SolidWorks and Unigraphics®. In addition, it includes file-based readers for IGES, STEP, ACIS, Parasolid, CATIA V5 and CATIA V4.
An associative interface allows you to drive parametric changes either from your CAD system or from within the ANSYS Workbench platform.

The ANSYS Workbench environment uses a unique plug-in architecture to maintain associativity with CAD systems, allowing you to make design changes to your CAD model without having to reapply loads, supports, and/or other boundary conditions.

You can either pick a CAD dimension to change directly or enhance your design iterations with the Parameter Manager. The Parameter Manager in the ANSYS Workbench platform provides an easy way to set up multiple design scenarios by allowing users to simply fill in the Parameter Manager spreadsheet; software from ANSYS will automatically update the geometry and run your multiple simulations.

A bidirectional link allows the CAD model to be updated based on changes within the ANSYS Workbench environment, allowing engineering simulation to fit easily into your product development process.

ANSYS CAD interfaces also include the Named Selection Manager. The Named Selection Manager can be used to create custom attributes within CAD systems and use them directly in ANSYS applications for modeling, meshing and analysis. This facilitates easy model setup similar to a CAD-embedded simulation tool, while still maintaining all of the advantages of the ANSYS Workbench platform.

The state-of-the-art ANSYS CAD integration solutions support smart and selective updates of CAD parts. This support allows you to update selected parts instead of updating an entire assembly, which makes geometry updates faster and more targeted, and results in significant time savings while working with large assemblies.

The ANSYS Advantage

With the unequalled depth and unparalleled breadth of our engineering simulation solutions, companies are transforming their leading edge design concepts into innovative products and processes that work. Today, 97 of the top 100 industrial companies on the “FORTUNE Global 500” invest in engineering simulation as a key strategy to win in a globally competitive environment. They choose ANSYS as their simulation partner, deploying the world’s most comprehensive multiphysics solutions to solve their complex engineering challenges. The engineered scalability of our solutions delivers the flexibility customers need, within an architecture that is adaptable to the processes and design systems of their choice. No wonder the world’s most successful companies turn to ANSYS — with a track record of almost 40 years as the industry leader — for the best in engineering simulation

Use of the Named Selection Manager within Pro/ENGINEER

ANSYS geometry integration solutions include the option to update selected parts.