



CADIQ Product Overview

CADIQ

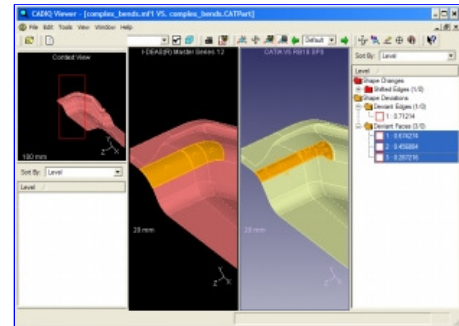
CADIQ 6.0 was released in January 2009 and is the latest edition of ITI TranscendData's innovative 3D CAD model validation and product data quality product. CADIQ identifies potential shape and fit problems and compares differences between 3D CAD parts and assemblies. These quality issues and introduced changes often affect reusability of engineering data in downstream processes such as analysis, manufacturing and data migration. CADIQ's production tested validation functionality allows users to accurately compare geometry, topology, feature definitions and assembly product structure. Validation can be performed between up to four CAD models and leads to a deeper understanding of a company's CAD system revision, data exchange, legacy CAD data remastering, feature based translation or product configuration processes. If a company is creating products based on 3D CAD Parts or Assemblies and must avoid quality issues and unexpected change, CADIQ is an invaluable part of an effective design and manufacturing strategy.

How does CADIQ work?

CADIQ validates part and assembly models from all major CAD systems and neutral formats. It identifies problems in an interactive, side-by-side 3D display environment and highlights geometry, features and product structure that has been added, omitted or modified. It identifies changes that can greatly affect reuse in downstream applications such as analysis, manufacturing and data archival. All differences are quickly highlighted with the help of graphic region and mouse controls that can be configured to mimic the user interface of most major CAD systems and thus provide quick productivity to users.

CADIQ Native System Interface Validation

The purest application of product data validation requires an installation of the CAD system because native CAD system programming interfaces are used to analyze the model data "in place" without conversion of the underlying CAD part or assembly. The CADIQ Analyzer can be launched from within an active CAD system session or in standalone mode as managed by the CADIQ Controller. The analysis process can either run locally or on a distributed network of workstations. It has a command line interface to enable integration into an automated workflow or PLM process. The CADIQ Analyzer is available for most major CAD systems on UNIX or Windows.



Native File Interfaces

While CADIQ has always promoted Native System Interfaces as the most robust approach for validation, not all scenarios allow access to native CAD systems. This is especially the case with smaller suppliers that must adhere to typical [OEM partner mandates or quality specifications](#). These procedures often specify that converted forms of original CAD Master Models be properly validated to confirm that the original product design intent was not altered. To support these evolving scenarios, ITI TranscendData announces support for Native File Interfaces. This enables the CADIQ Analyzer to work with a mixture of either Native System Interfaces or Native File Interfaces. The validation and business requirements can now drive the type of solution that makes the most sense for customers. CADIQ can also be more simply packaged for customers that need to quickly validate and document standalone Native CAD files without needing the original CAD system. With this new capability, interface options for CADIQ could include:

- CATIA V4 System and File Interfaces
- CATIA V5 System and File Interfaces
- Pro/ENGINEER System and File Interfaces
- NX System and File Interfaces
- CADD5 System Interface
- NX I-deas System Interface
- SolidWorks File Interface
- STEP File Interface
- IGES File Interface
- Parasolid File Interface
- ACIS File Interface

Validation results as you need them

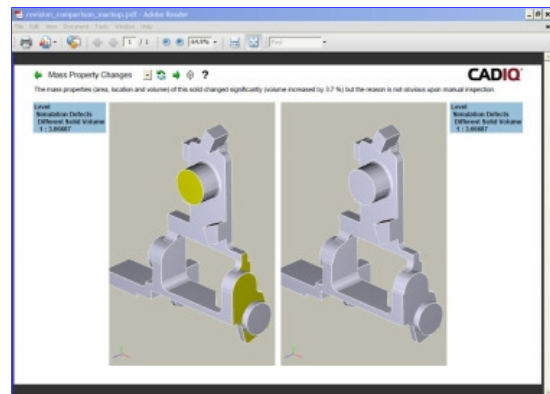
There are an assortment of ways to exploit the knowledge from a CADIQ centric validation process. The validation results can be summarized in Excel spreadsheet with charts, text reports, internal company data formats or integrated directly within your PLM or Six Sigma system. The diagnostic graphics are captured for visualization in the CADIQ Viewer from which annotated side-by-side view differences can be saved into graphic image files. Diagnostic results can also be marked up and stored as a series of custom views which contain the stored diagnostics, CAD model viewpoints, user notes and user configurations. These custom views are stored within the CADIQ file and can optionally be published to the [CADIQ Adobe 3D PDF Report](#) to allow non-CADIQ users access to important validation knowledge.

Who should use CADIQ?

Any organization that designs or manufactures complex discrete mechanical products using 3D CAD models can benefit. CADIQ is especially valuable when data is moved between internal/external analysis and manufacturing systems or between different organizations. A robust validation process assures that quality issues and unknown changes are not propagated. This will allow customer to better control design, manufacturing and product release schedules and costs.

Key Functionality of CADIQ

- Quality and validation analysis technology based on advanced face matching
- 3D PDF creation with custom views, diagnostic highlights and synchronized side-by-side CAD models



- Direct assembly analysis (no flattening) for CATIA V5, NX, Pro/Engineer, SolidWorks, Parasolid and STEP
- Assembly structure quality diagnostics
- Transparency highlighting graphics display option
- Expanded and reformatted help documentation
- 3D mouse (SpaceBall & Explorer) support
- Improved batch analysis performance with CAD session reuse
- Up to date CATIA V4.2.5, CATIA V5R19, NX6, NX16, Pro/Engineer WF4, Parasolid 19 support in addition to most older/legacy CAD formats
- Pro/ENGINEER nested family tables support
- New Tooling Diagnostics such as "Narrow Space Between Solids"
- Shape Change Diagnostics updated to be more intuitive for Source(left) vs. Target(right) validation
- Assembly part graphics reuse for enhanced viewer performance

CADIQ Customers

A sampling of customers using ITI TranscenData's CAD Model Quality and Validation solutions includes programs for leading manufacturers: **Airbus, Boeing, FORD, Honeywell, Lockheed Martin, NASA, P&H Mining, Samsung, Snecma, Spirit Aerosystems, Raytheon, Rockwell Collins** and more. For a better understanding of the value ITI has provided to these customers, please see [ITI Validation Technology and Expertise Page](#).

Downloadable CADIQ Overview Brochures

- [CADIQ 1 Page Overview Brochure \(0.3MB PDF\)](#)
- [CADIQ Functional Overview Presentation \(1.0MB PDF\)](#)

Other CADIQ or Validation Related Discussions

This page was intended to answer the question of what CADIQ is from a *software product* perspective. Other discussions related to CADIQ and Validation at the TranscenData web pages include:

- Validation methodology perspective at [Product Data Quality and Validation Solutions](#)
- Customer application scenarios at [Validation Scenarios](#)
- Details on [CADIQ Adobe 3D PDF Reports](#)

CADIQ Support

For CADIQ support, FAQ's, detailed specification and overview documents, please see the [CADIQ Support Page](#)