The GRANITE® Interoperability Kernel

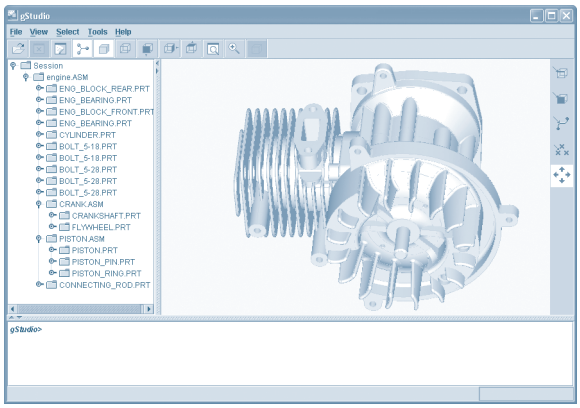
Exchange model data while maintaining assembly, associativity and feature-history information

GRANITE is a 3D modeling and interoperability kernel developed by PTC® that makes it seamless for multiple software applications to easily exchange information, without losing any data pertaining to a model's assembly, associativity or feature history.

GRANITE is feature-based, and architected with unique technology that allows CAD/CAM/CAE applications to become associatively interoperable. Derived from PTC's best-in-class suite of products, GRANITE contains technology that enables any number of like-built applications to read each other's files natively, so that engineers can easily evaluate, analyze and create geometry. GRANITE also delivers true 'concurrent engineering' by enabling engineers and designers to work side-by-side in associative, heterogeneous design processes. It includes associative modeling libraries and a development environment that enables rapid prototyping and debugging of CAD applications.

Key Capabilities of GRANITE

- Full feature-based 3D surface and solid modeling operations
- Feature operations for extrusion, offsetting, thickening, tapering, rounding, lofting, sweeping and skinning
- Undo/redo and rollback
- Boolean operations for adding, subtracting or intersecting bodies
- Metadata support, including colors, layers, names and attributes
- Analysis tools for mass properties, clearance check and interference detection
- Intent objects to allow for built-in design intentions
- Meshing and hidden line rendering (HLR)
- Direct-read of Pro/ENGINEER® part and assembly files, as well as models from other GRANITE-based applications, with consistent IDs to enable associative updates for downstream applications
- Built-in translators to read and write commonly used file formats, including IGES, STEP, VDA-FS, Parasolid, ACIS SAT



GRANITE's gStudio development environment allows quick prototyping and debugging of new code, and easy visualization and interrogation of CAD models.

- Unique gPlug architecture enables interoperability between all GRANITE-based applications. Supports encapsulation of GRANITE model data in the application's own file format, yet easily makes the data available to other GRANITE applications

Platform Support

Windows XP, Windows XP x64, Windows 2000, Windows NT 4.0
SUN Solaris 32- and 64-bit, HP UX 32- and 64-bit, Linux

Development Environment

GRANITE is packaged as a software development toolkit with the following features that make integrating additional applications quick and easy:

- Access architecture and bindings with interfaces available on C++, Java and COM
- Online User Guide and API Wizard with listings of all APIs
- A Java-based test harness – gStudio – features a Java command-line interpreter for Java and GRANITE commands. Using gStudio, you can prototype new code quickly and use journal files from the applications to investigate software performance
- Backed up by a dedicated PTC technical support team comprised of experienced CAD software developers committed to customer satisfaction

Supported File Formats and Versions

File formats		Read	Write
Pro/ENGINEER	*.prt	All versions	No
	*.asm	Release 14 or later	No
GRANITE (.g)		All versions	All versions
ProductView (.ol)		No	Yes
Neutral (.neu)		Yes	Yes
IGES (.igs)		All versions up to 6	5.2
STEP (.stp)		AP 203 & 214	AP 203 & 214
VDA-FS (.vda)		Yes	Yes
ACIS (.sat)		Yes	Yes
Parasolid (.x_t)		Yes	Yes
Through gPlugs	Pro/DESKTOP (.des)	Release 8	NA
	Alias files (.wire)	Studio Tools R10 and later	
	Geomagic (.wrap)	Studio and Qualify version 5 and later	
	IronCAD (.ics)	Files with a single ACIS or Parasolid part	

"Integrating PTC GRANITE into our products was quick and flexible. Not only are we able to import critical visual properties and meta-data from Pro/ENGINEER, but the GRANITE Import Module's support for other formats lets us offer solutions to everyone with 3D CAD files."

- Chad Mueller, Technical Director, QuadriSpace

"Incorporating GRANITE into our Geomagic Studio® and Geomagic Qualify® products provides us a seamless way to accurately bring in Pro/ENGINEER® models and other 3D CAD files into our system. GRANITE's GPI module makes it easy to convert Geomagic® NURBS surface model to a CAD model to enable downstream CAD operations inside Geomagic Studio. With its wide range of supported file formats and modeling capability, GRANITE is the best solution that is simple, affordable and connected to many of the other CAD Vendors and file formats we have to work with."

- Andrew Stein, Vice President, Marketing Product Management & Business Development, Geomagic, Inc.

GRANITE Applications are Growing

GRANITE is now used in many different types of applications, from CAD/CAM/CAE to robotic simulation, visualization, analysis, and data translations.

Visit www.ptc.com/products and discover why many of today's software developers are creating new add-on tools based on the GRANITE interoperability kernel.

Contact GRANITE@ptc.com for more information

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