STK Engine

Adds STK's proven technology to your applications and speeds up your automation scripts.

STK Engine provides an Application Programming Interface (API) for adding STK's analytical and visualization capabilities to existing applications or to build new custom applications. Integrators and engineers alike can build applications that:

- Create and manage high-level objects (satellites, aircraft, and facilities).
- Propagate and orient vehicles, including automatically configuring an Aviator aircraft and mission, and generating routes
- Analyze relationships between objects.
- Visualize objects in 2D and 3D.
- Import industry standard imagery and terrain formats.
- Animate in real or simulated time.
- Include any of the other computations and visualizations available in STK.

### Flexible Development Environment

STK Engine is a collection of high performance native libraries that are exposed to .NET, Java, C/C++ and scripting languages (Python, MATLAB). Additionally, the 2D and 3D views can be embedded in any program that supports ActiveX controls—including Word, Outlook, Excel and PowerPoint – to generate powerful automation tools.

Multi-Platform Support

STK Engine is available for both Microsoft Windows and Linux. On Windows, the system requirements are identical to STK Desktop. STK Engine for Linux is officially supported on Ubuntu, CentOS and Red Hat Enterprise Linux, and currently only offers the Java API.

Extend Your STK Engine Analysis

Extend the analytical depth of your STK Engine application with the same functionality available with STK. Developers have the option to add communications link analysis, radar analysis, trajectory design, dynamic coverage, attitude analysis, and conjunction analysis to their deployed application.
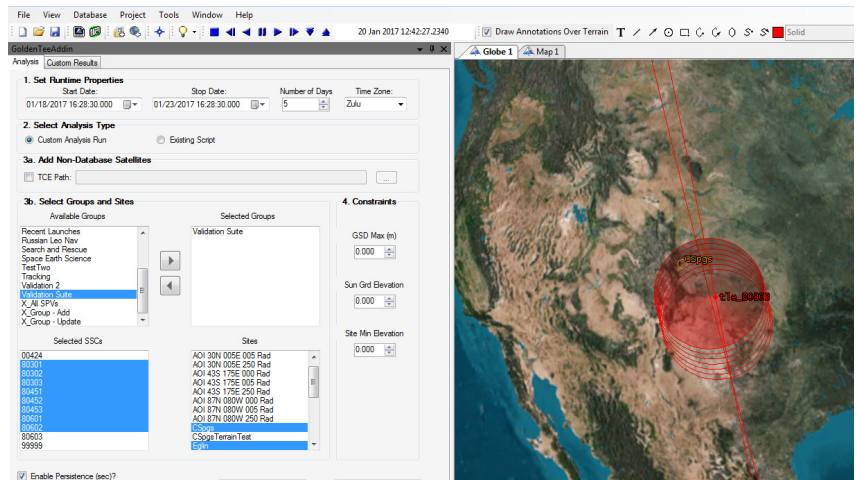
Deploy Custom Applications

STK Engine enables you to deploy applications with embedded STK capabilities. Fully developed applications only require an STK Engine deployment license and can be distributed throughout an enterprise or other external solutions.

STK Engine Software Development Kit

The software development kit includes documentation and tutorials that step you through example applications in a variety of programming and scripting languages to help jumpstart development efforts. Once the application is complete, STK Engine includes deployment packages for building an installer to widely distribute the application. For .NET, Ansys also provides a Custom Application Framework that speeds development time by providing an add-in structure that allows for custom workflows along with standard functionality common to many STK Engine applications.

Event Registration and Notification

Customized user interactions with the graphics window and analytical feedback can be linked to mouse events, keyboard events, and drag-and-drop events to optimize mission-specific workflows.

/ NoGraphics

For use cases where visualization is not needed (for instance computation on a server or a compute node), the STK Engine in NoGraphics mode provides additional performance and footprint improvements.

/ Scripting

STK Engine shares some of the same APIs as STK Desktop (Object Model, Connect). So scripts developed against STK Desktop can easily be tweaked to also run against Engine. This can provide significant performance gains for repetitive workflows where the UI and graphics are not needed.

/ STK Parallel Computing

The STK Parallel Computing Server includes tools and instructions for improving the performance of large scale computations by allowing them to be scaled vertically across multiple cores and horizontally on compute clusters. Key features include the ability to parallelize and monitor jobs in a distributed environment thereby maximizing the use of available resources for efficient resolutions to complex analysis problems.

Learn more
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