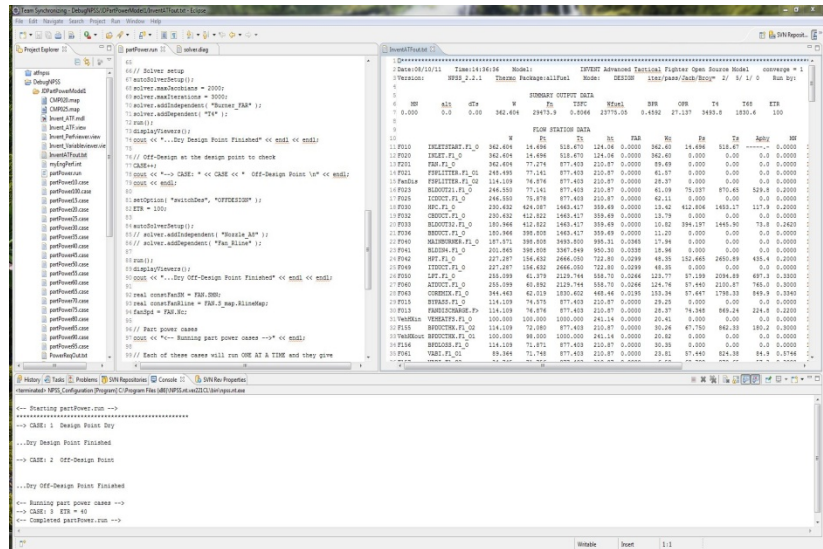


Accelerating Innovation: Avetec at a Glance

NPSS™ Team Development Best Practices

The Numerical Propulsion System Simulation (NPSS™) is an object oriented framework for developing steady state and transient models of interacting systems. It is particularly well suited for gas turbine engine model development and simulation. NPSS™ is a product of researchers at NASA Glenn Research Center, in collaboration with and direction from an industry wide consortium. It is used across the aerospace industry as a standard development environment. Commercial versions of NPSS™ are currently distributed by Wolverine Ventures, Inc. located in Jupiter Florida.



Researchers at Avetec have collaborated with government organizations and companies within the United States aerospace industry to develop NPSS™ simulation models for the exploration of new jet engine concepts. During the course of these interactions, Avetec has leveraged the Eclipse development framework¹ for editing NPSS™ models, running models, and analysis of results. We also use the Subclipse plug in for Subversion² revision control in team based software development projects.

Avetec customizations of the Eclipse development environment provide opportunities for us to use team software development best practices. We maintain NPSS™ development projects in Subversion repositories located on Linux servers. Subversion allows us to track changes, manage coding conflicts that may arise as a part of the team development environment, tag release versions of models, and create code development branches for models. All Subversion management functions are conveniently accessible from within the Eclipse development environment.

We have also integrated NPSS™ model execution as a run configuration within Eclipse so that users can perform model runs while they are developing directly inside the Eclipse framework. Eclipse also features problem tracking, task definition and status management.

The Eclipse Project Explorer is very useful in developing NPSS™ models. It provides a graphical interface for managing NPSS™ model files and folders. It also includes an automated graphic display of revision status for individual project files and supports viewing and management of multiple projects.

For more information contact Dr. Jeff Dalton at (937) 322-5000 x2007 or at jdalton@avetec.org.

¹ Eclipse is a modular, customizable Java based integrated development environment. See <http://www.eclipse.org>.

² Apache Subversion™ is an open source software version control system founded in 2000 by CollabNet, Inc. More information is available at <http://subversion.apache.net>.