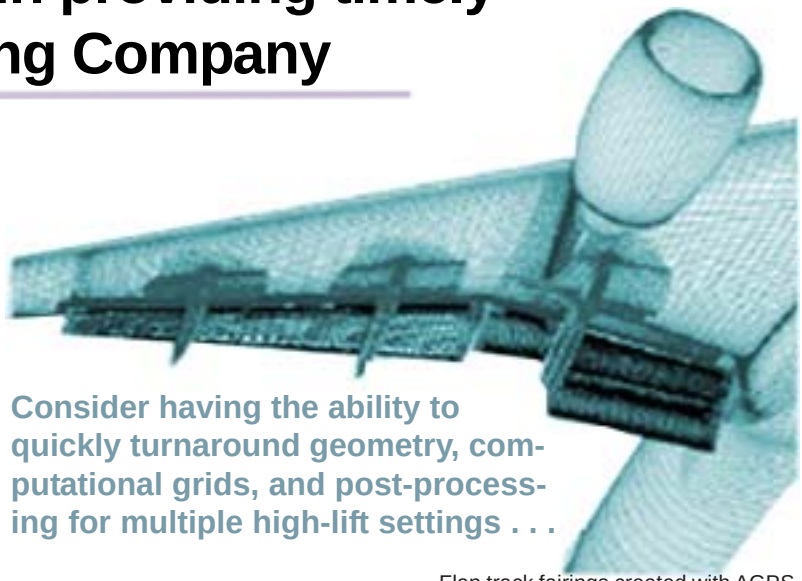
AGPS™'s flexibility key in providing timely processes for The Boeing Company

Overview

The flexibility of the AGPS platform has long been a strategic advantage to Boeing's legendary design teams. The ability of design engineers to craft a customized design manipulation package to perform an advanced integrated task in a matter of hours has sped the design process allowing time for the most sophisticated methods to be fully included in each design.

AGPS's ability to meet the requirements of reliability, repeatability, and rapid prototyping are the cornerstones of its remarkable capability to reduce cycle times. Boeing has leveraged AGPS's capabilities to integrate the knowledge of its best engineers into packages that allow all engineers to loft wings, design nacelles, manipulate high-lift systems and generate proper analysis inputs in a timely manner.



Consider having the ability to quickly turnaround geometry, computational grids, and post-processing for multiple high-lift settings . . .

AGPS is the easy answer

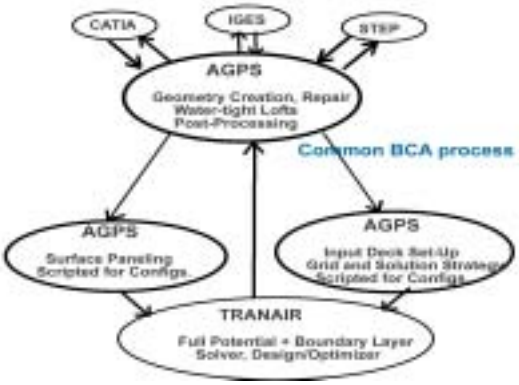
Flap track fairings created with AGPS courtesy Boeing Commercial Airplanes.

Engineers at Boeing Commercial Aircraft use the programming capability of AGPS to take the busy work out of preparing CFD analyses - the complex process of manipulating a slotted flap high-lift system and then gridding the geometry accurately enough to get good CFD results takes weeks for many companies. As a result many organizations have worked on ways to use simpler analysis techniques and fewer analyses to model the performance of high-lift systems.

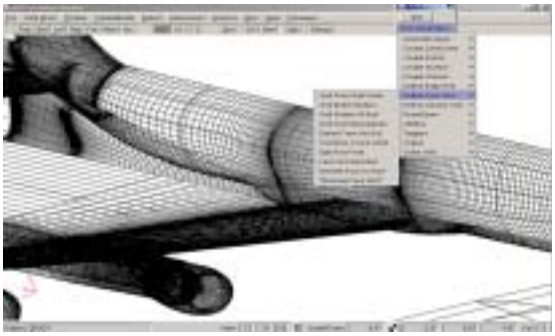
Because Boeing had the foresight to develop AGPS as a flexible, programmable modeling platform they are able to take a different approach. Boeing has written a suite of AGPS packages (some might call them super-macros) for designing the high-lift systems of transonic transports. The process of writing the packages took a few week of collaboration among Boeing's senior high-lift system designers, but in the end the complete specification of a high-lift system takes hours not months, and changing the flap settings and re-gridding them takes minutes not days.

The AGPS approach has sped up the high-lift design process enough to allow the use of more accurate, more intensive methods of analysis. Additionally, Boeing engineers are able to include more flap settings to build a better model to simulate the high-lift performance of their transonic transports.

As important as AGPS and the AGPS design packages are to Boeing's success in the design of its current aircraft, they are seldom mentioned but much appreciated. By taking the time to have the best, most experienced designers formalize their methods in an AGPS package, Boeing is able to not only multiply the impact of their knowledge, but also preserve their expertise beyond the term of their careers at Boeing. Boeing views the AGPS geometry platform approach to modeling as the key to maximizing the intellect of its engineers while minimizing the repetitive busy work of design and analysis.



AGPS has been applied with great success within The Boeing Company to a wide variety of engineering analysis tasks, such as CFD and structural analysis, in addition to other geometry-related tasks . . .



Transport aircraft surface definitions automatically developed for analysis. The entire automatic paneling of a single run on a Transport Aircraft is completed in seconds.

Please contact us for a technical brief on the methodolgies used in this AGPS application.

SOFTWARE TECHNOLOGIES GROUP
Changing the Way The Design Commu nity Thinks About Design
http://www.calmarresearch.com/software_tech/agps/
CALMAR RESEARCH CORPORATION
BRIDGING THE GAP