

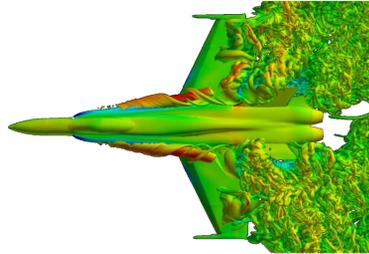


Quality Assurance

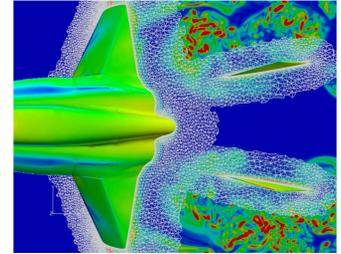
The Mission of the Quality Assurance (QA) Group is to ensure software quality (i.e., usability, robustness, accuracy, and computational efficiency), deploy software products, and provide training and customer support.

Independent Testing

QA Group tests all new product capabilities prior to external release.



HARV High AoA



a) vortex bursting

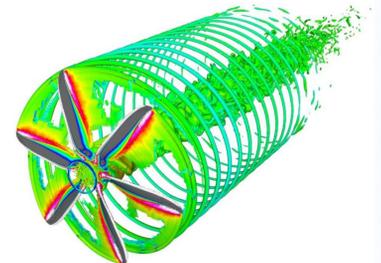
b) close-up (horizontal cut)

Engineering Support

QA Group provides direct engineering support to Stakeholder organizations and interfaces with product developers to resolve issues.

Example: Helios user couldn't get code to work for a novel main rotor/pusher-prop case. Proprietary nature of application made support a challenge. 2 key lessons learned...

1. QA used idealized geometry to identify issue, diagnose problem (input error), develop and test remedial action.



2. Quick Turn-around solved problem, user gained better understanding of code, and Helios developers did not have to spend time looking for a bug that did not exist.

On-line Services

- User's Guides
- Product Tutorials
- Quick Start Guides
- Training Videos
- User Forum
- Software downloads

The screenshots show the CREATE-AV Home page with navigation links, the CREATE Forum interface with a search bar and topic list, and the Available Downloads page with a table of versions and binaries.

Version	RHEL5 Binary
Kestrel 4.0.11	kestrel4.0.11_rhel5_x86_64
Kestrel 4.0.9	kestrel4.0.9_rhel5_x86_64
Kestrel 4.0.8	kestrel4.0.8_rhel5_x86_64

STAR Projects (Strategic TARgeting)

QA Group partners with Defense Industry orgs that can benefit from HPC and physics-based simulation.

- Learn workflows of targeted organization
- Demonstrate advantages
- Develop local expertise
- Obtain validation data

CH-47F Performance Improvement

Army AMRDEC/AED and Boeing used HPCMP CREATE™ AV Helios software and three million CPU-hours on DSRC supercomputing hardware to confirm predictions of isolated rotor performance and then, for the first time, verified computationally the integrated rotor/rotor and rotor/fuselage interactional aerodynamics and installed performance of the new rotors.

HPCMP CREATE™ resources enabled:

- Virtual testing of the integrated CH-47F with new rotor via high fidelity analysis early in the design process, including aft pylon height and blade indexing.
- Flight test planning in advance of scheduled test events.

HPCMP CREATE™ resources and expertise enabled early design stage predictions of helicopter performance that project up to an estimated 2,000 pounds improved hover performance with limited degradation in forward flight performance.

Need help? go to <http://create.hpc.mil>