

# L-004 – AWS/Metacomp/BETA-CAE

- Flow solver: CFD++ Version 20
- Spatial discretization: Preconditioned finite volume/TVD + smart SGS
- Time integration or iteration method: Implicit dual time-stepping
- Name of committee grids (or “self-prepared”): ANSA (various)
- Cases submitted: 1, 2.2, 2.3 & 2.4
- Initialization method: Warm start
- Grid topology: Unstructured, hexa-dominant
- Typical DoF per eqn (mesh points, cells, or unknowns) (Case 2): 300 M
- HRLES model family (e.g., DDES): DDES + Deck-Renard shielding
- Underlying RANS model (e.g., SA): SA-QCR
- Typical time step normalized by CTU: 4e-3
- Target wall-normal grid spacing normalized by MAC or  $y^+$  value:  $y^+ \sim 1$
- Aspect ratio range (tangential spacing/wall-normal): 1500-12,000
- Relevant publications: Ashton, Eberhardt, Batten and Skaperdas, Towards best-practices for Hybrid RANS-LES simulations of high-lift aircraft geometries, AIAA Paper 2022-3524, 2022