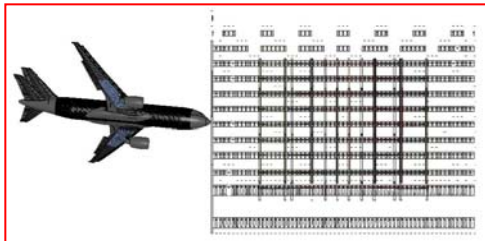
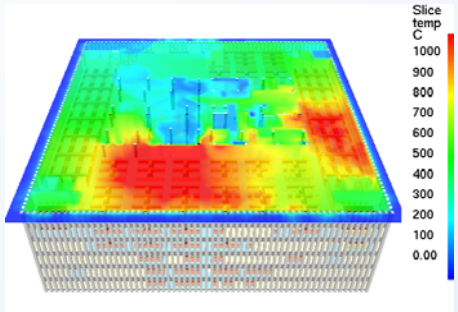
Project 5 Wrap UP



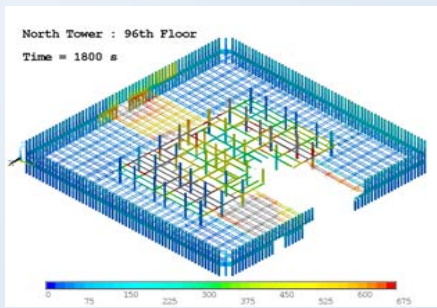
Aircraft Impact and Initial Damage

Projects 2 and 6

Project 5



Fire Growth and Estimated
Gas Temperature Distributions



Heat Transfer and Structural
Element Temperatures

Project 6

Probable Collapse Sequence

Some Important Accomplishments

- Detailed spatial and temporal mapping of external ventilation pathways derived from WTC imagery used as input for FDS
- Use of real-scale fire modeling to calibrate FDS
- Extension of FDS to multiblock and parallel processing
- Approach for calculating surface heat transfer to solid bodies using gas temperatures from large-cell FDS calculations as input to the much finer resolved meshes used for the ANSYS heat transfer calculations
- Approaches for coupling the finely resolved solid-body temperatures derived from ANSYS calculations to the different node structures employed in structural models

Major Project Outputs

- Temporal and spatial maps for windows condition, smoke, and fire based on visual evidence
- Experimental burning behaviors of typical furniture present in the WTC towers
- Calculated temporal and spatial variations of fires and temperature fields in the towers
- **Temporally and spatially resolved temperatures for structural elements (steel and concrete) in the towers**