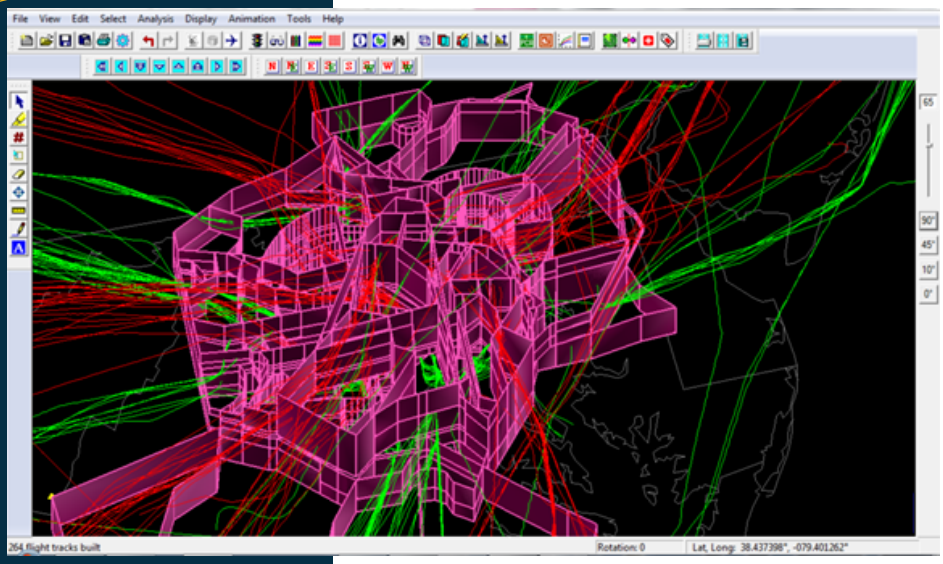
Graphical Airspace Design Environment

GRADE®

Advanced Air Traffic Visualization Tool



GRADE provides the capability to conduct analyze, visualize and replay complex airspace operations. Examples of the benefits of GRADE:

- Integrated display of GIS data, weather, airspace boundaries and flight tracks provides a complete analysis picture
- Tight integration with the SkyView Reporting System allows for rapid drill-down capabilities
- Powerful computational engine provides rapid answers to complex questions

DATA PROCESSING

GRADE uses the files named “BFF” to display flight tracks. GRADE produces reports from “RD” files, which contain a one-line summary for every flight for that day, and “EV” files, which contain many lines of user-defined events such as takeoff, boundary crossings, top of climb, etc., for every flight for that day.

GRADE includes a powerful set of functional modules housed within an easy-to-use, integrated, graphical user interface. Modules can be customized to meet your requirments. GRADE allows you to examine and manipulate databy using GRADE/ SkyViewer and GRP/GRT legacy, BFF, or IFF files, you may:

- Visualize radar hits by sensor or system track and maps/counters to support flight-focused investigations including detailed information such as the lat, lon, alt, time, and other flight track details.
- Select and display detailed information for one or more specific flight tracks, for example, Airport Surface Detection Equipment, Model X (ASDE-X) tracks.
- Filter using flight data for operation executed (arrival, departure, intra-flight, overflight, etc.), engine type (jet, turboprop, propeller, etc.), flight category, fixes, origin (actual or calculated), destination, date and time, aircraft type, aircraft ID, unique flight key (or the flight key file), transponder beacon code, and Field 10 from flight plans (in FAA or ICAO data formats).
- Show/hide flight track, airspace, and geographic layers such as jetways, sectors and classes of airspaces, fixes, navigation aids, continental/U.S. maps/cartographic features, navigation charts, weather radar maps, and others
- Mark track points and measure distances along flight tracks (and show/hide flight paths).
- Search and display airports, navigation aids, and fixes, and flight-track markers.
- Control settings for viewer elements, flight tracks, and sectors (even during design).
- Select, sort, compare, animate and design sectors in selected airspaces/sectors, show aircraft-shaped markers, and show/hide flight tags for all selected flights.
- Compare a track’s trajectory against flight plan(s), obtain PCA/MIT reports, capture a “snapshot” of track data, automatically or manually format the data in Excel reports.
- Animate scenarios, mix-in audio, save and/or record
- View weather weather information along side flight tracks including winds aloft (RUC/RAPNOWRAD, NCWF, CCFP, lightning, tops, etc. Weather data will automatically change over time during animations.
- Used for Search And Rescue operation of missing aircraft and accident investigation
- Display configurable track point labels (aircraft ID, beacon, lat/lon, speed, alt, sensor, etc.)

ATAC
Aviation Analysis Experts

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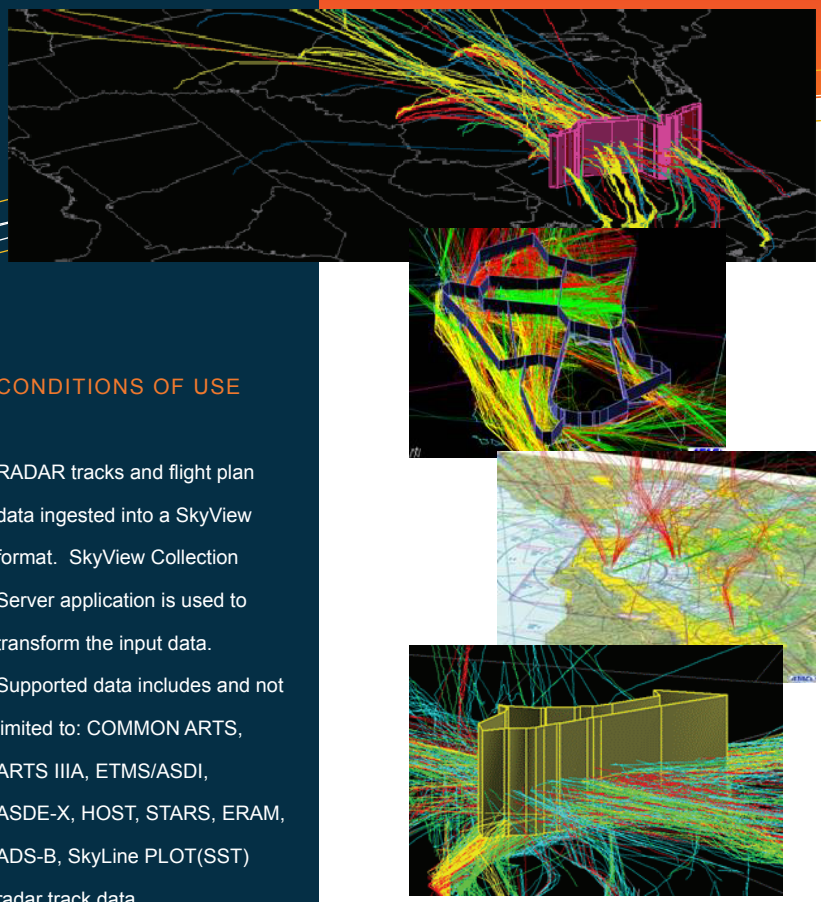

GRADE is a powerful, flexible, multi-function tool for conducting aviation planning, analysis and research efforts. The foundation of GRADE is a database containing a set of data layers that may be displayed and utilized individually or in combination. The data layers that can be loaded to meet the needs of a specific application such as but not limited to: En route and terminal radar tracking data, oceanic tracking data, airspace boundaries and structures, Military Special Use Airspace, navigation aids and fixes, standard aircraft departure and arrival procedures, terrain and obstructions, street maps and census data and pilot and controller voice recordings.

GRADE includes a powerful set of functional and customizable modules housed within an easy-to-use, integrated, graphical user interface.

- Flexible access to data
- Set of functional tools for visual and quantitative analysis of data
- Ability to design data models of current or proposed operations for use in simulations
- Ability to replay radar data and animating simulation results in 2D or 3D
- Airspace redesign capability
- Performance measurement tools for actual or simulated air traffic operations

CONDITIONS OF USE

- RADAR tracks and flight plan data ingested into a SkyView format. SkyView Collection Server application is used to transform the input data. Supported data includes and not limited to: COMMON ARTS, ARTS IIIA, ETMS/ASDI, ASDE-X, HOST, STARS, ERAM, ADS-B, SkyLine PLOT(SST) radar track data.
- Data must be in the IFF/BFF (Integrated/binary flight format) file format. BirdWatch Analysis Module or SkyView Flight
- Processor is used to generate these file formats.

Airspace data is required to support many of the GRADE features. This data must be in GRADE file formats. Airspace data includes Navaids, fixes, routes, airports, and sector definitions.

- Maps must be in GRADE file formats to support visualizing of airspace.

For more information on any of our products, solutions or services please visit us on the web at: www.atac.com

System Requirements

- Operation Systems supported: Windows XP, Windows 7, Windows Server 2003, Windows Server 2008

- Hardware specifications:

  Very small deployments

  Dual-core, 2.0 GHz or higher minimum recommended CPU
  2 gigabytes minimum system memory (4 gigabytes is better)
  1.5 gigabytes minimum free disk space

- Small deployments

  Quad-core, 2.0 GHz or higher minimum recommended CPU
  8 gigabytes minimum system memory
  5 gigabytes minimum free disk space

- Medium deployments

  Two Quad-core, 2.0 GHz or higher minimum recommended CPU
  32 gigabytes minimum system memory
  50 gigabytes minimum free disk space

- Enterprise deployments - Contact ATAC for sizing and technical guidance.

SERVICES AVAILABLE

Technical Support

Installation and Setup

Maintenance

Application Support

ATAC
Aviation Analysis Experts

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