

# FAA Technical Center

NASUG  
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# FAA Simmod Engine

- Latest version is 2.5.3 and is available on the FAA's ftp site
- The FAA's Simmod engine has been requested and received by 11 parties:
  - 9 users
  - 2 software development companies (ATAC, AirportTools)
- Received 2 bug reports since the last NASUG meeting of September 2004

# Model Enhancements

- corrected bug when using the MULTARR and MULTDEP feature, previously the engine would not create the aircraft records when the user specifies: airline = “?” (for any airline)
- minor modification to accommodate a change in file format (in SIMU09) that is produced by SimmodPlus: a new (optional) data field was created. Changed the engine to read the new data field to prevent engine crash. Backward compatibility is maintained.

# Model Enhancements (con't)

- Corrected bug in sector capacity logic that occurred when an aircraft was holding outside of a saturated sector. A flaw prevented the aircraft from being released even though sector capacity was increased (by a SETSECT)
- Fixed bug in DSDPath logic that caused Simmod engine to crash in some iterations.

# Model Enhancements (con't)

- Corrected departure delay numbers in the SIMU10 file. These figures did not include the departure queue delay.
- A summary table of departure queue delay is now written to the SIMU10 file. The total delays, and the average, maximum, & minimum delay per aircraft are listed for each departure queue.

# Model Enhancements (con't)

- The user now has the option of changing the format of output file SIMU14. The current format of one record spread over two lines makes it difficult to import it into a spreadsheet for further analysis. A new global variable has been created, “simu14\_format” to change the format to one record per line. The default is the current format.

Would Simmod users like to see SIMU14 permanently changed to a new format? Feedback appreciated.

# Near Term Enhancements

- have the stagger logic take into consideration arrival spread logic that is triggered by departure queue thresholds
- be able to specify the Concourse name, rather than gates, for individual flights
- FAA's Modeling Branch is using Simmod for several studies:
  - New York airspace, involves eight airports
  - Indianapolis, new large aircraft study
  - Denver, de-icing

- Q & A

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