

# *Modeling and Analysis Group*

North American SIMMOD Users Group  
March 24, 2004



# *SIMMOD Maintenance*

- Sponsored by -
    - the National Planning Division of FAA's Office of Airport Planning and Programming and
    - the Office of Systems Capacity (newly Performance Analysis in the ATO)
  - Performed by -
    - the Modeling and Analysis Group of the FAA's Technical Center
  - Maintenance is currently limited to simulation engine itself not input pre processors or post processors or graphics
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# *Compatibility*

- Current Release – 2.5 works with
  - SIMMODPLUS (Windows) somewhat
  - Visual SIMMOD (Windows and Linux)
- Future releases will maintain this compatibility



# *Model Releases*

- September 2003
    - Re-release of SIMMOD 2.5 (initially released in October 2001)
  - March 2004
    - Enhancement to runway crossing logic
  - September 2004 – planned
    - ????
  - March 2005 – planned
    - ????
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# *Missing Model Changes*

- ATAC continued to maintain SIMMOD for use in SIMMODPLUS from October 2001 until the present
- Current Official Version of SIMMOD (2.5) does not contain these changes
- Users who identified these required changes are requested to forward the change information to the Technical Center so that they can be included in future releases



# *Improvement Lists*

- Necessary – required to model current operations and procedures
- Needed – required to model future operations or procedures
- Nice to Have – model improvements that simplify input preparation or output presentation



# *Necessary Improvements*

- Enhance runway crossing logic to delay multiple crossings on same runway from occurring at exactly at the same time.
  - Enhance gate logic to more correctly handle international flights with no passport or custom control.
  - Improve taxi path optimization logic by taking traffic into consideration to avoid gridlock.
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# *Needed Improvements*

- Have method to transfer Simmod output files to be used as input to terminal simulators.
  - Fix possible erroneous aircraft flight time related to runway departure roll.
  - Enhance departure queue logic by counting aircraft waiting on links to a departure queue with maximum capacity as being in the departure queue.
  - Have option to be able to have aircraft separations set at a fixed value instead of a distribution.
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# *Nice to Have Improvements*

- Modify TAMPS input card by adding a new field to represent a character string identifier for each TAMPS group. This would aid report analysis.
  - Modify output file SIMU14 to make it spreadsheet and database friendly.
  - Implement a SIMU40 type file, containing link and node information to allow any post-processor be used for animation.
  - Enhance the Concourse feature to be able to have a flight be assigned a concourse.
  - Enhance final approach logic. It is sometimes helpful to have some nodes on final approach to model speed changes on long finals, but this inevitably leads to holding conditions.
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# *Input and Prioritization of Lists*

- Contacted NASUG and ESUG September 2003
  - No response from NASUG
  - Received needed improvements from ESUG
- Participants in this meeting are currently being solicited for input to these lists



# *Procedure for Downloading SIMMOD*

- Step 1
    - Send an email to FAA Technical Center requesting SIMMOD
    - you will receive a return email containing a user id and password for accessing the Technical Centers ftp site
  - Step 2
  - Download the executable version of SIMMOD (either Windows or Linux) from <ftp.tc.faa.gov>
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# *SIMMOD Support*

- Support for simulation engine only
- Email request for support
- Response in 7 days



# *Potential Support*

- Web Site
  - Documentation
  - User Forum
    - Input and Prioritization of Improvement Lists
  - Questions and Answers
  - Discussion Groups

