

# North American Simmod User Group

*Arlington, Virginia*

Presented to: NASUG

By: John Zinna, FAA

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Federal Aviation  
Administration



# Model Release

- Version 2.9 of FAA's *Airport & Airspace Simulation Model* released Sept. 2007
  - Window version
  - Linux version
- Received 7 requests for the FAA's engine
- send bug reports and desired enhancements to:
  - [john.zinna@faa.gov](mailto:john.zinna@faa.gov)



# Model Maintenance

- Enhanced DSTAGE logic. Aircraft were staging even though departure queue was not full
  - no requirement to use the TAXCHKPT record
- Corrected DSTAGE logic. History codes SW and SF were not written to the SIMU26 file.
  - caused Animation error



# Model Maintenance

- Corrected DEPARTQ input logic. The staging data required a very strict format which was poorly documented
  - engine was crashing
  - the fix is backwards compatible to allow a varying number of semicolons
- Corrected DEPARTQ input logic. The deicing data required a very strict format which was poorly documented
  - engine was crashing
  - the fix is backwards compatible to allow a varying number of semicolons
- Enhanced departure queue output table (SIMU10) to accommodate large values

# Model Maintenance

- Corrected airspace NODE separation logic. When using the 4 digit code for the option strategy flag, the node departure code was being incorrectly selected for the node arrival code
- Enhanced DSDPath logic. An aircraft that entered a DSDPath was later holding on DSDPath due to AFLINKBLOCKING.
- Corrected DSDPath logic. An aircraft on DSDPath was holding due to gate pushback blocking.



# Model Maintenance

- Corrected gate blocking logic. Gate blocking rules are being violated when one or more of a gate's blocking links are part of a DSDPath.
  - occurring when an aircraft is pushing back, with another aircraft taxiing on the nearby DSDPath
  - the solution : hold the aircraft at the gate until the other aircraft taxis past the gate's blocking links
  - many situations on how the 2 aircraft interacted had to be handled individually
  - saves the user time : no need to input the many gate blocking links in the DSDPath record(s)



# Model Maintenance

- Corrected DSDPath logic. Gate blocking rules were being violated when the DSDPath included gate blocking links.
  - occurring when an aircraft requests access to DSDPath while another aircraft is currently pushing back from gate
  - same problem as in previous slide
  - the solution : hold aircraft until aircraft at gate pushes back and taxiies past
  - many situations on how the aircraft interacted were taken into consideration



# Model Maintenance

- New input : Arrival Runway Occupancy Time
  - overcomes calibration issues
  - entered in the RUNWAY\_EXITS\_LINKS record
  - uses probability distribution
  
- To be completed : Departure Runway Occupancy Time

- **FAA email:**
  - john.zinna@faa.gov

