

FAA Technical Center

*North American Simmod User Group
Atlanta
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Model Release

- FAA engine version 2.6 is to be released late March 2006
 - Window version
 - Linux version
- Received 5 requests for the FAA's engine
- When sending a bug report to ATAC, please send a copy to FAA
 - will investigate and fix bugs
 - send to: john.zinna@faa.gov

Model maintenance

- Fixed bug that prevented ground link restrictions (using AFLINKS) from being imposed on aircraft using high speed exits
- A bug caused an arriving aircraft to select a high speed runway exit despite that exit being prohibited in the RUNWAY_EXITS_PROHIBITED_LINKS record. Fixed.

Model maintenance

- New ground link restriction type : Time of day may be specified to restrict aircraft from taxiing on specified links
- TAMPS group numbers may be entered instead of listing individual aircraft models for input records :
 - RUNWAY_EXITS_LINKS
 - RUNWAY_EXITS_PROHIBITED_LINKS

Model maintenance

- An incorrect separation value was being applied to staggering aircraft, causing excessive holding at pre-stagger node. Fixed.
- A logic flaw in the stagger logic caused an aircraft to hold indefinitely at a stagger node. Fixed.

Model maintenance

- Added user friendly debugging information for the error: “Unable to find an optimal taxi path”
 - List of links that prohibit the aircraft from taxiing is written to the log unit (SIMU04), along with the reason for the restriction
 - Sample output data :

```
08:15:19; DL 0856_ADEN ERROR:Unable to find an optimal taxi path
Link 157 (FINAL.RWY.LINK)
Link 505 (WRONG.DIRECTION)
Link 507 (WRONG.DIRECTION)
Link 678 (ARR.ON.DEP.ONLY.LINK)
Link 553 (MODEL.RESTRICTION)
Link 54 (AIRLINE.RESTRICTION)
Link 694 (ACTIVE.RWY.MBR_ARR)
Link 159 (ZERO.CAPACITY)
Link 167 (WRONG.DIRECTION)
```

Model maintenance

- Added input data checking
 - verify each procedure has a corresponding interface node, else produce error message
 - produce error message if airspace link is defined with a non-existent node, to prevent engine crash
 - other minor error checking & error message enhancement
- Fixed bug that caused engine crash, when an Emplane event includes data for onward destination flights (i.e. to arrive at another airport)

Model maintenance

- A flight with multiple operations : One ARRIVAL event can contain additional data to model multiple arrivals & departures at 2 or more airports

Any delay occurring in the airspace or at an airport will delay the aircraft's arrival at the next airport

Example of one ARRIVAL event :

```
ARRIVAL 08.0637 UA 0658 034 DEN 014 ? ? 1 09.2509 UA 0658 SFO 146 ? ? 2
          UA 0658          SFO 217 ? ? 10.5125 UA 0658 SAN 305 ? ? 2
          UA 0658          SAN 331 ? ? 11.2530 UA 0658 DEN 014 ? ? 2 *
```

Model maintenance

- One EMPLANE event can contain additional data to model multiple arrivals & departures at 2 or more airports

Any delay occurring in the airspace or at an airport will likely delay the aircraft at the next airport

Example of one EMPLANE event :

```
EMPLANE 08.0000 US 0205 097 DEN 103 ? ? 2 216 SFO ? ?  
         08.7000 US 0205      SFO 248 ? ? 2 204 SAN ? ?  
         09.5125 US 0205      SAN 217 ? ? 2 217 DEN ? ? *
```

Future work

- Finish testing ARRIVAL & EMPLANE events with multiple operations
- Simmod article to be written
- Suggestions for improvements are welcome

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