

Simmod *PLUS!* 7.2 Changes and Enhancements

Engine Change Descriptions

- **Corrected runway exit selection logic.** Exit links were not properly checked if they were available to arrival (versus departure) aircraft.
- **Corrected air logic.** Nodes with a control strategy other than “QFIFO” would automatically enforce QFIFO if another aircraft was already holding (due to some reason other than separation requirements) for the node.
- **Corrected stagger logic.** In cases where additional stagger holding is applied due to downstream delays, the amount of additional stagger may have been too great.
- **Corrected SIMU14 output.** The final field representing the runway crossing delay would not be correct for the departure flight of a turnaround.
- **Corrected gate blocking logic.** In some cases where an aircraft must hold at a gate because the gate-blocking links are occupied, the aircraft may not push back from the gate at the earliest possible opportunity but instead incur excessive delay with a PD code in the SIMU26 output.
- **Corrected holding stack logic.** Previously, the engine would break if more than ten holding stack were defined. Now the number of stacks is limited to the number of nodes.
- **Changed node separation logic.** The default value of the global variable `node_sep_ac_choice` has been changed from 2 to 1. This was incorrectly changed from 0 to 2 in version 7.1.
- **Corrected touch-and-go logic.** The logic related to the PATTERN and TNGSET inputs was re-implemented was the elimination of extraneous fields in the PATTERN inputs.
- **Recompiled with latest compiler.** Internal array dimensions are no longer limited to 65536.
- **Modified AN MDL GATE CHOICE inputs.** Previously, the `MdlList` was not allowed to be missing. This list is now allowed to be missing as it is interpreted to mean that all aircraft models match the input.
- **Enhanced DEPARTQ GROUPS.** Added `Thresh` and `WaitThresh` fields to allow departure queue groups to trigger arrival spread.
- **Added metering logic options.** Two new versions of the metering logic have been implemented. To activate these versions, specify a GLOBAL data input `“new_metering_logic”` with a value of “1” or “2”. Value “2” is more robust in which aircraft do not hold between the meter and post nodes. If this GLOBAL input is missing or equal to “0”, the engine uses the legacy metering logic.
- **Corrected stagger logic.** Eliminated round-off errors in delay calculations that could result in an infinite loop.
- **Corrected taxi logic.** When reaching a gate or tow node, aircraft now continue to occupy the link on which they used to enter the node until they either taxi away from the node or until they leave the simulation.

- **Corrected towing logic.** In cases where a tow node is also a gate node, any aircraft towed to the node will also occupy one unit of space at the gate.
- **Enhanced to AFLINKS inputs.** New optional restrictions can be specified to prevent usage of the ground link: AIRLINE to restrict airlines, ARLN_MODEL to restrict airline/aircraft model combinations, TIME to restrict taxiing during specified periods. **(Implemented by FAA)**
- **Added HOLDING APRON inputs.** Defines nodes at which aircraft temporarily hold. **(Implemented by FAA)**

Network Builder, Animator, Reporter, and cdf2simu Change Descriptions

- **Network Builder and Animator:** The SIMMODHOME environment variable has been eliminated. During installation, the icons placed in the “Program Files” and (optionally) on the desktop have the installation path preconfigured.
- **Network Builder and Animator:** When selecting a scenario to open, the names of only sub-folders in the applications folder are displayed, not other files that may exist in the folder. Also, the names are sorted without regard to case.
- **Network Builder and Animator:** The country boundaries layer has been updated.
- **Network Builder:** Extraneous entries may be left in the PROC_AIRSPACE_AC_GROUP table after deleting a procedure using the Procedure Builder. Fixed.
- **Network Builder:** In the Airspace Groups Builder, “Indicated” is the default speed type rather than “True”.
- **Network Builder:** The DSDPath Builder no longer requires an input in the Capacity field.
- **Network Builder:** The .dbf files may now be directly edited in Excel or other programs. The Network Builder will automatically correct errors that these programs make to the .dbf file header.
- **Network Builder:** Database changes:
 - Eliminated the AC_MODEL_FAA table and the INM_ID field of the AC_MODEL table.
 - Renamed the RUNWAY_EXITS_TAMPS table to RUNWAY_EXITS_GND_AC_GROUPS.
 - Added GND_LINK_RESTRICT_AIRLINE, GND_LINK_RESTRICT_TIME, and HOLDING_APRON tables.
- **Reporter:** The elimination of the INM_ID field of the AC_MODEL table for version 7.2 caused an error in the SIMU26 reporter. This has been fixed.
- **cdf2simu:** The Cap, Hstrat and HStck fields of the NODES inputs of SIMU03 would not be written for nodes with a separation of 0.0. Fixed.