ENOR FIR | SECTORFILE
CDM MANUAL

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VATSIM SCANDINAVIA

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Introduction

This is a document that summarises the basics of working with the CDM plugin in Euroscope. The plugin is based on A-CDM which stands for Airport Collaborative Decision Making. It is intended to improve the efficiency and resilience of airport operations by optimising the use of resources and improving the predictability of air traffic (as per Eurocontrol's definition).

The plugin has a native link to ECFMP's flow measures to directly calculate take-off time to be in accordance with issued flow measures.

Correct use of the plugin will greatly increase situational awareness when controlling larger events and makes collaboration and handling of slots and/or restrictions easier. It is recommended to use it while controlling by yourself as well to get familiar and comfortable in controlling with the plugin.

WARNING! The plugin will only work as intended if the included files are left untouched. Any tampering with the included files will make it stop working as intended and remove all possibilities of collaboration with others.

Tip: To quickly find what you are looking for, use the search function which is often found by typing *CTRL+F*

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Changelog

1.0 New Release

Glossary

Abbreviation	Meaning
EOBT	Estimated Off Block Time
TOBT	Target Off Block Time
TSAT	Target Start-up Approval Time
CTOT	Calculated Take Off Time
LVO	Low Visibility Operations
MDI	Minimum Departure Interval
ECFMP	European Collaboration & Flow Management Project

EOBT is the estimated time for pushback and/or engine-start filed in the aircrafts flight plan.
TOBT is the time that the crew aims to initiate a pushback and/or engine-start at.
TSAT is TTOT minus the taxi time to the runway.
TTOT is the time that the air traffic controllers aim to have the aircraft taking off at.
CTOT is the time that is calculated by air traffic control systems for when the aircraft should be taking off with all restrictions taken into account.

Useful commands

Command	Action
.cdm reload	Reloads the CDM plugin and all configurations.
.cdm refresh	Force the refresh phase to do it now.
.cdm master {airport}	Become the master of the selected airport
.cdm slave {airport}	Remove yourself as master of the selected airport
.cdm delay {minutes}	Add a specified amount of delay minutes to all traffic that have a TSAT greater than now. It can take up to several seconds before the changes reflect in the TSAT.
.cdm lvo	Activate low visibility procedures. This will calculate TTOT based off the specified LVO rate.
.cdm help	Shows a list off all plugin commands.

Available airports

CDM is currently enabled at the following airports:

ENGM

ENBR

ENVA

ENTC

It is not possible to gain the master role of an airport that is not CDM enabled. More airports may be included in the future depending on event and general traffic load.

Master and Slaves

The plugin is divided up into a master and the possibility of several slaves. The master should at all times be the lowest ATC position, usually delivery. For events like Cross the Pond it may be beneficial that the planner has the role of master. This should be decided before any event by relevant staff. There can ONLY BE 1 MASTER at all times for any airport. You can however be the master at several airports at once, for example if you are logged on ENOR_S_CTR.

When logging onto an airport in the plugin as master, you must use the command **.cdm master {airport}**.
If you **only intend on being a slave** at an airport, **you do not need to do anything** as the plugin defines a user as a slave until it self-assigns the role of master. It will automatically receive updates through the plugin from the master.

The role of the master is to be the airport “admin”. Only the master calculates times (TSAT).

How to do a controller change correctly

1. Make sure neither controller have changed neither *CDMconfig.xml* or *taxizones.txt* and are on the same sectorfile version.
2. The **OLD CONTROLLER** changes to slave with the command **.cdm slave {airport}**.
3. Once there are no master controllers, the **NEW CONTROLLER** gets the master role with the command **.cdm master {airport}**.
4. That’s it!

Functions

E

The column will show a letter based off the aircraft's times. **C** will show at when the TOBT has not expired (TOBT + 6 minutes) or the TSAT hasn't expired (TSAT + 6 minutes). **I** will show if the TSAT have expired. There is no action upon clicking. The plugin will only calculate the TSAT if an aircraft is marked C so to take into account any recent flow measures or account for other departures. There is no function on left or right click.

TOBT

The column shows the aircrafts request TOBT. This will be when the aircraft calls you up ready and you click this field. If there is no green RSTUP message at TOBT+ 6 minutes then TSAT and other times will be invalidated and removed. Left clicking the value will send a "ready TOBT" message and change the TOBT to what the time is now as well as set RSTUP to green. Right clicking will allow you to manually select a new TOBT.

TSAT

The colour of the TSAT will be light green until the TSAT is less than 5 minutes away. It will turn dark green when the time is TSAT +/- 5 minutes. It will turn yellow when it is 5 minutes past TSAT until 6 minutes past TSAT. At TSAT + 6 minutes it will expire and remove the TOBT and TSAT. It will not expire if the aircraft status is set to PUSH or START. There is no function on left or right click.

FLOW

This field is for when there is an active flow measure issued via ECFMP. If a flight is under an active flow measure it will show the name of the active flow measure issued (for example ENOR17A).

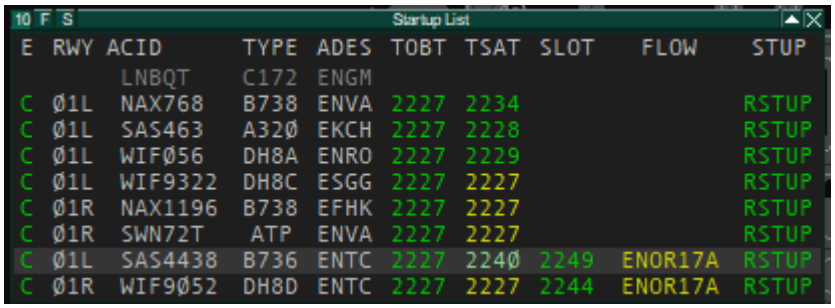
SLOT

This column can display a CTOT based off a preset-file created by event staff, for example slot times assigned for Cross the Pond. It may also calculate the take-off time for aircraft that are affected by MDI issued from flow managers at ECFMP. If you change the TOBT of an affected plane the CTOT must be recalculated by left clicking the time and pressing **Reload CTOT**. Remember that if an aircraft has a CTOT visible, something is enforcing a limitation on when it can depart. Left clicking will open the CTOT options list. This field is hidden by default in the start-up list, but is visible in the departure list.

STUP

This column is for the start-up. It will display RSTUP in red until clicked or TOBT is clicked. It will then turn green.

Lists with CDM



Example of the Startup list with the CDM plugin running and in use.

The screenshot may deviate slightly from the actual list setup. The functions are however all represented and will function the same way as in the screenshot, regardless of placement.

The dark green colour for TSAT indicates that aircraft is within the available timeframe for pushback and/or start-up, the light green is indicating that it is too early for pushback and/or start-up. The yellow colour on TSAT indicates that it is one minute or less until the TSAT is expires. Once an aircraft receives the PUSH or START status the field will turn white and no longer expire. If there is an active flow restriction for the aircraft this will show by the name of the flow measure being shown in the “FLOW” field. The slot is used mainly for event purposes, as you can recalculate the slot time if an aircraft asks for a new departure time. It is hidden by default.

The fields SLOT and FLOW are also included in the departure list. They will only be populated by the plugin if there is an active flow or slot restriction for the aircraft. They are placed as the final two fields before RMK. When populated they will look the same way as in the screenshot above.

Workflow using the CDM functions

1. An aircraft logs on and the TSAT is blank.
2. The aircraft calls up for pushback and/or start-up.
3. The controller left clicks on TOBT and the aircraft will get a TSAT assigned and the "Ready Start-Up" or RSTUP will be marked green to indicate the aircraft is ready for push.
    a. If an aircraft is **affected by a flow restriction** or have an event slot, **it will show a CTOT** or show a name in FLOW and the TSAT will be calculated with these in mind.
    b. The controller advises the aircraft to hold position and requests him to report ready at the assigned TSAT and toggles the RSTUP flag to red.
    c. The aircraft reports ready at TSAT. The RSTUP flag is set to green.
4. If the time is TSAT +/- 5 minutes (indicated by a dark green colour on the TSAT value) the controller gives the pushback and/or start-up approval to the aircraft and sets the status accordingly.
5. Should an aircraft be in a position to depart significantly (more than 5 minutes) before their SLOT time, the aircraft should be held at a holding point or somewhere close until within 5 minutes of CTOT before being cleared for take-off. This is to ensure compliance with any slot or flow restriction.

Planner

If there is a planner in use at an event (for example ENGM_Q_GND), then he should be the master of the CDM airport. He will then be able to reassign TOBT on the go and inform aircraft of the correct TSAT when connected to his frequency. Once an aircraft reports ready for push within TSAT +/- 5 minutes, he ensures the RSTUP is green and transfers the aircraft to GND who will see that he is within the start window by the green RSTUP and handles the aircraft accordingly.

This also makes communication better between GND and Planner. If an aircraft calls without the green RSTUP he can simply be told to contact Planner instead of trying to ask the planner if he is ready.