**Departure Manager (DMAN)**

A Departure Manager (DMAN) is a planning system to improve departure flows at an airport by calculating the Target Take Off Time (TTOT) and Target Start-up Approval Time (TSAT) for each flight, taking multiple constraints and preferences into account. (DMAN definition agreed after 2 workshops organised by EUROCONTROL on A-SMGCS /DMAN integration in 2008)

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**What is the difference between runway-departure-sequence (now) and pre-departure-sequence in A-CDM?**

Instead of sequencing flights at the holding point of the runway, they will be planned (sequenced) to leave the stands in an optimal order (TSAT), based on the time the Airline/Ground Handler gives assurance that the flight will be ready for push-back at its Target Off Blocks Time (TOBT).

In a CDM Airport we want to increase the predictability and plan an earlier Pre-Departure Sequence (PDS) and determine an optimal push-back order to feed the runway sequence in the best way.

The ability to provide PDS is calculated via the Departure Manager (DMAN). DMAN calculates the Target Take Off Times (TTOT) and the Target Start-up Approval Times (TSATs) taking multiple constraints and preferences into account. This information is distributed to the various stakeholders at the airport via the Gatwick A-CDM Portal.

At Gatwick Airport, the runway is the bottleneck to determine take-off times (TTOT’s) and derive TSAT’s, the algorithm for the TSAT calculation will have the following parameters (not exhaustive):

- TOBT
- Wake vortex
- SID’s
- On Time Departure (OTD)
- CTOT in the case of regulated flights
- Operational capacity
- Variable taxi time
- Parking position/area
- Aircraft de-icing
- Remote Holding
- Runway holding time and queue length
- Take-off runway
- Arrival flow including landing direction
- Sequencing of Departures
- Special departure intervals (MDI)
Which flights are planned in the Pre-departure Sequence (PDS)?

Prerequisites:

- The flight is IFR (Instrument Flight Rules), including those from General Aviation, that depart from Gatwick
- It has a valid flight plan
- The flight plan is available for PDS (i.e. present in the ATC system, normally at TOBT-2hr)
- TOBT is known

Which flights are NOT planned in PDS?

- VFR (Visual Flight Rules) flights are not included in the planning process.
- A flight that is suspended, will not take part in the planning process. The latest known TOBT and TSAT will remain visible in the CDM Portal. Flight plan de-suspension will reactivate the flight in the PDS process. This can be done by sending a change (CHG) or delay message (DLA) to the Network Manager Operations Centre (NMOC), or by cancelling the current flight plan (CNL) and filing a new flight plan.
- Flights that have a TSAT that is expired (i.e. HH:MM > TSAT + 5 min and the flight has not yet requested start-up) are no longer part of the PDS process. An updated TOBT (where TOBT should be > HH:MM) will reactivate the flight in the PDS process.
- Flights that return to stand after push back (this does not apply to remote holding). An updated TOBT (where TOBT should be > HH:MM) will reactivate the flight in the PDS process.

When is a TSAT first calculated?

At – 45 minutes of the TOBT, the known time at that point will be used for calculating the first TSAT. From this point on, TOBT updates should be carefully input as this will cause instability of the pre-departure sequence, hence the recommended number of TOBT updates after TSAT issue-time is 3.
What is ‘freezing’ of the TSAT?

A PDS will aim to be stable at HH:MM – 2” of TOBT, this means that in case last minute changes happen, the list of flights planned for Start-up approval will be protected. Up to that point it continuously tries to plan optimal times with latest known TOBT updates incorporated.

What is an optimal TSAT?

In the case of regulated flights with a distant Calculated Take-of Time (CTOT) (e.g. TOBT 12:00 and CTOT 13:45) the PDS will allocate a TSAT to meet that CTOT. The DMAN will also calculate an optimal Target Take Off Time (TTOT) that could be achieved if the flight was not subject to regulation. The NMOC will continuously seek to improve the CTOT through automated dynamic communication with ATC. If the CTOT is advanced a new TSAT will be allocated to allow the aircraft to meet this. The pilot should call for start as usual at TOBT and any subsequent changes to TSAT will be communicated to the pilot via the Stand Entry Guidance System (SEGS) - Late 2014

Where can I find out more about the importance of TSAT?

Please refer to ACDM_TSAT_Procedures Group Doc