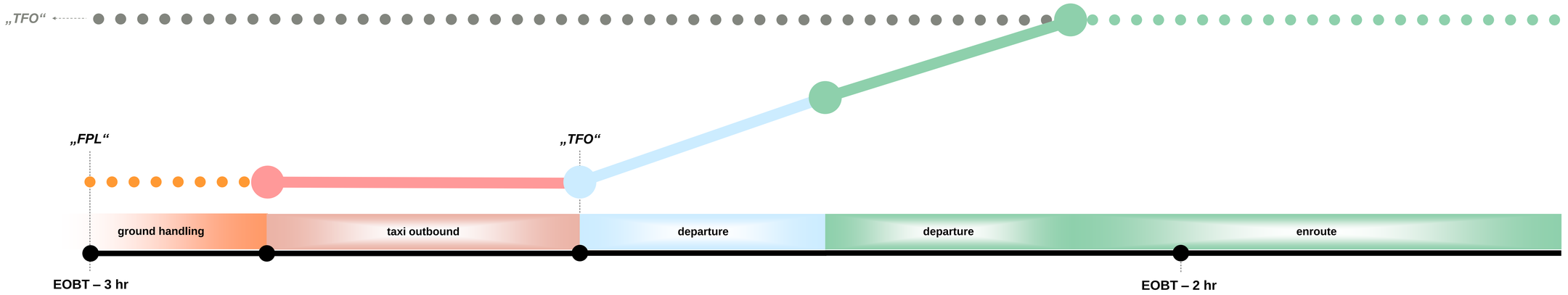
Flightplan Coherency Check



Flightplan coherency check

ATC FPL
EOBT
REG
ADES
ARCID
ARCTYP

AODB
Airport Slot (SOBT)
Registration
Routing
Flightnumber
Aircraft Type

ATC Slot allocation and Take-Off from outstation

ATC Slot allocation for regulated flights (EOBT -2hr)

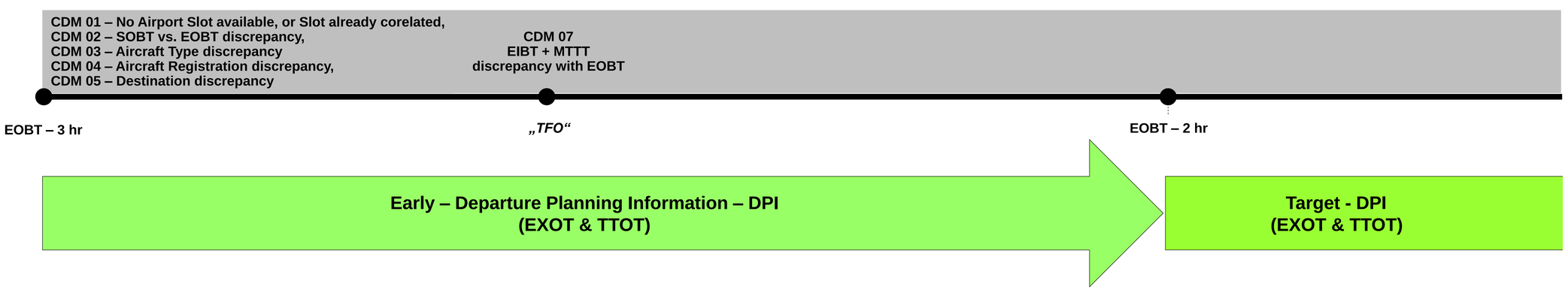
➡ CTOT (Calculated Take-Off Time)

Status „TFO“ (Take-Off from outstation)

- Movement Message (MVT) from Aircraft Operator
- Flight Update Message (FUM) from ATC

} incl. updates

➡ Estimated Landing Time (ELDT) for inbound flights
+
EXIT (Estimated Taxi in Time)
=
Estimated In-Block Time (EIBT) for inbound flights



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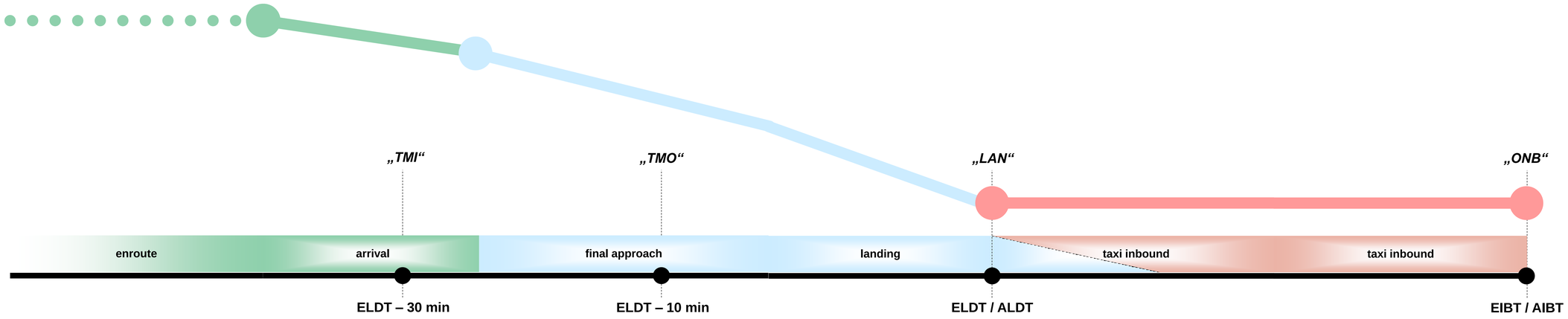
Inbound FRA



Arrival

Status „TMI“ (Thirty Minutes Inbound → ELDT -30min.)

further updates of ELDT and EIBT if ELDT changes by +/- 5 min.

➡ Determination of parking position

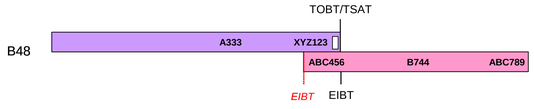
⬇

Verification whether aircraft parking stand is occupied or not

1st example:

ELDT + EXIT (ABC456) < TOBT resp. TSAT (XYZ123)

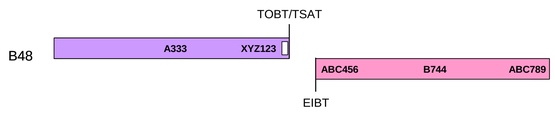
→ EIBT of ABC456 = TOBT resp. TSAT of XYZ123



2nd example:

ELDT + EXIT (ABC456) > TOBT resp. TSAT of XYZ123

→ EIBT of ABC456 = ELDT + EXIT



Automatic generation of TOBT

ELDT -30 min, earliest EOBT-90 min

TOBT AO commitment

Important dependencies:

TOBT = EOBT if: EIBT + MTTT ≤ EOBT

TOBT = EIBT + MTTT if: EIBT + MTTT > EOBT

Automatic TOBT for regulated flights (CTOT) only if

→ TOBT+EXOT = within Slot Tolerance Window (STW = CTOT-5/+10 min.)

Landing and Taxi In

Status „TMO“ (Ten Minutes Out → ELDT -10min.)

➡ Aircraft on final approach

Status „LAN“ (Landed)

➡ ALDT (Actual Landing Time)

Status „ONB“ (On-Block)

➡ AIBT (Actual In-Block Time)

further updates of ELDT and EIBT if ELDT changes by +/- 5 min.

Target – Departure Planning Information - DPI (EXOT & TTOT)

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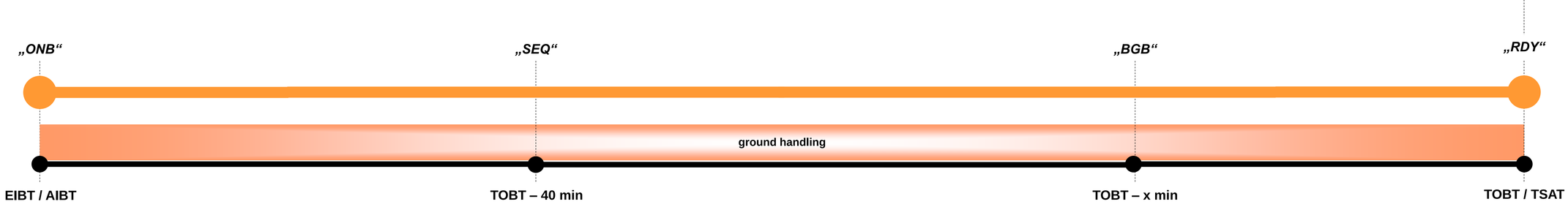
TOBT Procedure & Pre - Departure Sequence



TOBT Procedure

TOBT AO commitment

Manual input of TOBT

When? ➡ After flightplan coherency check, earliest EOBT-90 min

Important dependencies:

→ No limitation of manual TOBT updates until publication of TSAT

→ The entered TOBT has to differ by + 5 min. compared to the actual time

→ Maximum 3 possible updates of TOBT after publication of TSAT

Deletion of TOBT

By AO (Airline) → When TOBT is unknown (e.g. technical problems)

Deletion of TOBT automatically means deletion of TSAT

With deletion of TOBT the A-CDM process is stopped for this particular flight

➡ Status „Standby“

Calculation of TSAT and pre-departure sequence

TSAT A-CDM commitment

Target Start Up Approval Time - TSAT

TSAT
- is the Target Time for the start-up approval
- results from pre-departure sequence calculation
- is taking into account local and ATFM-Network influences

Calculation of TSAT

When? ➡ TOBT – 40min (provided a TOBT is available)

Non regulated flight ➡ TSAT = STOT – EXOT

Regulated flight ➡ TSAT = CTOT – EXOT

General calculation of STOT (Sequenced Take-Off Time)

➡ STOT = TOBT + EXOT

Ground handling and Aircraft Ready

AO / Airline responsibility

Status „BGB“ Boarding Started

Reporting channel:

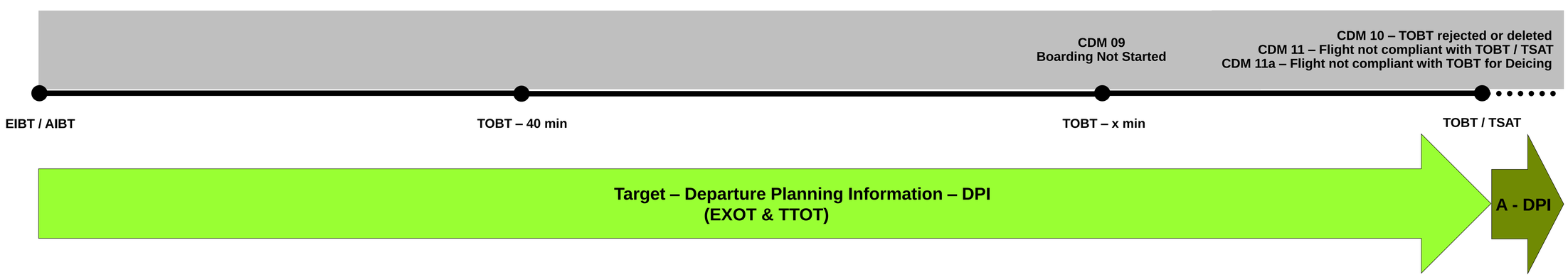
→ Automatically by use of the gate announcement system at the gate

→ Manually by use of a button in the gate announcement system at the gate

Verification of Status „BGB“ Boarding Started

When? ➡ TOBT – 10min terminal aircraft parking stands

➡ TOBT – 20min apron aircraft parking stands



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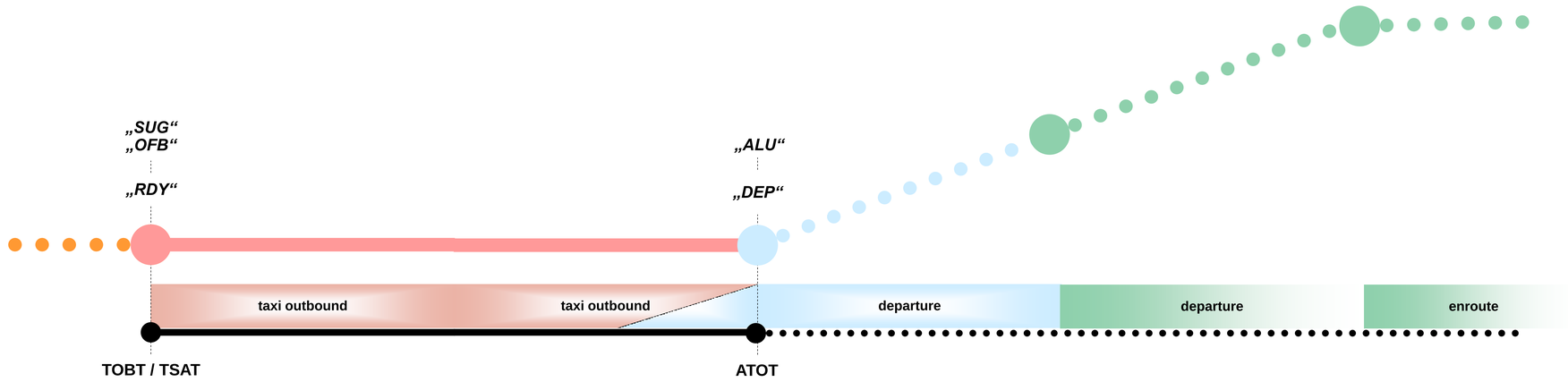
Start-Up, Off-Block and Take-Off



Start-up and Off-block

The status „RDY“ Aircraft Ready is prerequisite for start-up approval (via voice communication procedures) and push-back approval (via DCL)

Voice communication procedures

→ The pilot has to request Start-up within TSAT +/- 5min.

→ The Start-up approval shall be issued within TSAT +/- 5min.

→The pilot has to request Off-block (Push-back / taxi) within ASAT till ASAT + 5min.

→ The Off-block approval shall be issued within ASAT till ASAT +5 min.

→ After Start-up approval the pilot has to expect the immediate request of Apron control to leave the aircraft stand

Datalink (DCL) procedure:

→ The pilot has to request Start-up within published timeframe (AIP)

→ The Start-up clearance shall be issued after check-up of the actual conditions

→ With the Start-up approval the valid TSAT is forwarded via Departure Clearance Uplink Message (CLD)

➡ **Comment field: Start-up approved at TSAT <hh:mm>**

→The pilot has to request Off-block (Push-back / taxi) within TSAT till TSAT + 5min.

→ After Start-up approval the pilot has to expect the immediate request of Apron control to leave the aircraft stand

Line-up and Take-Off

Status „ALU“ line-up

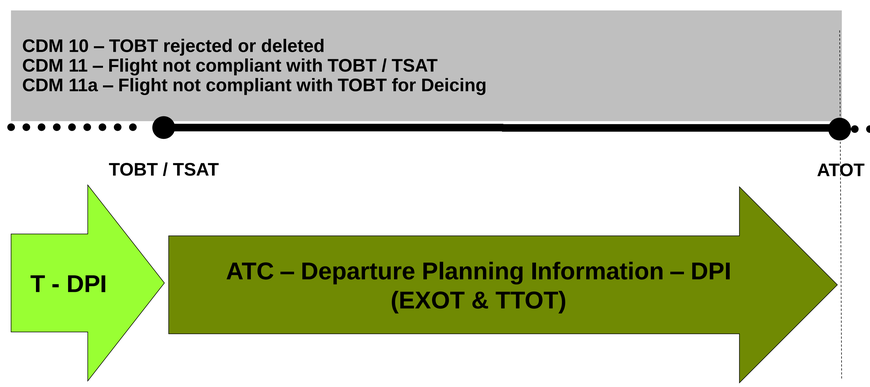
By clearing the aircraft to line-up, the Actual Line-up Time (ALUT) is set

➡ **Status ALU**

Status „DEP“ departed

With aircraft lift-off, the Actual Take-Off Time (ATOT) is set

➡ **Status DEP**



Tow dispatch (Push-back tugs)

A-CDM procedure:

AO / Airline responsibility

→ The dispatch of Push-back tugs will be executed according to the pre-departure sequence (TSAT)

→ The tow tug shall be on aircraft stand at least TSAT -5 min.

→ Tow tug on aircraft stand shall be reported

➡ **In case of an earlier TSAT the responsible unit for the dispatch of Push-back tugs shall be able to react flexible**

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De-icing / Anti-icing

Remark: „Sequence of De-icing /Anti-icing until now, based on COB only“

The following criterias will now be considered:

- *Local effects , e.g. runway closures (operational capacity)*
- *Network effects , e.g. CFMU Slots (CTOT)*
- *Target Off-Block Time (TOBT) → AO Commitment*
- *Target Start-Up Approval Time (TSAT) → A-CDM Commitment*

De-icing Sequence:

De-icing Request in Time (ideal TOBT – 40 minutes)

Estimated Commencement of De-icing Time (ECZT)

Basis for dispatch of N*ICE

Our goals for the De-icing procedure:

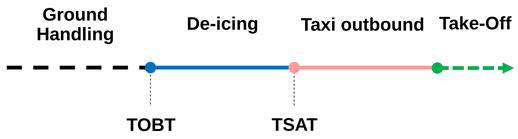
- *More stable planning (TOBT = earliest ECZT)*
- *No unnecessary de-icing (capacity + CTOT)*

Start-Up procedure:

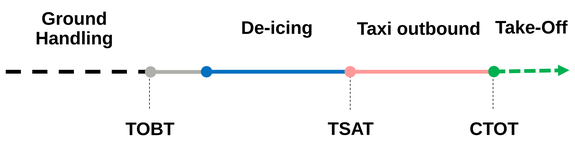
- *... „request start-up after de-icing“*
- *... „request start-up for remote de-icing“*

De-icing on Position

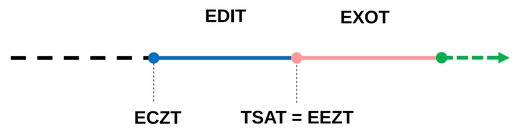
unregulated flights



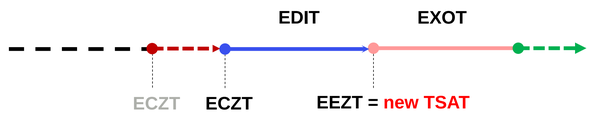
regulated flights (with CTOT)



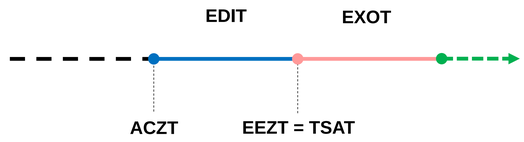
Planning



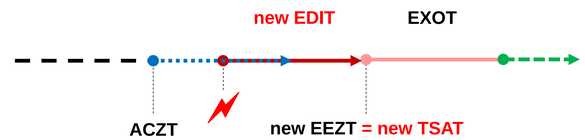
Planning in case of delay



Procedure

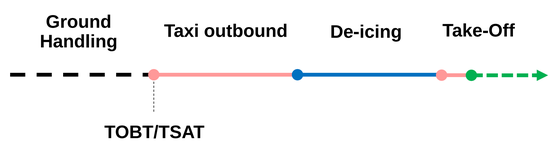


Procedure in case of delay

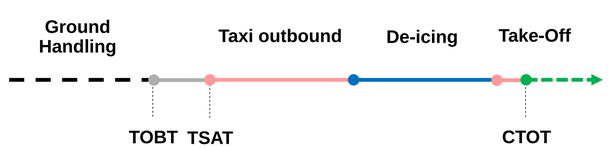


Remote De-icing

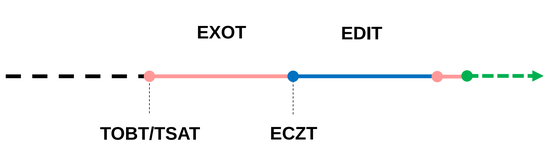
unregulated flights



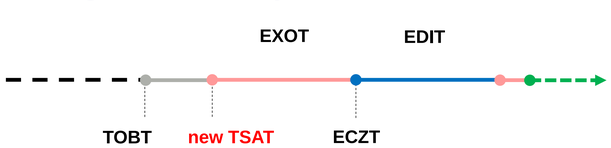
regulated flights (with CTOT)



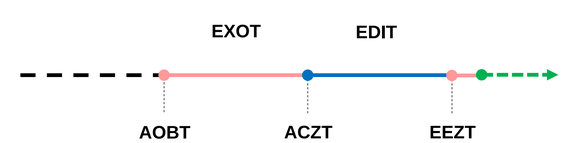
Planning



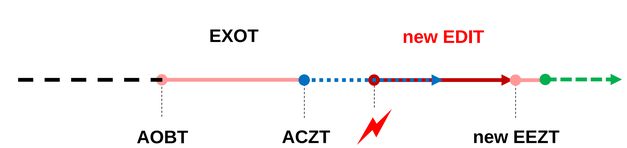
Planning in case of Delay



Procedure



Procedure in case of delay



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