AOT 24
4-5 November 2008
Agenda Item X.X
IP.1

Information Paper 1

Generic Milestone Processes and Alert Messages for Airport CDM

Submitted by the Agency

SUMMARY

This overview presents the developed generic milestone processes and alert messages for Airport CDM. Following consultation with stakeholders the recommendations to AOT members have been reformulated as follows.

RECOMMENDATIONS

AOT members are invited to:

Provide support for:

1) The agreed final document Generic Milestone Processes endorsed at the A-CDM Procedures Group meeting (10-11/09/08) is included in the next edition of the Airport CDM Implementation Manual
2) The agreed final document Alert Messages endorsed at the A-CDM Procedures Group meeting (10-11/09/08) is included in the next edition of the Airport CDM Implementation Manual

Generic AIRPORT CDM Milestone Processes

Acronyms

A-DPI	ATC - Departure Planning Information Message
ACARS	Aircraft Communications Addressing and Reporting System
ACC	Area Control Centre
ACGT	Actual Commence of Ground Handling Time
ACT	Activation (message)
AIBT	Actual In-Block Time
ALDT	Actual Landing Time
ARDT	Actual Ready Time
ASAT	Actual Start-Up Approval Time
ASBT	Actual Start Boarding Time
ASRT	Actual Start-Up Request Time
AMAN	Arrival Manager
AO	Aircraft Operator
ATC	Air Traffic Control
ATOT	Actual Take Off Time
C-DPI	Cancel – Departure Planning Information Message
CFMU	Central Flow Management Unit
CTOT	Calculated Take Off Time (CFMU)
DCL	Departure Clearance
DMAN	Departure Manager
DPI	Departure Planning Information Message
E-DPI	Early – Departure Planning Information
EET	Estimated Elapsed Time
EIBT	Estimated In-Block Time
ELDT	Estimated Landing Time
EOBT	Estimated Off-Block Time
EXIT	Estimated Taxi-in Time
EXOT	Estimated Taxi-Out Time
FDPS	Flight Data Processing Systems
FIR	Flight Information Region
FPL	Filed Flight Plan
FSA	First System Activation
FUM	Flight Update Message
GH	Ground Handler
MTTT	Minimum Turn-round Time
MVT	Movement Message
SOBT	Scheduled Off-Block Time
T-DPI	Target – Departure Planning Information Message
TMA	Terminal Manoeuvring Area
TOBT	Target Off-Block Time
TSAT	Target Start-Up Approval Time
TTOT	Target Take Off Time
TWR	Aerodrome Control Tower
VTT	Variable Taxi Time

General

This document describes the Airport CDM Generic Processes that are recommended or highly recommended for implementation of the Milestones Approach concept element, as described in the Implementation Manual. The document should be read with the consideration that it describes Milestones events, as well as actions when some Milestones do not occur at the predicted moment. The described processes are automated and the objective is to inform Airport CDM partners of inconsistencies of provided information as well as updated predictions of target off block, start up approval and take-off times.

Based on the agreement by the first Airport CDM Procedures Group held the 28th of February 2007 the operational procedures and system processes to be applied with Airport CDM shall be harmonized.

Based on agreement of the third procedures group meeting held 5-6 June 2008, the alert messages shall be attached as an independent annex to this document, which therefore, contains no references to messages within each of the Milestone Processes. The alert messages of Airport CDM follow an independent process of the alerts that CFMU sends in reply to a DPI message. Both processes are complementary with each other.

Based on the agreement by the fourth Airport CDM Procedures Group meeting held 10-11 September 2008 the Generic Processes document shall be added to the Implementation Manual and not to the Functional Requirements Document.

Below, a milestone table is provided that details the changes to the ones existing in the Implementation Manual.

Old	Change	Reason	Milestone status
1. Flight Plan Activation	1. ATC Flight Plan Activated	To distinguish from other flight plans	Highly Recommended
2. CTOT Allocation	2. EOBT-2hrs	Time should be the trigger not the CTOT.	Highly Recommended
3. Take Off Outstation	3.		Highly Recommended
4. FIR Entry	4. Local Radar Update	Local Radar can include FIR or TMA airspace. It may update the ELDT more accurately than a FUM	Highly Recommended
5. Final Approach	5.		Highly Recommended
6. Landing	6. Landed		Highly Recommended
7. In-Blocks	7.		Highly Recommended
8. Ground Handling	8. Ground Handling Started		Recommended
9. Final Update TOBT	9. TOBT confirmation prior to TSAT issue		Recommended
10. ATC issues TSAT	10. TSAT Issued		Highly Recommended
11. Boarding Starts	11. Boarding Started		Recommended
12. Aircraft Ready	12.	Local procedure to be applied if required	Recommended
13. Start-Up request	13. Start-Up requested	Local procedure to be applied if required	Recommended

14. Start-Up Approved	14.	Local procedure to be applied if required	Recommended
15. Off-Blocks	15.		Highly Recommended
16. Take-Off	16.	Local procedure to be applied if required	Highly Recommended

The Milestone Processes are also linked to the Departure Planning Information (DPI) messages that will supply the CFMU with reliable data concerning the progress of the flight. Specifically the DPIs will update the estimated take off time commencing at -3hrs and then at regular intervals prior to take off, based on the Milestones of the flight where accurate Estimated and/or Target Take-Off Times are provided.

The T-DPI messages can have different status (T-DPI-p, T-DPI-c, T-DPI-s) according to the progress of the flight during the turn-round process at the airport. This document does not elaborate on those statuses; however more detail is included in the Implementation Manual and CFMU interface documentation.

The outputs of the Milestone processes are alert messages to airport partners and DPI messages to CFMU. Whereas the milestones mark a special event, the process may also be activated when this event does not occur at the predicted time.

Where it is stated to inform Airport partners on a certain event, it is locally decided which partners are relevant.

Alert Messages
The related alert messages can be found in the Annex to this document. The alert messages are not correlated with the Milestone Processes in this version of the document. This may be harmonized in future versions if so required.

For each Milestone Process, the consequence of non-response to messages is stated. Actions for each stakeholder are described to advise on responses.

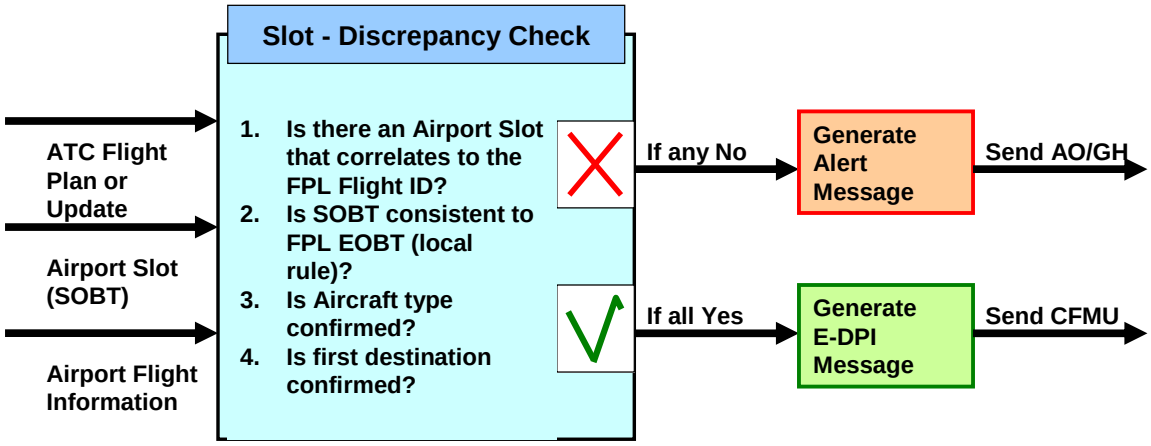
Alert messages shall trigger a response by the Airline Operator or Ground Handler (AO/GH), and in some cases by ATC. Such responses are usually to update ATC Flight Plan or TOBT information or cancel the alert. Reaction by CFMU on a DPI message can be to update the flight profile for more accurate traffic predictions, to change, cancel or freeze the CTOT, or cancel the previous DPI message information.

Milestone 1 Process: ATC Flight Plan Activated

This Milestone is **Highly Recommended**.

Objective

To check consistency between ATC Flight Plan, Airport Slot and Airport Flight Data and then confirm the flight to the CFMU and allow further local processing of the flight.



Description

This check shall be performed to verify the consistency between the ATC Flight Plan, Airport Slot and Airport Flight Data before the first E-DPI is sent. The AO must provide correct information before this first E-DPI message, in order to feed CFMU with consistent SOBT, aircraft registration, and first destination data, as early in time as possible. The E-DPI message should not be sent if no or inconsistent information is provided.

Triggers

This process is triggered by

- The first activation of the ATC flight plan (earliest EOBT-3 hr), or
- New or late submissions of the ATC flight plan, after cancellation or revised EOBT

Pre-condition

ATC Flight Plan, Airport Slot, Aircraft Registration, Flight First Destination* shall be available.

*the flight first destination in the airport data base to be compared with the flight plan destination

Input

Input is the ATC flight plan or an update of it and airport flight information.

Process

The ATC flight plan (at the earliest EOBT-3 hr), together with Airport Slot and Airport Flight Data are correlated. This is done by several data checks, where each time the answer should be YES. If any check fails, an alert message is generated. If all pass, an E-DPI

message shall be generated. Subsequent E-DPI may be sent if defined parameters change such as Aircraft Registration, ETOT, SID etc.

Output

Output is either the E-DPI message to CFMU or an alert message to AO/GH.

Response to Alert Messages

AO/GH
Update ATC Flight Plan and/or resolve the Airport Slot discrepancy.

Consequences of No Action following Alert Messages

No E-DPI message should be sent and no CDM process should commence until the provided information is confirmed as early as possible and Airport Slot discrepancies are resolved.

Remark

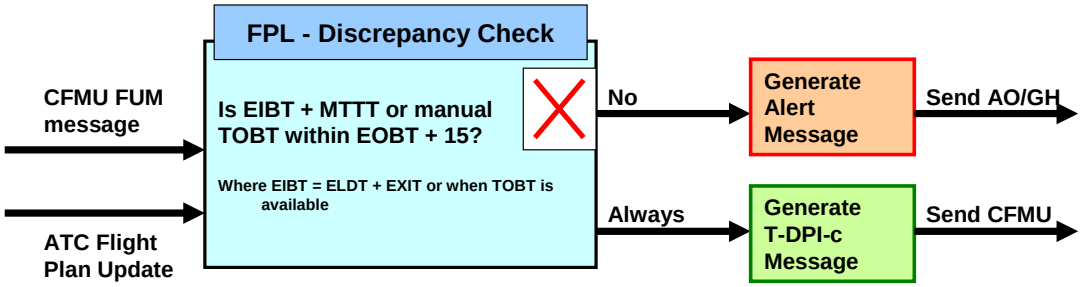
1. ATC flight plan activation takes place locally 3 - 4 hours before EOBT.
2. If the ATC Flight Plan is received later than EOBT-3hr, the trigger for the Airport CDM process is the moment the ATC Flight Plan is received.
3. If at any later stage in the Airport CDM process the ATC Flight Plan is cancelled and a new one is sent, this new ATC Flight Plan first has to fulfil Milestone 1 to trigger an E-DPI to the CFMU system; otherwise subsequent DPI messages will be rejected by the CFMU.
4. First destination out of ATC flight plan may not be available in Airport Database.

Milestone 2 Process: EOBT - 2h

This Milestone is **Highly Recommended** whenever it is applicable on a flight.

Objective

To check (before or after take-off from outstation) whether AO/GH flight estimates are consistent with the ATC Flight Plan and to inform CFMU about the updated take off time estimate, using a T-DPI Message.



Description

This check shall be performed to verify feasibility of the ATC flight plan estimated off block time at EOBT-2 hrs. At EOBT-2 hrs CFMU is informed through the first T-DPI message. Calculation basis for the TTOT shall take into account EIBT+MTTT+EXOT, if later than EOBT+EXOT. In the case of manual input of TOBT, this estimate will override the EIBT+MTTT estimate, hence TTOT equals TOBT+EXOT.

Trigger

This process is triggered by a time stamp, at EOBT – 2h.

Pre-condition

Milestone 1 is passed. An E-DPI message has been successfully sent to CFMU.

Input

FUM, local procedure, and/or ATC Flight plan update.

Process

At EOBT -2hrs the Estimated Landing Time (ELDT), Estimated Taxi In Time (EXIT) and the Minimum Turn Round Time (MTTT) shall be checked against the ATC Flight Plan EOBT + 15 minutes. In case a TOBT is already available, this TOBT can replace ELDT+EXIT+MTTT. If the calculated estimate or available TOBT is greater than EOBT + 15 minutes the AO/GH should be informed.

Output

At all times a T-DPI message is sent to CFMU including any updates following change to TTOT, SID etc. If the FPL discrepancy check fails, an alert message should be generated and sent to AO/GH. At this stage the T-DPI may have the status: P (provisional).

Response to Messages

AO/GH
Submit a Delay/Change message or cancel and re-file the ATC Flight Plan to resolve the discrepancies.

CFMU
The CFMU may update the flight profile, generate, update or cancel the CTOT according to the new TTOT and SID.

Consequences of No Action following Alert Messages

Not Applicable.

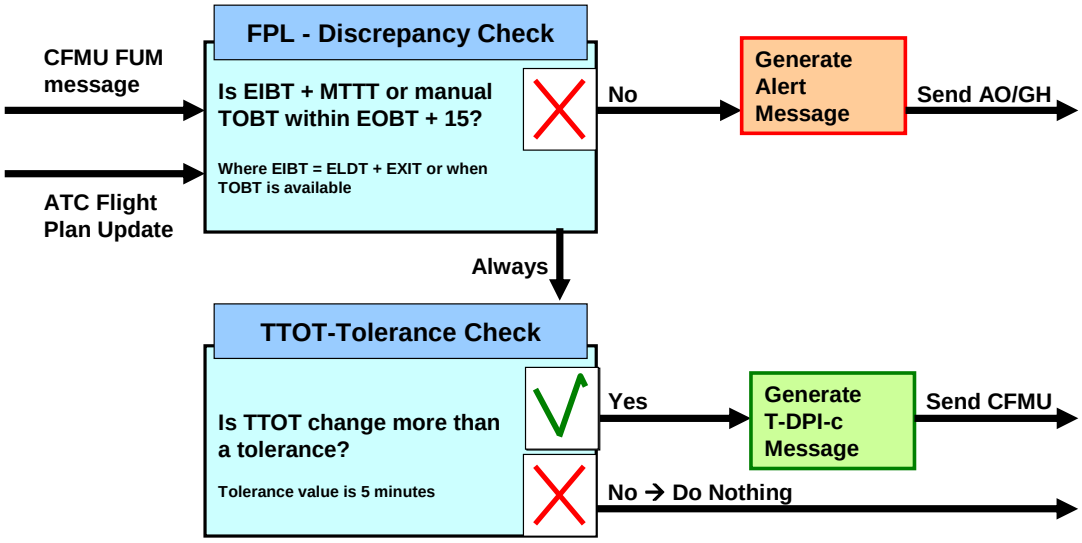
Remarks

1. Milestone 3 can take place before Milestone 2 in the case of a flight that has departed from outstation before EOBT – 2 hrs.
2. Late ATC flight plans shall pass the checks on Milestone 1 and 2, before commencing to further milestones.
3. Today Delay messages are sent in case of non conformance of a 15 minute deviation of EOBT. This Delay message may disappear in the future, being replaced by the proposed process described above.

Milestone 3 Process: Take-Off from Outstation

This Milestone is **Highly Recommended** whenever it is applicable on a flight.

Objective
To check whether the AO/GH estimated landing time after take-off from outstation are consistent with the outbound ATC Flight Plan, and when needed inform the CFMU about the updated take off time estimates using a T-DPI-c Message.



Description

This check shall be performed to verify feasibility of the ATC flight plan at take-off from outstation. A TTOT tolerance of 5 minutes is respected before CFMU is informed of the updated TTOT. Calculation basis for the TTOT shall take into account EIBT+MTTT+EXOT. In case EOBT is later than EIBT+MTTT, TTOT equals EOBT+EXOT. In the case where TOBT is available this prediction will overrule the EIBT+MTTT estimate, hence TTOT equals TOBT+EXOT.

Trigger

This process is triggered by the take-off from outstation.

Pre-condition

Milestones 1 and 2 (if applicable) are passed. The aircraft is airborne, a FUM or any other relevant information is received.

Input

FUM after outstation take off and ATC Flight plan update or any other relevant information.

Process

The Estimated Taxi-In Time (EXIT) plus the Minimum Turn-round Time (MTTT) is added to the Estimated Landing Time (ELDT). The resulting time shall be checked against the ATC Flight Plan EOBT + 15 minutes of the outbound flight. In case TOBT is already available, this

TOBT can replace ELDT+EXIT+MTTT. In case the calculated estimate or the available TOBT is not within the EOBT tolerance the AO/GH should be informed. A TTOT update is checked against the TTOT tolerance value before CFMU is informed about a changed TTOT.

Output

A T-DPI-c message is sent to CFMU only when the TTOT changes by more than the TTOT tolerance or if the SID, aircraft type or registration is modified. If the FPL discrepancy check fails, an alert message should be generated and sent to the AO/GH.

Response to Messages

AO/GH
Submit a Delay/Change message or cancel and re-file the ATC Flight Plan to resolve the discrepancies.

CFMU
The CFMU may update the flight profile, generate, update or cancel the CTOT according to the new TTOT and SID.

Consequences of No Action following Alert Messages

In case the flight is non-regulated it should be accepted into the ATC Pre-Departure Sequence on the basis of the later calculated TOBT. In case the flight is regulated an updated or cancelled CTOT may be received and the flight will be sequenced accordingly. Also a non-regulated flight may become regulated.

Remarks

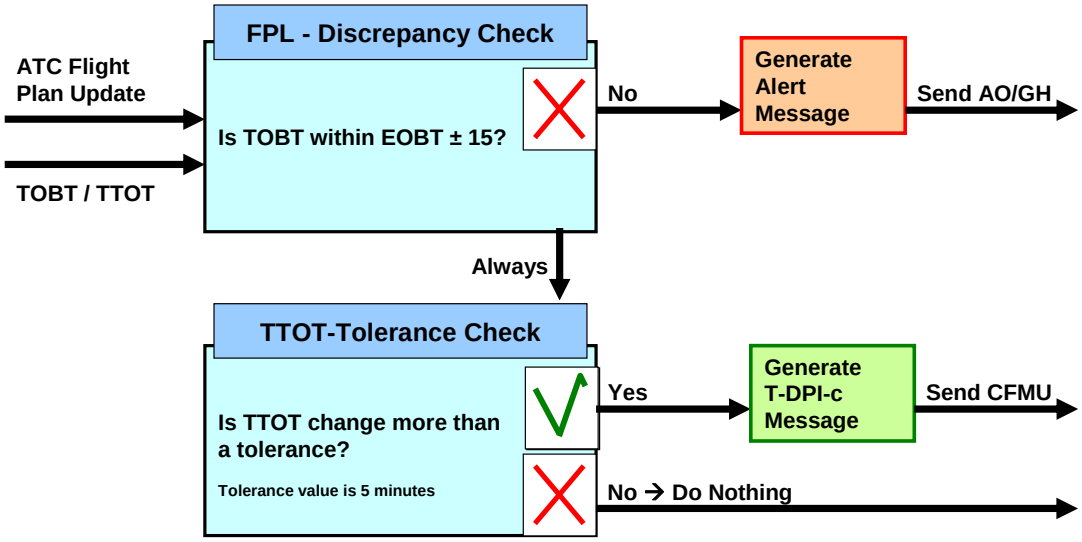
1. Milestone 3 can take place before Milestone 2 in the case of a flight that has departed from outstation before EOBT – 2 hrs. In this case either an E-DPI or no DPI is generated.
2. Other sources of information e.g. ACARS, MVT message may be inputs (check Aircraft Registration e.g. for Stand and Gate)
3. For long haul flights ELDT can be provided by calculation, using the ATOT from outstation and EET from ATC Flight Plan
4. A local procedure could be applied to alert for non-airborne status.
5. Depending on ELDT other airport processes may be triggered for necessary recalculation (e.g. stand and gate management).

Milestone 4/5 Process: Local Radar Update / Final Approach

Both milestones 4 and 5 are **Highly Recommended** whenever they are applicable to a flight.

Objective

To commence the TOBT process and check whether the AO/GH TOBT is consistent with the ATC Flight Plan. CFMU is informed when the TTOT changes by more than the agreed TTOT tolerance.



Description

This check shall be performed to verify feasibility of the ATC Flight Plan given the updated TOBT. The TTOT tolerance is respected before CFMU is informed of updated TTOT.

Trigger

This process is triggered by the detection of the flight by radar in either FIR, TMA, or on Final Approach.

Pre-condition

Milestones 1 and 2 or 3 have been completed. The detection by Local Radar or Final Approach is the trigger to update the ELDT for the inbound flight, which automatically generates or updates TOBT. The AO/GH can also generate or update the TOBT manually based on the latest information.

Input

ATC Flight plan (or an update) and both TOBT and TTOT.

Process

As soon as TOBT is available, the TOBT shall be checked against the ATC Flight Plan EOBT ± 15 minutes. In case the TOBT prediction is not within the tolerance the AO/GH should be

informed. A TTOT update is checked against the TTOT tolerance value before CFMU is informed about a changed TTOT.

Output

A T-DPI-c message is sent to CFMU only when the TTOT changes by more than the TTOT tolerance or if the SID, aircraft type or registration is modified. If the FPL discrepancy check fails, an alert message should be generated and sent to the AO/GH.

Response to Messages

AO/GH
Submit a Delay/Change message or cancel and re-file the ATC Flight Plan to resolve the discrepancies, or modify TOBT.

CFMU
The CFMU may update the flight profile, generate, update or cancel the CTOT according to the new TTOT and SID.

Consequences of No Action following Alert Messages

In case the flight is non-regulated it should be accepted into the ATC Pre-Departure Sequence on the basis of the later calculated TOBT. In case the flight is regulated an updated or cancelled CTOT may be received and the flight will be sequenced accordingly. Also a non-regulated flight may become regulated.

Remarks

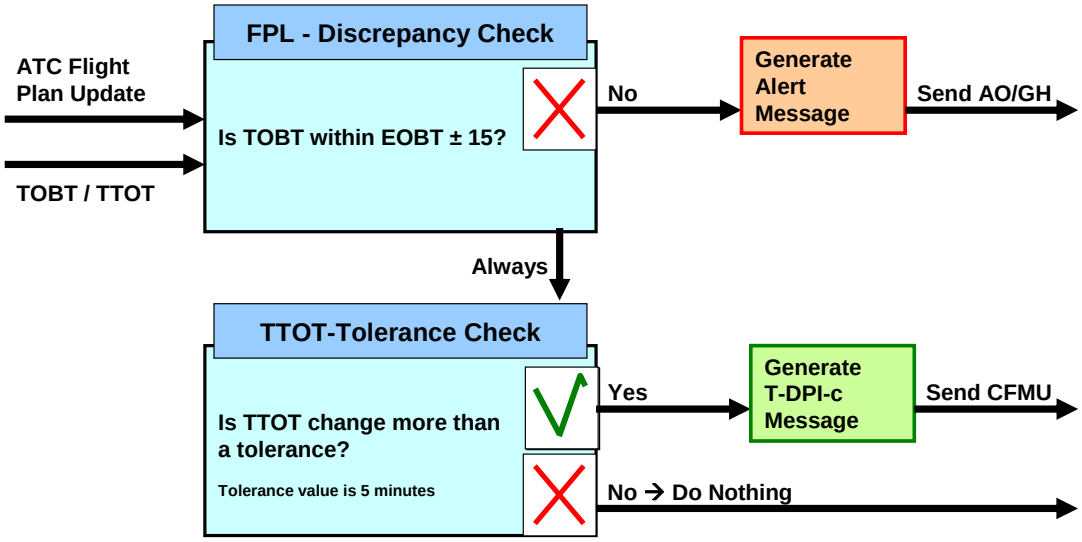
1. The TOBT is initially generated automatically, however, the AO/GH must update the TOBT based on the latest information or confirm in the case where it is correct.
2. Aircraft which have a long layover or are being towed will not trigger this process via local radar. For these flights the process shall not apply. A comparable trigger point has to be defined within the local procedure, e.g. leaving the preceding parking position or x minutes prior to EOBT.
3. If AMAN or DMAN applications are available they can be used for local calculations.
4. Milestone 5 should be the latest point where a first TOBT shall be given by the AO/GH.

Milestone 6-8 Process: Landed, In-blocks, Ground Handling Started

The Milestones 6 and 7 are **Highly Recommended** when applicable. Milestone 8 is **Recommended**.

Objective

To check whether the AO/GH TOBT is consistent with the ATC Flight Plan. CFMU is informed when the TTOT changes by more than the agreed TTOT tolerance.



Description

This check shall be performed to verify feasibility of the ATC Flight Plan given the updated TOBT or ATC Flight Plan. A TTOT tolerance is respected before CFMU is informed on updated TTOT.

Trigger

This process is triggered by

- Actual Landing Time: ALDT,
- Actual In Blocks Time: AIBT,
- Actual Commence of Ground Handling: ACGT

Input

ATC Flight plan (or an update) and both TOBT and TTOT.

Pre-condition

Milestone 1 to 5 have been completed prior to milestone 6
Milestone 1-6 have been completed prior to milestone7
Milestone 1-7 have been completed prior to milestone 8

Process

The TOBT shall be checked against the ATC Flight Plan EOBT ± 15 minutes. In case the TOBT prediction is not within the tolerance the AO/GH should be informed. A TTOT update is checked against the TTOT tolerance value before CFMU is informed about a changed TTOT.

Output

A T-DPI-c message is sent to CFMU only when the TTOT changes by more than the TTOT tolerance or if the SID, aircraft type or registration is modified. If the FPL discrepancy check fails, an alert message should be generated and sent to the AO/GH.

Response to Messages

AO/GH
Submit a Delay/Change message or cancel and re-file the ATC Flight Plan to resolve the discrepancies, or modify TOBT.

CFMU
The CFMU may update the flight profile, generate, update or cancel an existing CTOT according to the new TTOT and SID.

Consequences of No Action following Alert Messages

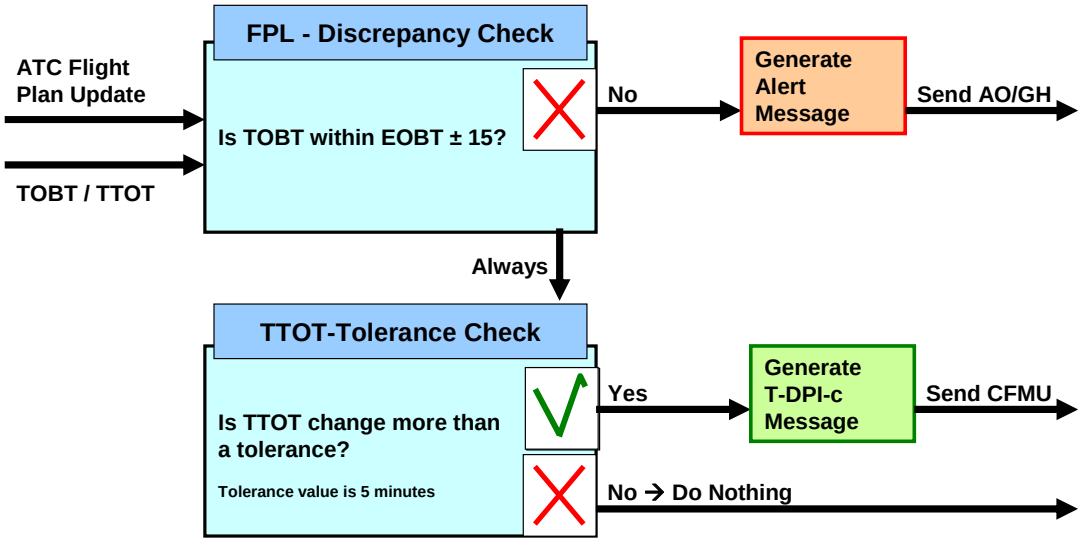
In case the flight is non-regulated it should be accepted into the ATC Pre-Departure Sequence on the basis of the later calculated TOBT. In case the flight is regulated an updated or cancelled CTOT may be received and the flight will be sequenced accordingly. Also a non-regulated flight may become regulated.

Milestone 9 Process: TOBT Confirmation Prior to TSAT Issue

This Milestone is **Recommended**.

Objective

To check whether the AO/GH TOBT is consistent with the ATC Flight Plan. CFMU is informed when the TTOT changes by more than the agreed TTOT tolerance.



Description

This check should be performed at a predefined time (local parameter) to confirm TOBT prior to TSAT issue and verify feasibility of the ATC Flight Plan estimates given the updated TOBT. A TTOT tolerance is respected before CFMU is informed on updated TTOT.

This Milestone Process is actually constantly applicable in the CDM platform, as soon as a TOBT is available. However the confirmed TOBT prior to TSAT has special status, where AO/GH check the quality of TOBT before TSAT issue.

Trigger

This process is triggered by a new TOBT or TTOT update. No need to confirm an existing TOBT if it has been manually modified before.

Input

ATC Flight plan (or an update) and both TOBT and TTOT.

Pre-condition

Milestone 1-3 have been completed as a minimum.

Process

The TOBT shall be checked against the ATC Flight Plan EOBT ± 15 minutes. In case the TOBT prediction is not within this tolerance AO/GH should be informed. TTOT update is checked against the TTOT-tolerance value before CFMU is informed about a changed TTOT.

Output

A T-DPI-c message is sent to CFMU only when the TTOT changes by more than the TTOT tolerance or if the SID, aircraft type or registration is modified. If the FPL discrepancy check fails, an alert message should be generated and sent to the AO/GH.

Response to Messages

AO/GH
Submit a Delay/Change message or cancel and re-file the ATC Flight Plan to resolve the discrepancies, or modify TOBT.

CFMU
The CFMU may update the flight profile, generate, update or cancel the CTOT according to the new TTOT and SID.

Consequences of No Action following Alert Messages

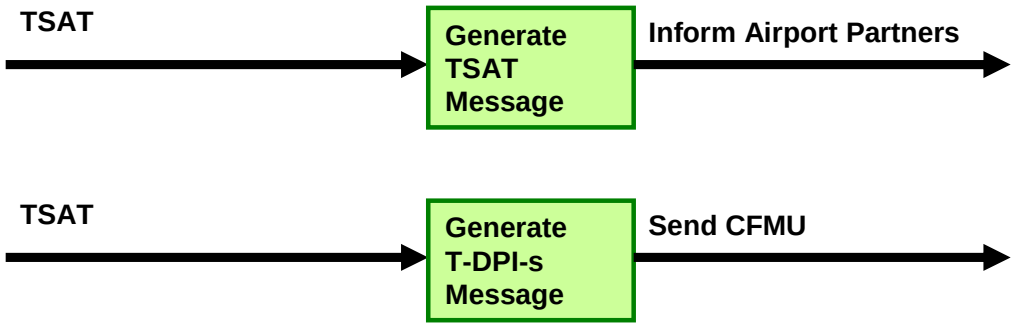
In case the flight is non-regulated it should be accepted into the ATC Pre-Departure Sequence on the basis of the later calculated TOBT. In case the flight is regulated an updated or cancelled CTOT may be received and the flight will be sequenced accordingly. Also a non-regulated flight may become regulated.

Milestone 10 Process: TSAT Issued

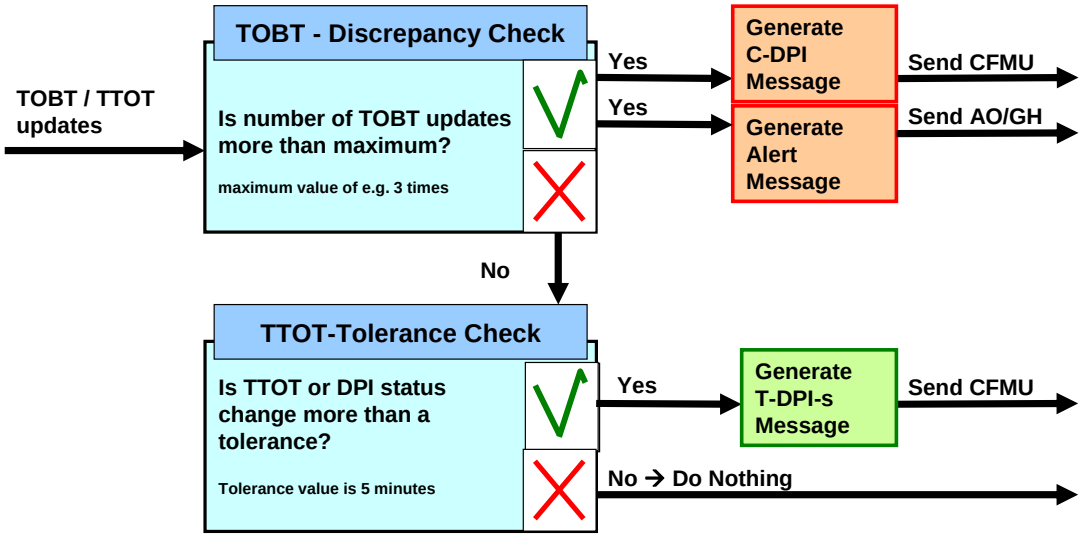
This Milestone is **Highly Recommended**.

Objectives

First step: To inform all relevant partners of the TSAT that has been allocated to the flight. The CFMU is informed by a T-DPI-s for non regulated flights.



Second step: To check whether the number of TOBT updates exceeds a tolerance defined locally, after TSAT has been issued.



Description

First: The TSAT will indicate to the partners the time when the Start Up Approval can be expected. CFMU will be informed with a T-DPI-s for non regulated flights. No check is performed.

Second: A check shall be performed to see the number of TOBT updates after TSAT has been issued. In case the number of TOBT updates exceeds a threshold, then the TOBT input should be processed according to local procedure.

Trigger

This process is triggered by

- A defined time (local parameter) before TOBT
- TOBT update after TSAT issue

Pre-condition

Milestones 1-9 have been completed.

Input

TOBT, number of TOBT updates after TSAT, and TTOT.

Process

TSAT will be calculated at a pre-defined time (local parameter) before TOBT. This TSAT will then be issued (distributed) to the concerned CDM Partners. When the TOBT is updated the amount of updates shall be checked against a maximum of allowed changes (local parameter). The AO/GH is informed when the maximum number of updates is obtained. CFMU is informed when TOBT is deleted.

Output

TSAT will be available on the CDM Platform. A T-DPI-s message is sent to CFMU including any updates following changes to TTOT, SID etc. for non regulated flights. For Regulated flights the T-DPI S will be based on a local trigger any time after TSAT generation (e.g. TSAT-10 or Start up given). In case of too many TOBT updates an alert message is generated and sent to the AO/GH,

Response to Messages

AO/GH
Update your TOBT and if necessary submit a Delay message or cancel and re-file the ATC flight plan.

CFMU
The CFMU may update the flight profile, generate, update or cancel the CTOT according to the new TTOT and SID. In case of C-DPI, remove all previous received T-DPI information and fall back on latest available ATC Flight Plan information, maintaining latest Variable Taxi Time and SID.

Consequences of No Action following Alert Messages

The flight may be re-sequenced according to local procedure until a new TOBT is sent.
When the TOBT is deleted, the flight will be taken out of the sequence.

Remarks

1. The TTOT is taken by CFMU as a “No slot before” time.

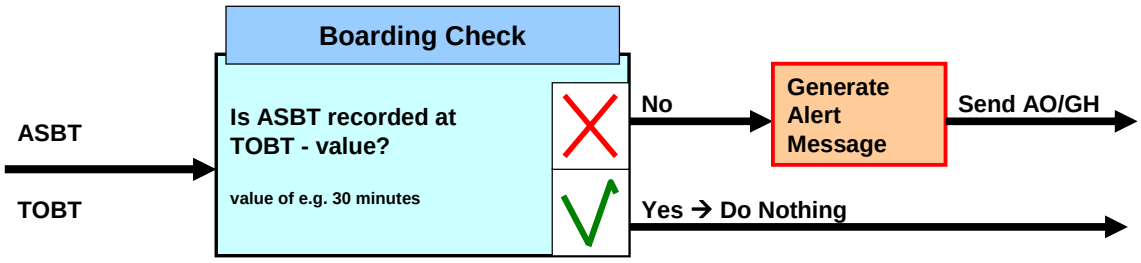
Milestone 11 Process: Boarding Started

This Milestone is **Recommended**.

Objective

First step: To inform all relevant Airport CDM partners of Actual Start Boarding Time (ASBT).

Second step: To check whether boarding starts in time to respect TOBT and inform the AO/GH in case TOBT needs to be updated.



Description

Inform of Actual Start Boarding Time (ASBT) when it occurs. At a certain time before TOBT (local variable e.g. corresponding to aircraft type) a check shall be performed to check the boarding status.

Trigger

This process is triggered by a time variable <value> minutes before TOBT.

Pre-condition

Milestones 1 to 10 have been completed. TOBT is available.

Input

The boarding status [yes, no] or ASBT and TOBT.

Process

ASBT is recorded in the Airport CDM platform once passengers are boarding the plane. The AO/GH will be alerted that boarding has not commenced at a time (local variable) prior to TOBT and therefore the TOBT may not be respected.

Output

Output is an alert message to the AO/GH, or no action in case boarding proceeds as planned.

Response to Messages

AO/GH
Update TOBT if required.

Consequences of No Action following Alert Messages

The flight may risk violation of the TOBT and not be ready at TSAT.

Remarks

1. This process is not triggered by the milestone event, but at a time before TOBT that boarding should have started.

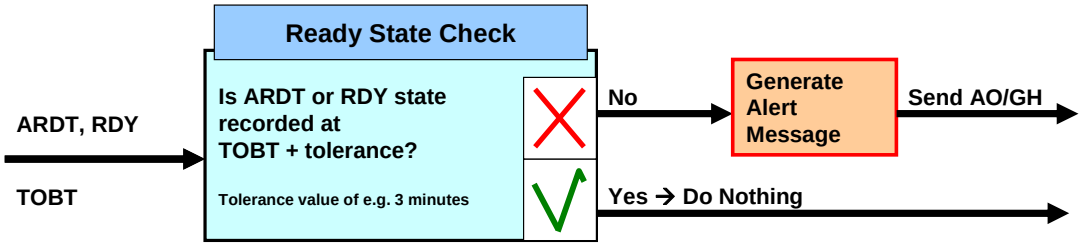
Milestone 12 Process: Aircraft Ready

This Milestone is **Recommended.**

Objective

First step: To inform all relevant Airport CDM partners of Actual Ready Time (ARDT) in the Airport CDM platform and that the aircraft is ready for start-up / pushback.

Second step: To inform the AO/GH that TOBT has passed and the Airport CDM platform has not yet received ARDT or Ready Status (RDY).



Description

Inform of ARDT or RDY confirming that the flight follows the indicated TOBT. At TOBT + tolerance the AO/GH are informed that TOBT has passed and there has not been a ready status message yet.

Trigger

This process is triggered by an input to the Airport CDM Platform.

Pre-condition

Milestones 1 to 11 have been completed.

Input

TOBT, ARDT or Aircraft RDY status from local process (e.g. flight crew or ATC automation).

Process

Aircraft ready status RDY or ARDT is recorded in the Airport CDM platform (possibly via related systems like TWR FDPS, Pre Departure Sequencer, AO, etc.). At TOBT + tolerance an alert to the AO/GH should be generated when such status or ARDT is not received.

Output

Inform the aircraft ready status to Clearance Delivery and other partners. An alert to the AO/GH should be generated when such status or ARDT is not received.

Consequences of No Action following Alert Messages

To be defined locally

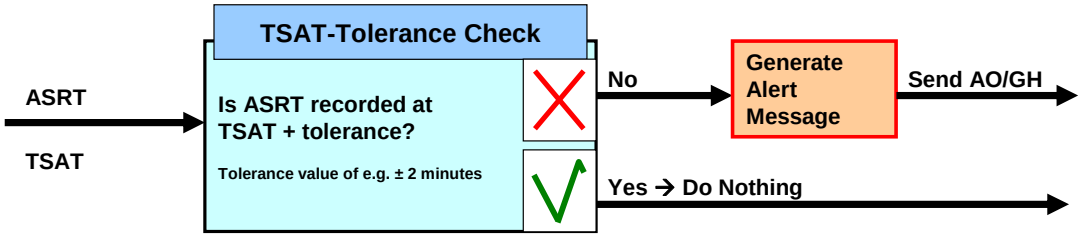
Milestone 13 Process: Start-Up Requested

This Milestone is **Recommended**.

Objective

First step: To inform all relevant Airport CDM partners of Actual Start-up Request Time (ASRT) in the Airport CDM platform.

Second step: to alert all relevant airport CDM partners when no start-up has been requested inside the locally agreed TSAT tolerance window.



Description

Inform of ASRT when it occurs. If the start-up request is not made by TSAT + tolerance, the AO/GH is informed that no start up has been requested, and should update TOBT.

Trigger

Timestamp when the tolerance window has passed at TSAT.

Pre-condition

Milestones 1-12 have been completed. TSAT is assigned.

Input

ASRT and TSAT + tolerance

Process

ASRT is recorded in the Airport CDM platform after the request for start-up is made. At TSAT + tolerance a check is made to detect if the request for start-up is missing.

Output

Output is an indication to Clearance Delivery that TSAT has passed and an alert message to the AO/GH, or no action in case start-up request has been made as planned.

Response to Messages

AO/GH
Update of TOBT

Consequences of No Action following Alert Messages

A C-DPI should be sent to CFMU if the flight is removed from the pre departure sequence and the TOBT is deleted.

Remarks:

1. The Start-Up request can be made either via R/T or Datalink.

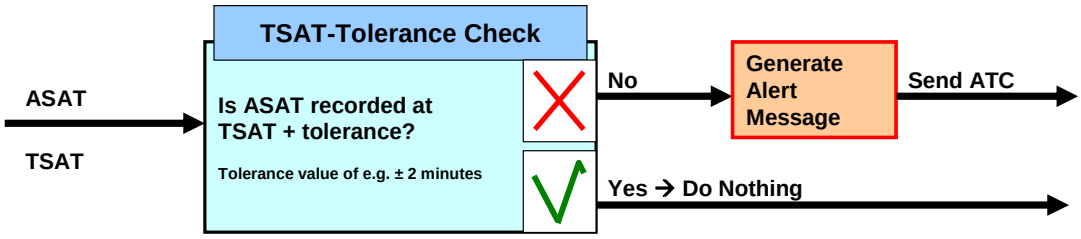
Milestone 14 Process: Start-Up Approved

This Milestone is **Recommended** (may be considered Highly Recommended where sequencing applications are available, e.g. DMAN).

Objective

First step: To inform all relevant Airport CDM partners of Actual Start-up Approval Time (ASAT) in the Airport CDM platform and that the aircraft has received Start-up Approval / pushback clearance.

Second step: To check if ASAT is in accordance to TSAT and to alert all relevant airport CDM partners when no start-up has been granted.



Description

Inform of ASAT when it occurs. In case the start-up approval is not granted at TSAT + tolerance, all relevant partners should be informed. The flight will be re-sequenced.

Trigger

Start up request by flight crew (voice or DCL) or a locally defined time around TSAT if Milestone Process 13 is omitted.

Pre-condition

Milestones 1-13 have been completed.

Input

ASAT and TSAT + tolerance

Process

ASAT is recorded in the Airport CDM platform after the clearance for start-up is made. At TSAT + tolerance a check is made to detect if the clearance for start-up is missing.

Output

ASAT is recorded in the Airport CDM platform and distributed, or an alert message is sent to all relevant partners.

Response to Messages

ATC
ATC should provide Start-Up Approval or flight should be re-sequenced to assign new TSAT.

Consequences of No Action following Alert Messages

Not Applicable

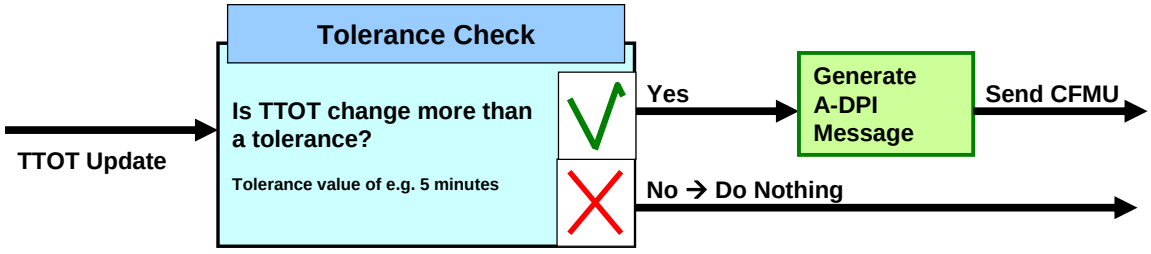
Milestone 15 Process: Off-Block

This Milestone is **Highly Recommended**.

Objective

First step: To inform all relevant Airport CDM partners of Actual Off-Block Time (AOBT) in the Airport CDM platform and that the aircraft has commenced pushback / taxi from parking position.

Second step: To check if TTOT changes by more than the agreed tolerance and inform CFMU.



Description

Inform of AOBT when it occurs. AOBT always triggers an A-DPI message to CFMU or in the case of remote holding at a defined time prior to TTOT. After a first A-DPI is sent this check shall be performed to check TTOT updates against the TTOT tolerance before CFMU is informed, with a new A-DPI, of the updated TTOT.

Trigger

This process is triggered by AOBT detection.

Pre-condition

Milestones 1-14 have been completed.

Input

AOBT is detected and input into the Airport CDM platform. TTOT is calculated from AOBT + EXOT automatically.

Process

AOBT is recorded in the Airport CDM platform after pushback is detected. A-DPI shall be generated and sent to the CFMU. Any subsequent update of TTOT shall be checked against the TTOT tolerance to determine whether a new A-DPI shall be sent to the CFMU.

Output

A-DPI message is always sent to CFMU and subsequent A-DPI is sent when the TTOT changes by more than the TTOT tolerance.

Response to Messages

CFMU
Freeze CTOT.

Consequences of No Action following Alert Messages

Not Applicable.

Remark

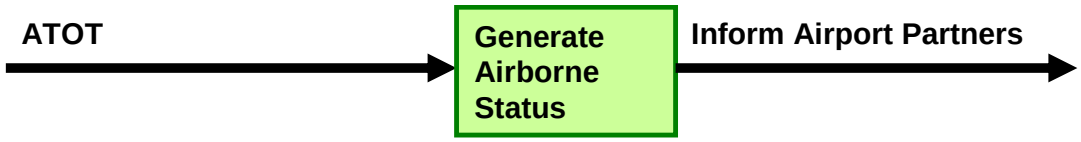
1. A-SMGCS can be used to detect actual taxi movement instead of a manually input of AOBT. This automation of movement detection can provide an improved TTOT accuracy in the A-DPI.
2. In the case where an aircraft is Off-Blocks and has returned to stand or holding remotely to resolve a problem, local procedures shall be defined to establish who is responsible to generate C-DPI or update of the TTOT.

Milestone 16 Process: Take-Off

This Milestone is **Highly Recommended**

Objective

To inform all relevant Airport CDM partners about the actual take off.



Description

An airborne message is generated and the flight is removed from the departure sequence.

Trigger

This process is triggered by Tower FDPS, A-SMGCS / Radar detection or ACARS.

Pre-condition

Milestones 1-15 have been completed

Input

Actual Take-Off Time.

Process

Generate airborne status.

Output

Airport partners are informed with an airborne message.

Response to Messages

Not applicable

Consequences of No Action following Alert Messages

Not applicable.

Remarks

According to existing procedure between ANSPs and CFMU, a First System Activation (FSA) message shall be generated via radar data.