EUROCONTROL NETWORK MANAGER RELEASE NOTES

Planned for implementation 2019-2020

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Abstract
This document describes the new or modified functions (affecting external users) delivered by the Network Manager as part of the Network Manager software releases.   This document is available at: https://www.eurocontrol.int/library?f%5B0%5D=activity%3A774

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STATUS AND ACCESSIBILITY

Status		Accessible via	
Working Draft	☐	Intranet	☐
Draft	☐	Extranet	☐
Proposed Issue	☐	Internet (www.eurocontrol.int)	☒
Released Issue	☒		

TLP STATUS

Intended for		Detail
Red	☐	Highly sensitive, non-disclosable information
Amber	☐	Sensitive information with limited disclosure
Green	☐	Normal business information
White	☒	Public information

Edition History

The following table records the complete history of the successive editions of the present document.

Edition No.	Edition Validity Date	Reason
1.0	21/11/2018	First edition - NM23.0 content and initial deployment plan.
2.0	20/06/2019	First edition - NM23.5 content and initial deployment plan. Addition to NM23.0 - FB972 (ASM - Advanced FUA process improvements)
2.1	16/07/2019	- NM23.5 migration plan - Updated URLs - Updates to NM23.5 content
2.1.1	18/07/2019	URL to OPT instructions added
2.2	12/08/2019	- Updates to NM23.5 content New important notifications: - I2_116122: IFPS/ETFMS messages with invalid characters (p.9) - I2_117070: Stop IFPS accepting IFR as requested cruising level (p.11)
2.3	06/09/2019	Updates to NM23.5 content
2.4	16/09/2019	- NM B2B PREOPS migration date modified - I2_116122 (IFPS/ETFMS messages with invalid characters) modified (p.9) - Slides and recording of the NM23.5 presentation (p.16)
2.4.1	23/09/2019	URL of CHMI software added (§4.3.4)

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1   INTRODUCTION

This document describes the new or modified functions delivered by the Network Manager as part of the Network Manager software releases which affect external users.

The purpose of this document is to give users of Network Manager Services advance notice of modifications to enable them to anticipate any impact on their operational procedures and/or systems.

The Network Manager Releases include many changes arising from different sources and coordinated via various fora. They allow the implementation of new functionalities to cope with Network Manager Directorate business plans.

The Network Manager Release Notes are organised as a rolling document describing the functions currently under development for future releases. Other functions which are being considered for possible development but which are not yet ready to be presented are not included in this document.

If you wish to automatically receive the new versions of the Release Notes (and any communication related to the NM Releases) by email, please register at:

http://www.eurocontrol.int/network-operations/self-registration-form

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Any questions or comments related to the Network Manager Releases may be sent to:
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2   Releases content

Only FBs or CRs that have an impact on operations for external users are listed below.

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Performance Programme		**§3.9**		
FB973	Performance Work Programme		**p.58**	

2.1   Functional Block description

Each Functional Block is described in a table with the following fields. All descriptions are focused from an external NM point of view.

FBxxx: Number and name of the Functional Block
(optional) Internal NM "Internal NM" means that the Functional Block has no direct impact for externals NM users (on procedures, interfaces or systems). The Functional Block may have an indirect impact by improving the quality of the service delivered by NM.

Users impacted	The categories of NM Users which are impacted by the new features of the Functional Block: U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U6. Management (eg crisis management, performance management) U7. Post-ops analyst U8. AO or CFSP U9. CAA, EASA U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP) U0. Other
Application impacted	The NM application(s) or service(s) that will be impacted by the Functional Block: A1. CHMI A2. CIFLO, CIAO A3. CIAM A4. CACD A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A7. Datawarehouse (NMIR) A8. CCAMS A9. CSST A10. NOP Portal A11. NOP B2B A12. ASM Tools A13. NMVP A14. n-CONECT A0. Other

Network Manager

NETWORK MANAGER RELEASE NOTES

Objective	Operational objectives of the Functional Block.
Description	Description of the main features delivered to external NM users. Some FBs (mostly the ones belonging to "Operations Improvements" Programme) may content the CR (Change Request) number of the new features (like CR_xxxxxx). Please refer to this CR number when requesting information to NMD.
Impact for external users	Technical or operational impact the Functional Block may have on the external users. I0. No impact. I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	Description of the impact for the external users.
Service reference	Hyperlink toward the NM activity(ies), service(s) and product(s) that will be impacted by this Functional Block. The global catalogue is available at the following address: https://www.eurocontrol.int/what-we-offer
Safety assessment	Output of the <u>initial</u> safety assessment carried out by NMD for the Functional Block: S4. Safety assessment to be performed or on-going S5. FB is not Safety related S6. FB is Safety related S7. Bug fixing (I2)
Operational deployment plan	The way the Functional Block will be deployed: D1. FB will be deployed in Operation along with the release migration. FBs deployed as D1 normally do not include new or changed ATFCM procedures. D2. FB will be subject to a Pilot Phase (Operational Trial) followed by a Go/NoGo decision for ops deployment after Release Migration. New ATFCM procedures or changed ATFCM procedures are normally only issued as a result of D2 deployment. These are issued via Ops Instructions after the consultation process agreed with ODSG. D3. FB will be subject to R&D ops validation (e.g. SESAR). D4. The analysis part of the FB will be done in the Release and the development will be candidate for the next Release.

Users' testing	Depending on the Operational deployment plan:
	• If D1:
	  • O1: The FB is planned to be part of the NM Release OPT.
	  • O2: The FB will not be part of the NM Release OPT.
	• If D2 or D3: provide additional information on the activities that will take place (pilot phase, ops validation phase, etc.)

Documentation publication	The documentations that will be updated following the deployment of the Functional Block.

3   Network strategic projects

You will find below a short description of each Programme that the Network Manager developments are serving.

3.1   Airport and TMA network integration

The programme aims at facilitating the better integration of airports and its operations with the ATM network. This includes the following areas:

- Connection of A-CDM and Advanced Tower airports to the NM systems.
- Provision of pre-tactical and tactical information to the main NM stakeholders (Airport Operators, Airspace Users and ANSPs) through the NOP portal and future web services.
- Provision of web service based tools for post-operational performance assessment to airports.
- Contribution to events management processes and information provision as to enhance the operational picture through the before-mentioned means.
- Development of new services related to deliverables becoming mature from SESAR research activities (AOP/NOP integration, APOC etc.)

3.2   Airspace management and advanced FUA

ASM and Advanced FUA are major components of the Network Strategy Plan (NSP) 2015/2019. The project contributes directly to the NSP Strategic Objective 3 (SO3) "Implement a seamless and flexible airspace enabling Free Routes", together with the "Free Route Airspace" network strategic project.

The Project will aim at:

- Introducing performance driven operations based on the management of Airspace Configurations in fixed route network and FRA environments.
- Providing processes that support the use of more dynamic and flexible elements.
- Describing a seamless, CDM based process with an advanced real time management of Airspace Configurations as well as a continuous sharing of information among all ATM partners enabled by advanced technology.

The main Lines of Improvement of the Project are:

- Airspace Configuration Definition and Operational Deployment.
- A Collaborative Decision Making Process (ASM/ATFCM/ATC integration).
- The Rolling Process.
- ASM solutions to improve network performance.
- ASM operations in FRA environments.
- ASM system support and data management.
- ASM post ops and performance planning.

3.3   CTM (Cooperative Traffic Management)

Cooperative Traffic Management is the dynamic process of monitoring, simulating and implementing optimal solutions for network operations through continuous information sharing of individual and local preferences, by cooperation between actors in the planning and execution phases of ATM.

The purpose of CTM Strategic Project is to support capacity, flight efficiency and cost-efficiency performance improvements required in the context of the SES RP2 performance targets. The CTM Strategic Project addresses the interface between ATFCM and Tactical Capacity Management and intends to reduce the gap between planning and execution phases.

The CTM Strategic Project aims to optimize the delivery of traffic through a cooperative approach between Network, ATC, Flight operations and Airports, and the introduction of time based processes that facilitate a smoother and more predictable sequencing of flights into ATC sectors and Airports. This involves the development and implementation of activities in 5 broadly defined areas of work, namely:

- Short Term ATFCM Measures (STAM) and the link with Scenario Management
- Improved Predictability and Flight Plan Adherence
- Target Times Operations for ATFCM purposes
- Support to Arrival Sequencing
- Initial UDPP – Slot swapping

3.4 EAIMS (European ATM Information Management Service)

The European ATM Information Management Service (EAIMS) aims at ensuring access to a consolidated, consistent and operationally validated data in a seamless and transparent way as from a single access point to support ARO/AIS/ASM/ATFCM/ATC, flight operations and airport operations.

Through EAIMS, the end user will be provided access to all the required, consolidated, consistent and operationally validated data in a seamless and standardised way from a single access point, which will enable ASM/ATFCM/ATC, flight operations and airport operations.

3.5 FPFDE (Flight Plan and Flight Data Evolution)

This FPFDE project encompasses the flight planning developments associated with the introduction of FF-ICE, VFR, OAT and Flight Object. Each of these areas of development have their own specifics with regard to a deployment within NM and the European area of operation.

It's the role of the FPFDE project to coordinate their implementation with the relevant stakeholders. FF-ICE/1 enhances the flight plan data exchanges facilitating a CDM process between AOs/CFSPs, the Network Manager and ANSPs in the pre-departure phase of the flight, with the aim of improving consistency and the accuracy of 4D flight trajectories maintained by the different stakeholders.

In addition to trajectory related information it facilitates an enrichment of the flight plan content, such as operator preferences or advanced CNS capabilities. It also enables the use of modern communication methods and technologies, such as B2B and SWIM.

FF-ICE/1 is the very first step on the path towards enabling trajectory based operations.

3.6 FRA (Free Route Airspace)

Free route airspace is a specified airspace within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) waypoints, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to air traffic control.

The project supports the implementation of the FRA concept, as described in the European Route Network Improvement Plan Part 1 across the NM area. It also forms an integral part of Network Operations Plan (NOP) for the forthcoming five years and is expected to make a major contribution to the Network Performance Plan (NPP). It manages the required system changes in NM and undertakes airspace design, simulation and validation activities required for FRA implementation as well monitoring and reporting on implementation progress.

3.7   n-CONECT

The n-CONECT (network-COmmoN Enhanced Collaborative ATM) Programme corresponds to the "NM Ops Service Platform" Strategic Project identified in the NSP (Network Strategy Plan), providing a global vision for the NM service interfaces.

The initial focus of n-CONECT is a planned convergence to single, redesigned HMI for all users, fit for purpose and flexible enough to meet the needs of the different user roles (both internal to NMOC and external).

Through a sequence of projects, the programme will develop services and tools to:
- Ensure access to the Network view to all Stakeholders involved in evolution of NM functions and future ATM;
- Make Network information & decision flows available to support operational CDM between different Stakeholders, across the Network and across the ATFCM phases; and
- Take advantage of new technologies.

n-CONECT will deliver in the following 3 areas:
- B2C interface
- B2B services
- Service management developments in support of both the B2B and B2C services

3.8   Operations improvements

3.8.1   Domain improvements

Every Release delivers improvements to the NM Operational Domains:
- ATFCM Domain.
- Flight Planning Domain.
- Airspace Data Domain.

3.8.2   Transponder Code Function (CCAMS)

In accordance with the Network Manager mandate for the Transponder Code Function (TCF), CCAMS is operated on behalf of states as one of the possible technological solutions supporting the unambiguous and continuous identification of aircraft.

The final goal is to have the use of the downlinked aircraft identification (e.g. through Mode S) operational in the whole area with CCAMS as a back-up technology. Therefore CCAMS is implemented currently in 18 states and the number of users is expected to increase in the coming years.

3.9   Performance programme

The ATFM, Network Manager and Performance IRs stress the need for Monitoring and Reporting (M&R) of performance. The aim of this Programme is to provide the data and reporting (including datawarehouse and NMIR) that address the M&R needs.

The Programme includes a wide variety of activities such as: the adaptation of algorithms or databases, creation of new data sets, modification of interfaces graphical identity, and new reports following users' requests. The changes allow the NM to fulfil its commitment on M&R, support other stakeholders with their M&R responsibilities and prepare NM for next SES reference period.

4 Release NM23.5

4.1 Important notifications related to NM23.5 migration

4.1.1 IFPS/ETFMS messages with invalid characters

I2_116122: IFPS/ETFMS messages with invalid characters	
Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A7. Datawarehouse (NMIR) A10. NOP Portal A11. NOP B2B
Objective	~~Ensure that IFPS/ETFMS messages are not transmitted containing invalid characters~~ IFPS and ETFMS will stop modifying characters in errors message.
Description	The IFPS/ETFMS errors being output are not consistent with the ADEXP Standard or the IFPS Dictionary of messages (DOM). This results in the invalid characters being changed to '?' by NM systems for the Type-B output (SITA and ARINC). There are recipients of these messages that can process the full character set but are still receiving NM messages with the unusual '?' inserted. With NM23.5, NM will stop changing the characters. The characters that used to be changed to "?" are: • "_" (underscore) • "|" (vertical bar) • "[" and "]" (square brackets) • "`" (back quote) • ";" (semicolon) • ">" (greater than) • "%" (percent) ~~To solve this issue, IFPS will stop using the invalid characters.~~ ~~The invalid characters are used in IFPS Reject (REJ) messages as well as ETFMS Flight Suspension Messages (FLS).~~ ~~The changes that have been made:~~ • ~~"_" to " " (underscore to space)~~ • ~~"|" to "'" (vertical bar to single quote)~~ • ~~"[]" to "()" (brackets to parentheses)~~ • ~~"`" to "'" (backquote to single quote)~~

	• ~~";" to ":" (semicolon to colon)~~ • ~~">" to "GREATER THAN"~~ • ~~"%" to "PERCENT"~~ ~~Some example of the old and new IFPS error messages (changes in blue):~~ ~~Old: TTL_EET DIFFERENCE > 40%~~ ~~New: TTL EET DIFFERENCE GREATER THAN 40 PERCENT~~ ~~Old: ERROR PROF205: RS: TRAFFIC VIA ZUE ARGAX Z170 KUDIS IS OFF MANDATORY ROUTE REF:[EDLS1012A] T163 SONOM LADOL~~ ~~New: ERROR PROF205: RS: TRAFFIC VIA ZUE ARGAX Z170 KUDIS IS OFF MANDATORY ROUTE REF:(EDLS1012A) T163 SONOM LADOL~~
Impact for external users	I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	Systems that receive IFPS reject messages and/or ETFMS FLS messages may experience problems with the ~~format~~ error message change.
Service reference	Network Manager Business-to-business (B2B) web services Network Operations Portal Collaboration Human Machine Interface Flight plan filing and management Airspace data
Safety assessment	S5. The change is not Safety related
Operational deployment plan	D1. Change will be deployed in Operation along with the release migration.
Users' testing	O1: I2_116122 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual AD Operations Manual

4.1.2   I2_117070: Stop IFPS accepting IFR as requested cruising level

I2_117070: Stop IFPS accepting IFR as requested cruising level	
Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A6. FPL (IFPS) A11. NOP B2B
Objective	Stop IFPS accepting IFR as requested cruising level
Description	IFPS currently accepts and outputs the three letter indicator "IFR" as a requested cruising level within filed flight plans. That is not compliant with the ICAO Doc 4444 specifications for the content of a filed flight plan. With the NM23.5 release, IFPS will invalidate such a filing returning the error: SYN101: INVALID LEVEL DESIGNATOR. Example of an incorrect filing: (FPL-WOOPS-ZG -SR22/L-SDFGY/S -EKYT1300 -N0150F070 DCT AAL/N0150IFR DCT KOR/N0120VFR DCT BORUP DCT -EKRK0100 EKOD -0)
Impact for external users	I3. Impact on clients' systems.
Impact description	Flight plan originators that use the invalid format will receive reject messages from IFPS.
Service reference	Flight plan filing and management
Safety assessment	S5. The change is not Safety related
Operational deployment plan	D1. The change will be deployed in Operation along with the release migration.
Users' testing	O1: I2_117070 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	N/A

4.1.3   NM systems to allow ADs with no ICAO or IATA identifier

NM plans to allow Aerodromes with no ICAO or IATA identifier into CACD	
Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U6. Management (eg crisis management, performance management) U7. Post-ops analyst U8. AO or CFSP U9. CAA, EASA U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A3. CIAM A4. CACD A10. NOP Portal A11. NOP B2B A12. ASM Tools
Objective	NM systems to store into CACD ADs with no ICAO or IATA identifier.

Description	With NM23.0 and before, AD with no ICAO and no IATA identifier were not stored in CACD.
	As from NM23.5, CACD will be populated with the new aerodromes that may have empty ICAO and/or IATA identifiers.
	
	For ADs without ICAO and/or without IATA identifiers, NM will generate an NM <u>unique</u> designator, which will consist of 4 alphanumeric characters as follow:
	• If IATA designator is NOT present:
	   o CC + 2 numeric,
	   o or C + 3 numeric.
	• If IATA designator is present:
	   o 1 numeric + IATA designator.
	Where:
	• CC is the ICAO country code of the Airport (e.g. 'ED' for Germany).
	• C is the first letter of the ICAO country code (e.g. 'E' for Germany, 'L' for France).
	• Numeric are integers not following any particular rules.
	Examples:
	• No ICAO and no IATA designator: a German VFR aerodrome will have a designator like ED01 and a French one like LF56
	• With IATA designator: Andorra la Vella, 1ALV

Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	Impact on NM B2B: • Airspace Services: If the Aerodrome does not have ICAO indicator, ICAO indicator in B2B will be empty. If the Aerodrome does not have IATA designator, IATA designator in B2B will be empty • There is no impact on any NM B2B services other than Airspace Services. Flight Plan related services remain unchanged: such aerodromes will be referred to using ZZZZ as before the change. • NM will export the NM designator (4 alphanumeric as described above), using AIXM extension. Flight plans and related messages output in ICAO or ADEXP format remain unchanged with still ZZZZ for these ADs. I1. Impact on procedures. This CR could have impact on users' procedures. I2. Impact on Human-Machine interface. Users must ensure that their interfaces are able to manage AD with no ICAO and/or IATA codes. I3. Impact on clients' systems. Users must ensure that their systems are able to manage AD with no ICAO and/or IATA codes (that will be provided via NM B2B).

4.1.4   NM23.5 - Browsers compatibility

Browsers recommended in NM23.5:
- The n-CONECT HMI does not work with Internet Explorer; for this HMI, NM recommends Chrome or FireFox.
- For other NM services, NM recommends:
    - FireFox,
    - Chrome,
    - Edge.

For these recommended browser brands, NM undertakes to investigate and attempt to resolve problems that can be reproduced on the latest stable version of that brand. (Anything else is on a "best efforts" basis.)

> **Internet Explorer 11 is still supported but no longer recommended as it is the intention to stop supporting it by NM24.0 (2020).**

4.1.5   NM23.5 - Operating Systems compatibility

The recommended operating system is Windows 10. Issues reported on CHMI using Windows 7 will be fixed on a best effort basis.

4.1.6   NM23.5 - NM B2B: Unavailability of version NM21.5

It is reminded to NM B2B users that a NM B2B version remains available during two years after its deployment ("NOP/B2B Reference Manuals - Essentials" documentation, available on the NM B2B OneSky Team website).

As a consequence, NM21.5 will no more be available (OPS and PREOPS) after NM23.5 migration.

4.2   NM24.0 - Introduction of IAPs into CACD

This feature is planned for NM24.0 (Q2 2020). It is included in the NM23.5 Release Notes to advise impacted users and give them time to adapt their systems and/or procedures	
Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U7. Post-ops analyst U8. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP) U0. Other: Any NM B2B user
Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A3. CIAM A4. CACD A10. NOP Portal A11. NOP B2B
Objective	Increase the precision of flight trajectory calculations by introducing IAP (Instrument Approach Procedure) in CACD.
Description	In NM23.0 arrival procedures (STAR) connect en-route routes to the Aerodromes, where the last segment(s) of the STAR is used to represent IAP. As from NM23.5 (**FB1016** - CR_041962), internal NM model for terminal procedures will be aligned to AIXM. Namely, an additional terminal procedure type - Instrument Approach Procedure (IAP) - will be supported. IAP starts at the Initial Approach Fix (IAF) and ends at the RWY. At the same time, old terminal procedure model will be supported for backwards compatibility reasons. In NM24.0, this last STAR segment(s) will start to be gradually replaced in CACD by the IAP, as published by the States. This process might continue over several releases. Having IAP in NM systems, will increase precision of the flight trajectory calculations and landing time estimation. Consequently, this change will impact NM B2B users and may impact external systems.
Impact for external users	I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	NM B2B users downloading Airspace Data will have to take into account the change into terminal procedures model.

4.3   NM23.5 migration

Deployment Plan	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Release NM23.5												
Presentation of NM23.5 to externals									11			
OPT									02	04		
Start of migration										15		

4.3.1   NM23.5 Network Operations Handbook

Network Operations Handbook will be made available one month before the NM Release migration at:

- The NM Network Operations library:
  https://www.eurocontrol.int/library?f%5B0%5D=activity%3A774
- The Public and Restricted NOP Portal ("Network Operations Handbook" portlet):
  https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

4.3.2   Presentation of NM23.5 to externals

A video conference presenting the NM23.5 Release took place on the 11/09/2019 at 12 PM UTC (2 PM Brussels time).

Slides and recording are available at: https://www.eurocontrol.int/sites/default/files/2019-09/20190911-presentation-of-nm23.5-ext.pdf.

4.3.3   NM23.5 testing - OPT session

NM23.5 OPT will take place from the 02/09/2019 to the 04/10/2019.

The NM23.5 OPT (Operational Testing session) will enable users to assess the potential impact of NM23.5 against their systems or procedures before NM23.5 migration.

Users will be able to:

- Download and test the new NM23.5 CHMI,
- Test the new NM23.5 NOP Portal,
- Test some new FBs (operational scenario provided).

No registration is required.

Please send any questions related to the OPT to nm.opt@eurocontrol.int.

NM23.5 OPT Instructions are available at: https://www.eurocontrol.int/publication/operational-testing-instructions

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4.3.4   NM23.5 migration plan

The migration of NM systems from NM23.0 to NM23.5 will start on the 15/10/2019 and last 7 days.

Software / Service (Times are UTC)	Unavailable from	To	Remark	Business impact during migration
CHMI software	CHMI software (v15.5.4) and documentation availability for **OPS** (Operations) users: - For non NM-managed PC: Instructions for downloading the NM23.5 CHMI: http://www.nm.eurocontrol.int/chmi_appsoft/NM_23.5/chmi/15.5.4/chmiaoinst15.5.4.pdf Note: CHMI users having downloaded the CHMI with the msi file between the 18/09/2019 and 21/09/2019 (included) are requested to not use this msi file, de-install the CHMI v15.5.4 installed with this file and use the new msi (link above). - For NM-managed PC: Software will be pushed on the PCs as from the 24/09/2019 but not activated (see below).			
ATFCM CHMI activation except CIAM	15/10/2019 21:00	16/10/2019 00:00	Expected downtime 1h30 + 1h30 provision in case of rollback	No access to NM services via CHMI
CIAM AMC activation	22/10/2019 16:30	22/10/2019 20:00	-	No access to NM services for CHMI AMC positions (using CIAM)
NOP Portal (CPA) unavailability	15/10/2019 21:00	16/10/2019 00:00	Expected downtime 1h30 + 1h30 provision in case of rollback	No access to NOP Portal (Public and Protected)
IFPUV unavailability	21/10/2019 22:00	22/10/2019 00:00	Expected downtime 1H00 + 1H00 provision in case of rollback	No Flight Plan validation service via all channels including CHMI, NOP Portal and B2B Web Services
SAFA / ACC3 Services (FAAS system) unavailability	21/10/2019 22:00	22/10/2019 00:00	Expected downtime 1H00 + 1H00 provision in case of rollback	No SAFA service during this time period
CSST service unavailability	16/10/2019 07:00	16/10/2019 09:00	-	No CSST service during this time period

System (Times are UTC)	Unavailable from	To	Remark	Business impact
ATFCM services				
ETFMS, PREDICT, CUA	15/10/2019 21:00	16/10/2019 00:00	Expected downtime 1h30 + 1h30 provision in case of rollback	No Flow Management Services available via all channels including CHMI, NOP Portal and B2B Web Services
DWH (Datawarehouse)	16/10/2019 00:00	16/10/2019 06:00	-	No Query/Replay in CHMI, some NMIR reports will be unavailable.
Flight Plan services				
IFPS	21/10/2019 22:00	22/10/2019 00:00	Expected downtime 1H00 + 1H00 provision in case of rollback	No Flight Plan filing services via all channels including CHMI, NOP Portal and B2B Web Services
Airspace and Capacity Data Services				
ENV/CACD	22/10/2019 16:30	22/10/2019 20:00	-	No access to CIAM
	No EUUP nor on-line updates will be done in CACD during CACD migration			

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NM B2B services (Times are UTC)

Important note: As the NM B2B services use the NM Back-End systems, NM B2B services will be disrupted during the migration of these systems. In particular, Flight Services will not be available during IFPUV migration (c.f. above).

NM23.5 documentation, wsdl and xsd files	NM23.5 documentation (including wsdl and xsd files) is planned to be published in **draft** along with the PREOPS migration on the NM B2B services OneSky Team website https://ost.eurocontrol.int/sites/B2BWS.

Platform		**Before NM23.5 PREOPS migration -** ~~17/09/2019~~ 24/09/2019 06:00	**After NM23.5 PREOPS migration -** ~~17/09/2019~~ 24/09/2019 14:00	**Migration to NM23.5 OPS From 15/10/2019 21:00 To 16/10/2019 00:00** Expected downtime 1h30 + 1h30 provision in case of rollback	**After the 16/10/2019 00:00**
Pre-ops	NM21.5	Available	**Not available**	Not available	Not available
	NM22.x and NM23.0	Available	Available	Not available	Available
	NM23.5	Not available	Available	Not available	Available
Ops	NM21.5	Available	Available	Not available	**Not available**
	NM22.x and NM23.0	Available	Available	Not available	Available
	NM23.5	Not available	Not available	Not available	Available

"Expected downtime x hours + y hours provision in case of rollback" means that the system or service will be unavailable minimum x hours and maximum up to (x + y) hours if a rollback to the previous version is required.

4.4 Release NM23.5 content

4.4.1 Airport and TMA Network Integration

CR_039216: Acceptance of TTOT of ATC-DPI ~~slightly~~ outside STW	
Users impacted	U1. Flow Manager (FMP) U13. CDM-Airport U15. Advanced ATC TWR Airport
Application impacted	A5. Flow management systems (Predict, ETFMS)
Objective	TWRs at airports requested the change in order to prevent calling for CTOT extension requests while the flight was planned to depart inside STW. They required freezing of the CTOT in order to prevent calling NMOC for dealing with CTOT updates while the flight was taxiing. This CR will also improve Traffic Predictions in ETFMS and for FMPs.
Description	Accept the A-DPI when the TTOT is outside the STW. At reception of a Classic A-DPI: 1. ATC_TTOT before STW: CTFM created based upon STW_lowerbound 2. ATC_TTOT inside STW: CTFM created based upon ATC_TTOT 3. ATC_TTOT after STW: CTFM created based upon ATC_TTOT In all cases: • The ATC_TTOT will be displayed in the flight data display. • CDMStatus will be set to ActualOffBlock. • Error message "TTOT OUTSIDE SLOT TOLERANCE WINDOW" suppressed. • CTOT will be frozen ~~improvements will not be given~~ (except when explicitly requested by the flow controller ~~explicitly requests it on regulation creation / deep-rectify~~). • ~~CTOT deteriorations will not be given (except when the flow controller explicitly requests it on regulation creation / deep-rectify).~~ Statistical analysis has shown that acceptance of the A-DPI of which TTOT is outside STW, improves traffic predictability.
Impact for external users	I1. Impact on procedures.
Impact description	Reduces need for TWR to contact NMOC for CTOT extension as the CTOT will be frozen, even when TTOT from A-DPI outside STW. ATC remains responsible for CTOT adherence. An A-DPI with TTOT outside STW is still considered as a "slot buster" according to the slot monitoring regulatory framework, and this will continue to be monitored as such. The CDM system will no longer receive an error message when the ATC_TTOT falls outside the STW. There is no change to the CTOT extension request procedure. ~~TWR does no longer need to call NMOC to request for a CTOT extension if the A-DPI indicates that the flight is calculated to depart slightly before or after STW, while, from OPS experience, the Controller knows that the flight will actually take-off inside STW.~~
Service reference	Network operations monitoring and reporting Airport Collaborative Decision Making
Safety assessment	~~S5. CR is not Safety related~~ S6. CR is Safety related

NETWORK MANAGER RELEASE NOTES

Operational deployment plan	D1. CR will be deployed in Operation along with the release migration.
Users' testing	O2: CR_039216 will not be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual DPI Implementation Guide

4.4.2   Airspace Management and Advanced FUA

FB1024: ASM - Advanced FUA process improvements	
Users impacted	U2. Airspace Manager (AMC) ~~U7. Post-ops analyst~~
Application impacted	A1. CHMI A3. CIAM ~~A7. Datawarehouse (NMIR)~~ A11. NOP B2B
Objective	The objective is to provide more flexible solutions to manage airspace structure data via AUP/UUP.
Description	**CR_044037: Alert for P3 request** In the case of P3 (Procedure 3) requests, the AMC should advise NM on the unplanned activation of airspace to allow impact assessment by NM. Currently, this request is communicated manually between AMC and NM (MILO). This change request will introduce a warning for P3 requests inside the UUP in CIAM. A flag for P3 request will be provided via NM B2B to AMCs using ASM tools interoperable via B2B with NM.
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface.
Impact description	CIAM users: • Highlights the UUP containing P3 request(s) in the AUP/UUP list display. • Highlights the individual P3 request(s) in the Overview tab of the UUP display. NM B2B users: returns P3 request(s) flag(s).
Service reference	~~Network operations monitoring and reporting~~ Airspace management Network Manager Business-to-business (B2B) web services
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1024 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	FUA - AMC/CADF Operations Manual

4.4.3 CTM (Cooperative Traffic Management)

FB1030: API improvements	
Users impacted	U01. Flow Manager (FMP) U07. Post-ops analyst U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP) U15. Advanced ATC TWR Airport
Application impacted	A05. Flow management systems (Predict, ETFMS) A07. Datawarehouse (NMIR) A11. NOP B2B
Objective	The operational objective is to fully integrate airports into the network on the basis of linking the Network Operation Plan with the Airport Operation Plans (AOP/NOP). This iteration concentrates upon enhancing the airport arrival planning services through exchange of arrival planning information.
Description	• Sizing of the NM B2B service thresholds in accordance with the needs of AOP/NOP integration experiences • ~~Enhancement of Network Cherry Pick Regulation service requests to support needs of Arrival Planning Information processes e.g. regulation updates and regulation sub periods~~ • Provision of correction and tuning exposed by the SESAR PJ24 and PJ25 trials
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	The external systems need to take careful note of the NM B2B thresholds and the principles of use. These are explained in the current NOP/B2B Reference Manuals – (Essentials manual). Serial connection is expected AND respect of the NM B2B thresholds is essential if service requests rejection is to be avoided. ~~The Arrival Planning Information (API) measures require a Network Cherry Pick measure. The proposal for creating these via B2B is enhanced with added flexibility to update these according to the evolving airport and network situation. There are new fields that can be exploited by the client.~~ The PJ24 and PJ25 enhancements are not defined in this addition.
Service reference	Network operations monitoring and reporting Network Manager Business-to-business (B2B) web services Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration With very strict client access requirements
Users' testing	FB1030 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual NM Operational Problem reporting DPI & FUM Implementation Roadmap DPI Implementation Guide Flight Progress Messages Document

Network Manager Connection Guide
NM B2B manuals

4.4.4   EAIMS (European ATM Information Management Service)

FB1016: NM airspace data model evolution	
Users impacted	U5. ENV data provider U12. Internal NM
Application impacted	A1. CHMI A4. CACD A7. Datawarehouse (NMIR) A14. n-CONECT
Objective	With the FB1016, NM will align the CACD Arrival Procedures (AP) data model to cover the AIXM STAR and IAP concepts (STAR and IAP being connected to each other at the IAF).
Description	**B2C (CIREN, n-CONECT, CHMI and derivatives):** B2C users will see the STARs and IAP as separate objects in NM23.5. **B2B:** In NM23.0 the end users receive from CACD via B2B an AP which corresponds to the combination of a STAR and an IAP. In NM23.5 users will continue to receive the same information. The IAP will be published via B2B from NM24.0 onwards.
Impact for external users	I2. Impact on CFMU Human-Machine interface.
Impact description	B2C users will see the STARs and IAP as separate objects. Please note that FB1016 will only impact ENV HMI users (ENVCOORs).
Service reference	Network Manager Business-to-business (B2B) web services Airspace data
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1016 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Provision of CACD Data AD Operations Manual

FB1036: CASTAR improvements	
Users impacted	U03. Airspace User (Civil) U08. AO or CFSP U12. Internal NM
Application impacted	A04. CACD A6. FPL (IFPS) A7. Datawarehouse (NMIR) A11. NOP B2B A14. n-CONECT

Objective	**CR_045722: AD flight rules timesheets alignment to AIXM** AD flight rules timesheets alignment to AIXM. ~~CR_045735: Download points from EAD~~ ~~Download worldwide points from EAD SDO for upload to CACD.~~
Description	**CR_045722: AD flight rules timesheets alignment to AIXM** The CACD AD flight rules data model will be adapted and aligned to AIXM to become compatible with timesheet expressions from EAD. Timesheet with expressions like "from SR -10 till SS+30 or 17:00UTC whichever is the earliest" will be acceptable. This will enable the upload of AD flight rules unsupported in NM23.0. ~~CR_045735: Download points from EAD~~ ~~Download points worldwide from EAD SDD for upload to CACD. In a first phase for strain tests to OPT, later to OPS when found suitable.~~
Impact for external users	I3. Impact on clients' systems.
Impact description	**CR_045722: AD flight rules timesheets alignment to AIXM** SR/SS and derived more complex time schedule expressions will be correctly reflected in CACD. The AD VFR restrictions will thus be more precise. Mixed VFR/IFR FPLs to ADs with a VFR constraint will be validated correctly taking SR/SS and derived complex time schedule expressions into account. ~~CR_045735: Download points from EAD~~ ~~Worldwide coverage of significant points in CACD and subsequently in IFPS and ETFMS. This will solve 100% of the foreign homonym problem and also prepare the download of worldwide Routes.~~
Service reference	Network Manager Business-to-business (B2B) web services Airspace data
Safety assessment	S4. Safety assessment to be performed or on-going
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1036 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Provision of CACD Data AD Operations Manual NM B2B manuals

4.4.5   FPFDE (Flight Plan and Flight Data Evolution)

FB1010: FF-ICE filing Function - file eFPL	
Users impacted	U03. Airspace User (Civil) U08. AO or CFSP U12. Internal NM
Application impacted	A06. FPL (IFPS) A11. NOP B2B
Objective	The FB1010 implements features that couldn't be addressed with the initial FF-ICE Filing Service deployment in NM23.0. It is an incremental step towards closer alignment with the FF-ICE Filing service specification.
Description	The following list provides the topics to be addressed in NM23.5: • Support provision of structured route elements (i.e. without trajectory);

	• Support mixed ~~flight~~ rules (VFR/IFR) indication ~~flight plans~~ in the structured route/trajectory elements.
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	External users choosing to use the ~~FIXM services~~ FF-ICE Filing function will have to adapt their systems to provide ~~e~~FPLs (FF-ICE flight plans) in FIXM format.
Service reference	Flight plan filing and management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1010 is planned to be part of the NM Release OPT (Operational Testing Session) on PREOPS.
Documentation publication	IFPS Users Manual NM B2B manuals

4.4.6   Free Route Airspace (FRA)

FB1044: FRA Improvements	
Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U8. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A4. CACD A6. FPL (IFPS) A7. Datawarehouse (NMIR) A10. NOP Portal A11. NOP B2B A14. n-CONECT
Objective	With this FB, NM will create NPZ (No Planning Zone) to reject FPLs filing through volumes where no flight are accepted. NPZ will protect operationally sensitive areas.
Description	NPZ, a new type of RSA will be used in Restrictions to invalidate filing of FPL through these "No Planning Zones".
Impact for external users	I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	A new sub-type of RSA named "NPZ" will be created.
Service reference	Route and airspace design Airspace management Network Manager Business-to-business (B2B) web services

Safety assessment	S4. Safety assessment to be performed or on-going
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1044 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual Provision of CACD Data AD Operations Manual NM B2B manuals NMIR Users' Guide NOP Portal Users Guide

4.4.7 n-CONECT

FB942: ~~AURA@n-CONECT and~~ RAD@n-CONECT	
Users impacted	U8. AO or CFSP U14. Air Navigation Service Provider (ANSP)
Application impacted	A14. n-CONECT
Objective	The objective of the FB is to deliver the first operational version of the RAD@n-CONECT application
Description	The RAD@n-CONECT application will: • Enable NRCs (National RAD Coordinator) to elaborate, create, modify and delete restrictions intended to maximise capacity and reduce complexity organising the traffic into specific flows. • Enable RAD Team to measure impact of the proposed restrictions, possibly elaborate alternatives, coordinate with the other NRC, validate and published. • Support NRCs, LRCs (Local RAD Coordinators) and NMOC in the collaborative decision making process for the negotiation and the validation of the proposed restrictions. The application will provide the following benefits: • Support the elaboration, early sharing, integration and traceability without manual effort of all restrictions in a single place as well as support the automation of the RAD generation and consolidation through the NOP Portal. • Facilitate early discovery of RAD incompatibilities between countries by cross-checking (NRC and NM) on cleansed and standardized data. • Provide secure access to information by an access control. • Support information sharing accessible to all as soon as is available or published by monitoring and notifications. • Improve integrated CDM (Collaborative Decision Making) process between NM and the Operational Stakeholders by chat with specialised topics and restricted actors. • Improve quality and efficiency by a rich restriction querying. In order to achieve these benefits, the main features of the application are the following: • Easy overview of the existing restrictions. • Creation, update, deletion of restriction by queries and searches. • Saved queries of restrictions. • Collaboration and approval workflow which will ease between NMOC and the NRCs. • Collaboration and approval workflow which will ease between LRCs and the NRCs.

	• Unified grammar for restriction creation, update and removal to describe restrictions on standardised way with built-in sanity checks for semantical syntactical errors. • Support to cyclic and periodic restrictions. • Notification about changes. • Possibility to subscribe to restriction changes. • History and traceability to changes of restrictions. • Compare and highlight features of changes. • ~~Airspace object validation against CACD.~~ • Online help. The RAD@n-CONECT application will be accessed by the users using a specific URL. NM CSO will provide the necessary support when required.
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface.
Impact description	External users shall establish Operational procedures while changing the how a RAD restrictions will be established or updated, and alongside coordinated with NMOC. The new RAD@n-CONECT application will run in a browser-based environment and require connection to internet to get access to NM systems.
Service reference	Route availability coordination and implementation
Safety assessment	S4. Safety assessment to be performed or on-going
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB942 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	RAD Manual ERNIP/1 and ERNIP/4 will be updated

FB943: [n-CONECT] Airspace	
Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U14. Air Navigation Service Provider (ANSP)
Application impacted	A14. n-CONECT A0. Others: CIREN
Objective	Objective of the FB is to replace the CIREN application (CHMI for ENV Coordinators) and provide Airspace data to National RAD Coordinators
Description	This FB will provide an equivalent replacement for the CIREN application with a browser-based application ~~functionally equivalent~~ and a new map component. Please note that the HMI delivered by the n-CONECT programme does not work with Internet Explorer; for this HMI, NM recommend Chrome or FireFox.
Impact for external users	I2. Impact on Human-Machine interface.

Impact description	FB943 provides a new application (named "Airspace") functionally equivalent to CIREN but with a new User Interface (UI), more modern and more user friendly. This application does not require client side installation, just a browser access via internet or PENS.
	Initially, the application will be available to NRCs and to all current CIREN users. NRCs are invited to use the new Airspace application, CIREN users are also invited to use the application for familiarization purposes. The CHMI CIREN will be available until ~~NM24.0~~ NM24.5. After this period all CIREN users shall use operationally the new application. ENV coordinators will be requested to use the new Airspace application as from NM24.0 when the new Airspace will become available to NMOC.
	Other users who are accessing Airspace read-only data such as CIFLO or CIAO users will have also access as from NM24.0 to Airspace data through an embedded instance of the new Airspace application into the CIFLO, CITO and CIAO.
	CIREN CHMI will be phased out in ~~NM24.5~~ NM25.0.
	Note: CIFLO, CITO and CIAO users will continue to use their application and the embedding of the FB943 into CIFLO, CITO, and CIAO is expected from NM24.0/NM24.5 onwards.
Service reference	[Airspace data](#)
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration. Please note that dedicated training sessions will be organized.
Users' testing	O1: FB943 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	AD Operations Manual Addendum to ATFCM CHMI & MAP Reference Guides New n-CONECT Airspace related documentation (help)

4.4.8   Operations Improvements

~~FB974: Flight status evolution (Phase 1)~~	
Users impacted	~~U01. Flow Manager (FMP)~~ ~~U02. Airspace Manager (AMC)~~ ~~U03. Airspace User (Civil)~~ ~~U04. Airspace User (Military)~~ ~~U08. AO or CFSP~~ ~~U10. Non-CDM Airport~~ ~~U12. Internal NM~~ ~~U13. CDM-Airport~~ ~~U15. Advanced ATC TWR Airport~~
Application impacted	~~A01. CHMI~~ ~~A02. CIFLO, CIAO~~ ~~A03. CIAM~~ ~~A05. Flow management systems (Predict, ETFMS)~~ ~~A06. FPL (IFPS)~~ ~~A07. Datawarehouse (NMIR)~~ ~~A10. NOP Portal~~ ~~A11. NOP B2B~~ ~~A14. n-CONECT~~

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Objective	The reprocessing of the IFPS flight plan database against the NM CACD occurs automatically every 30 minutes as from 12 hours (or filing time if less than 12 hours) prior to the EOBT of each FPL until the EOBT of each FPL.
	Any flight plan found to be inconsistent with the NM Airspace data at that time shall be given an IFPS status of REVAL_SUSPENDED. The IFPS sends an internal change message to the ETFMS; this change does not alter the existing flight plan data in any way, but provides the ETFMS with the necessary information in order that the flight plan is suspended due to IFPS revalidation via a Flight Suspension (FLS) message.
	Flights originating from outside the IFPZ or flights with STS/HEAD, FFR, SAR, ATFMX or MEDEVAC in Item 18 are not suspended and are given the REVAL_ADVISORY status.
Description	Today the REVAL_ADVISORY status message is **not** structured and is **not** sent via NM B2B. This does not permit the AO to properly interpret and process the status of the flight. This affects out of area traffic, traffic with special status and traffic close to EOBT. The REVAL_ADVISORY status is not transmitted and then presented by ETFMS.
	The REVAL_ADV will be structured in ADEXP format and sent by ETFMS via AFTN.
Impact for external users	I1. Impact on procedures.
	I2. Impact on Human-Machine interface.
	I3. Impact on clients' systems.
Impact description	The information published as part of the REVAL_ADV ADEXP message will be retrievable via B2B services; it will also be transmitted and visible via CHMI/NOP interfaces.
	An example of REVAL_ADV ADEXP message structure (field, format) is presented below
	-TITLE ADV
	-ARCID SAS4603
	-IFPLID AA00729320
	-ADEP ENGM
	-ADES EIDW
	-EOBD 161116
	-EOBT 0925
	-NEWRTE N0450F400 ATLAP7D ATLAP N623 FLS Z107 BEREP UZ107 ADN UP600 TRN DCT BLACA DCT NELBO DCT NIMAT P620 DUB DCT
	-COMMENT THIS FLIGHT HAS FAILED IFPS REVALIDATION. IF THE FPL IS NOT UPDATED EXPECT A SIGNIFICANT OPERATIONAL PENALTY
	-ERROR PROF201: CANNOT CLIMB OR DESCEND ON ATLAP P600 IPMOD BECAUSE OF UNAVAILABLE LEVELS F223..F336 ON P600
	-TAXITIME 0010
Service reference	Network operations monitoring and reporting
	Network Manager Business-to-business (B2B) web services
	Network Operations Portal
	Collaboration Human Machine Interface
	Flight plan filing and management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB974 is planned to be part of the NM Release OPT (Operational Testing Session)

Documentation publication	~~ATFCM Users Manual~~ ~~ATFCM Operations Manual~~ ~~CCAMS User Manual~~ ~~IFPS Users Manual~~ ~~CHMI ATFCM Reference Guide~~ ~~DPI & FUM Implementation Roadmap~~ ~~DPI Implementation Guide~~ ~~Flight Progress Messages Document~~ ~~FUM Implementation Guide~~

FB1017: TCO alerting function

Users impacted	U03. Airspace User (Civil) U04. Airspace User (Military) U08. AO or CFSP U09. CAA, EASA U11. ARO U12. Internal NM
Application impacted	A00. Other: FAAS
Objective	Implement additional TCO alerting.
Description	The NM TCO Alarming System will send TCO Alert messages to the Flight Plan Originator and the associated Airlines via AFTN/SITA communications networks.
Impact for external users	Unexpected messages from NM.
Impact description	If a FPL is filed to IFPS that is identified as not having the correct TCO authorization, an alert message will be sent to the Flight Plan Originator and the associated Airlines via AFTN/SITA communications networks. More details of the TCO programme at https://www.easa.europa.eu/easa-and-you/air-operations/tco-third-country-operators
Service reference	Safety and security alerting services
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O2: FB1017 will not be part of the NM Release OPT (Operational Testing Session)
Documentation publication	N/A

FB1020: Flight Planning Domain improvements

Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U11. ARO U12. Internal NM

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Application impacted	A06. FPL (IFPS) A11. NOP B2B
Objective	Objectives of FB1020 are to: • Facilitate sustainable IFPS operations; • Automate unnecessary work; • Contribute to NM Flight Planning Service evolution.
Description	IFPS will NOT raise an error when the filed Alternate Aerodrome (ALTN) matches the filed Destination Aerodrome (ADES). Nota: Please also consider following topics described in the "NM23.5 Important notifications" paragraph of the current document: • I2_116122 (IFPS/ETFMS messages with invalid characters) - p.9 • I2_117070 (Stop IFPS accepting IFR as requested cruising level) - p.11
Impact for external users	A change to the result when filing FPLs
Impact description	A FPL that used to be rejected when filing an ALTN that is the same as the ADES will no longer be rejected.
Service reference	Flight plan filing and management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1020 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual

FB1021: Airspace Data Domain improvements

Users impacted	U12. Internal NM
Application impacted	A1. CHMI A4. CACD A7. Datawarehouse (NMIR) A14. n-CONECT
Objective	Improving CACD behaviour
Description	FB1021 will bring the following changes: • Allow adequate testing of disabled Restrictions with dependent applicability hence not impacting OPS proceedings. • Allow an ATC Unit to control more than one airspace. Hence, avoid the creation of dummy units that loop messages to the main one. This will subsequently simplify the addressing. • Rename the DCT restrictions according to a naming convention which is easy recognizable.
Impact for external users	I0. No impact.
Impact description	No impact on External users except that about 3000 Aerodrome DCT restrictions will be renamed in one go. New rules for Aerodrome DCT Restrictions identifiers are:

	• AAAA+5A (e.g. EHAM5A) • AAAA+5D (e.g. LBSF5D) With AAAA = AD ICAO identifier, 5A for Arrivals, 5D for Departures
Service reference	[Airspace data](#)
Safety assessment	S4. Safety assessment to be performed or on-going
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1021 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	AD Operations Manual

FB1022: ATFCM Domain improvements	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A5. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	Improvement of existing ATFCM services.
Description	~~CR_043915: Processing FURTHRTE points as DCTs~~ ~~Consecutives points received in the FURTHRTE field of an FSA message will be connected as a direct segment.~~ **CR_043106: STAR information to be processed if received in FSA_PT** The STAR information is provided by some ANSPs in their en-route FSA message. After validation, this information will be used to update the airborne flight trajectory. ~~CR_045506: FAM reduction~~ ~~The Flight Activation Monitoring mechanism parameter for suspension of flights departing from FAM-enabled areas or of flights departing from non-FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination/crossing a FAM-enabled areas will be reduced by 5 minutes; from 20 minutes to 15 minutes. The stepped reduction of the parameter was decided at ODSG/41 to support flight planning and predictability in the European ATM Network.~~ ~~The change is aligned with ICAO: any changes to the EOBT of more than 15 minutes for any IFR flight within the IFPZ shall be communicated to the IFPS. (ICAO Doc 7030, 2.3.2.1). This implementation is the final step of the parameter reduction. Further information can be found at https://www.eurocontrol.int/function/flight-activation-monitoring~~ ~~CR_045516: OPLOG available for all flights in ETFMS~~ ~~OPLOG will be retrievable for any non-archived flight loaded in ETFMS up to 48h in the past.~~

	Nota: Please also consider I2_116122 (IFPS/ETFMS messages with invalid characters) described in the "NM23.5 Important notifications" of the NM Release Notes (p.9)
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	~~CR_043915: Processing FURTHRTE points as DCTs~~ ~~No impact on external systems. This CR contributes to the predictability improvement. (it will not be part of the presentation to externals).~~ **CR_043106: STAR information to be processed if received in FSA_PT** No impact on the external systems. This CR contributes to the predictability improvement. (it will not be part of the presentation to externals). ~~CR_045506: FAM reduction~~ ~~Possible impact on flights departing from FAM-enabled areas or of flights departing from non-FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination/crossing a FAM-enabled areas that are not reported as airborne. Such flights will be shifted in their CTFM by 5-minute steps two times (currently three) and will be eventually suspended after another 5 minutes if not reported as airborne (FSA, CPR message received by the NM). FMPs, airports and AOs should be advised of the change and ensure that adequate operational actions are taken.~~ ~~CR_045516: OPLOG available for all flights in ETFMS~~ ~~User will be able to retrieve OPLOG for any non-archived flight loaded in ETFMS up to 48h in the past.~~
Service reference	Collaboration Human Machine Interface Strategic-pre-tactical-tactical-and-post-ops-air-traffic-flow-and-capacity-management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1022 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Network Operations Handbook: • ATFCM Users Manual • ATFCM Operations Manual User Manuals: • DPI Implementation Guide

FB1023: ~~IFPS workload evolution~~ **NM B2B Flight Management Improvements**	
Users impacted	U1. Flow Manager (FMP) U8. AO or CFSP U11. ARO
Application impacted	A11. NOP B2B
Objective	Improve the NM B2B flight plan filing experience by enhancing the current AOWIR and flight plan validation services and introducing IFPS Operational Replies via P/S (Publish/Subscribe).
Description	**CR_046606: B2B - subscribe to IFPS message processing status** This CR introduces ORM (Operational Reply Messages) via B2B Publish/Subscribe paradigm. This will support users that are currently filing flight plans via AFTN/SITA

networks and at the same time are building new software applications that connect to NM B2B but not to AFTN/SITA.

CR_045717: AOWIR / IFPUV enhancements via B2B

This CR enhances the AOWIR (Aircraft Operator What-If Rerouting) and flight plan validation services by providing as output the CTOT (Calculated Take-Off Time) and last validity period (before the route becomes invalid).

Impact for external users	I3. Impact on clients' systems.
Impact description	This FB will impact only users deciding to make use of the new features.
Service reference	Network Manager Business-to-business (B2B) web services
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	FB1023 will be available on B2B PREOPS environment around 4 weeks before OPS deployment.
Documentation publication	NM B2B manuals

FB1029: e-Helpdesk - NOM evolution	
Users impacted	U01. Flow Manager (FMP) U03. Airspace User (Civil) U07. Post-ops analyst U08. AO or CFSP U10. Non-CDM Airport U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP) U15. Advanced ATC TWR Airport
Application impacted	A05. Flow management systems (Predict, ETFMS) A11. NOP B2B A0. Other: e-Helpdesk (NOP)
Objective	Some ANSPs operate with partial delegation of e-Helpdesk request management of TWR to FMP because of operational reasons. This remains part the local/national ANSP agreements between TWRs and FMPs. The FMPs acting on behalf of TWRs, due to application constraints, had to request special access to the application and to operate with more than one application instance (requires multiple tokens, the necessity to log in and out when changing the role). This NM23.0 set-up allowed them to operate as FMP and as a delegated TWR, by using the single token and single interface. Due to understandable operational complexity and unnecessary overhead, FMPs expressed the difficulties of the use of multiple tokens or client application instances for that delegation. This problem hampers the widespread use of e-Helpdesk and therefore the move from telephone coordination to electronic coordination.

	The aforementioned limitation is not reduced to role-based authorisation and playing roles because: • For operational reasons the roles and locations determine different business rules that apply based on the procedures applicable to e.g. FMP, A-CDM (TWR), ADv TWR, non CDM. • For post-ops reasons and best practices, NOM needs to be able to distinguish between an FMP e-Helpdesk request for FMP reasons and for TWR reasons [see above]. There is a need to evaluate the shift from telephone and the level of usage of each unit and operational role, independently. • NOM wishes to keep control on what TWR(s) an FMP can impersonate e.g. not having Barcelona FMP impersonating the Oslo TWR.
Description	The improvements proposed in this functional block will allow the FMPs to operate as 'delegated TWRs' via e-Helpdesk application and for each individual e-Helpdesk request. The change will permit to 'delegated FMPs' by using one single application instance: • To determine for each request the operational unit (FMP, TWR-CDM, TWR-non CDM), • To update the delegation units by an environment data update. The change will allow to keep control and transparency on the delegation rules and to reduce the operational complexity of the application. More generally, the change will allow: • An FMP to impersonate zero, one or more TWR. • An FMP to impersonate any kind of TWR: A-CDM, Advanced or Standard • To trace a list of TWR delegators given the FMP ANU id found in CACD (Units). • An FMP to input the optional delegator TWR (ANU id), for each request that requires it.
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	The changes will be visible in e-Helpdesk application as follows: • A drop-box feature will be available to the FMPs presenting the TWR (s) that could have delegated the e-Helpdesk function to them. • Two new columns will appear in e-Helpdesk tables: delegator type and ANU id • Two new fields in e-Helpdesk details. • The e-Helpdesk business rules depending on the originator will be updated using the delegator data if exists
Service reference	Network Operations Portal
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1029 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual NOP Portal Users Guide External Training (Youtube channel)

FB1038: Flight efficiency - Enhance GRRT

Network Manager

NETWORK MANAGER RELEASE NOTES

Users impacted	U03. Airspace User (Civil) U8. AO or CFSP U12. Internal NM
Application impacted	A01. CHMI A05. Flow management systems (Predict, ETFMS)
Objective	Provide AOs with improved rerouting proposals identified by GRRT (opportunity tool).
Description	~~CR_046626~~ **CR_046516: OPP Indicator in CHMI Archive flight lists** Identified opportunities will be visible in CHMI Archive. **CR_045730: Add avoid MPR constraint** GRRT will be able to avoid the Most Penalizing Regulation (MPR). **CR_045731: Avoid proposing the same route** GRRT shall indicate opportunity / send RRP only if ITEM15 content of the proposed route is different from the original route. ~~CR_045732: Calculation of delays in GRRT using available and pre-allocated slots~~ ~~GRRT shall use available and pre - allocated slots when delays are calculated.~~ **CR_045734: TP selection** GRRT will improve SID/STAR selection. For additional information, please contact nm.flightefficiencysupport@eurocontrol.int
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	AOs will be able to able to identify OPP in Archive flight list in CHMI. Users will be able to select additional parameters in their GRRT template, as prerequisite for more precise GRRT calculations.
Service reference	Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1038 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Network operations - Flight efficiency users manual

CR_046926: Display ~~Restrictions~~ PTRs in CHMI map (vertical view)	
Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U11. ARO U14. Air Navigation Service Provider (ANSP) U0. Other: Any CHMI, CIFLO, CIAO and CIAM users

NETWORK MANAGER RELEASE NOTES

Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A3. CIAM
Objective	Give the possibility to the CHMI user to display or hide Profile Tuning Restrictions (PTR) Restrictions (RS) in the vertical view of the CHMI (ATFCM application).
Description	In NM23.0, PTR (profile tuning restriction) information is missing from the vertical view of the CHMI. Plotting on the vertical view will slow down considerably if restrictions needs to be displayed. This can take up to 30 seconds. The user will be able to enable in the CHMI preferences "Show ATFCM restrictions" as an option to display restrictions (MAP application ⇒ Vertical View ⇒ Show restrictions ATFCM). By default, this selection will be set to not display restrictions in order to avoid timing degradation for the non-impacted users: user will have to select manually when this function is needed. It is expected that with the restrictions option selected, displaying restrictions in the vertical view can take up to 30 seconds per restriction. With the option de-selected there will be no degradation in the timing of the generation/display of the vertical view to the user.
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	CHMI behaviour and preferences will be slightly modified
Service reference	Collaboration Human Machine Interface
Safety assessment	S7. Bug fixing (I2)
Operational deployment plan	D1. CR will be deployed in Operation along with the release migration.
Users' testing	O1: CR_046926 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	None.

INC0082419: Improvement of the CHMI "Restore Workspaces All" feature

Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U14. Air Navigation Service Provider (ANSP) U0. Other: Any CHMI, CIFLO, CIAO and CIAM users
Application impacted	A1. CHMI A2. CIFLO, CIAO, CITO A3. CIAM
Objective	Avoid "Service unavailable" message when restoring CHMI Workspaces.

Network Manager

NETWORK MANAGER RELEASE NOTES

Description	The CHMI's "Restore Workspaces All" feature (menu Workspace ⇒ Restore ⇒ All) allows users to save several workspaces (tabs) and to restore them (and their content) in a couple of seconds. Some users have extremely heavy workspaces with more than 15 workspaces and each of them containing more than 10 windows. As a result, when using the feature "restore all workspaces", NM systems could trigger a "Service unavailable - Try later" error message to avoid any overload. Until NM23.5, when such errors occur, the user, couldn't use the "Restore all workspaces" anymore and needed to restore one by one each workspace, which was time consuming. To improve this, NM will introduce in NM23.5 an intentional "pause" of 0.2 second between each load of workspace: this means that when using the feature "Restore Workspaces All", it could take 2 to 5 seconds longer compare to NM23.0. Please note that, for best CHMI performance, NM recommends to limit the number of Windows per Workspace to maximum 16.
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	CHMI "Restore Workspace All" feature will be slightly slower but will no more returns a "Service unavailable" error.
Service reference	Collaboration Human Machine Interface
Safety assessment	S7. Bug fixing (I2)
Operational deployment plan	D1. INC will be deployed in Operation along with the release migration.
Users' testing	O1: INC0082419 is planned to be part of the NM Release OPT (Operational Testing Session)
Documentation publication	None.

QRV: Modification to the Query Replay Viewer application	
Users impacted	U1. Flow Manager (FMP)
Application impacted	A1. CHMI A0. Other: Query Replay Viewer application
Objective	Replay queries from previous Releases
Description	Users who want to replay queries from previous NM Releases will have to keep the former versions of Query Replay Viewer installed on their machine. • To replay queries after 15 October 2019, use the operational CHMI (version 15.5) • To replay queries between 01 May 2019 and 15 October 2019, use the CHMI Query Replay Viewer version 15.0.5.5 • To replay queries between 02 May 2018 and 30 April 2019, use the CHMI Query Replay Viewer version 14.5.5.4
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	Users will have to choose various Query Replay Viewer versions depending on the timeframe of their queries. Each Option2-PC (ie managed by NM) will have 3 Query-Replay installed:

	• Standard CHMI to replay NM23.5 • CHMI Query Replay Viewer version 15.0.5.5. • CHMI Query Replay Viewer version 14.5.5.4. Other users (managing themselves the CHMI installation) will have to keep the appropriate version of the Query Replay Viewer installed.
Service reference	Collaboration Human Machine Interface
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. The change will be deployed in Operation along with the release migration.
Users' testing	O2: The change will not be part of the NM Release OPT.
Documentation publication	None

5 Release NM23.0

5.1 Important notifications related to NM23.0 migration

5.1.1 NM23.0 - Browsers compatibility

Browsers recommended in NM23.0:
- The n-CONECT HMI does not work with Internet Explorer; for this HMI, NM recommends Chrome or Firefox.
- For other NM services, NM recommends:
  o Firefox
  o Chrome
  o Edge
  o Internet Explorer 11

For these recommended browser brands, NM undertakes to investigate and attempt to resolve problems that can be reproduced on the latest stable version of that brand. (Anything else is on a "best efforts" basis.)

5.1.2 NM23.0 - Operating Systems compatibility

The recommended operating system is Windows 10.
Issues reported on CHMI using Windows 7 will be fixed on a best effort basis.

5.1.3 NM23.0 - NM B2B web service

5.1.3.1 NM23.0 - NM B2B: Unavailability of version NM21.0

NM21.0 is no more be available (OPS and PREOPS) since NM23.0 migration.

5.2 NM23.0 migration

Deployment Plan	2019											
	J	F	M	A	M	J	J	A	S	O	N	D
Release NM23.0												
Presentation of NM23.0 to externals		18										
OPT		28	28									
Start of migration				30								

5.2.1 NM23.0 Network Operations Handbook

Network Operations Handbook will be made available one month before the NM Release migration at:
- The NM Network Operations library:
  https://www.eurocontrol.int/library?f%5B0%5D=activity%3A774
- The Public and Restricted NOP Portal ("Network Operations Handbook" portlet):
  https://www.public.nm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

5.2.2 Presentation of NM23.0 to externals

A video conference presenting the NM23.0 Release took place on the 18/02/2019 at 13:00 UTC.

Recording of the presentation is available at:

https://www.eurocontrol.int/publication/network-manager-release-notes-planned-implementation-2019-2020

5.2.3   NM23.0 testing - OPT session

The NM23.0 OPT (Operational Testing session) will enable users to assess the potential impact of NM23.0 against their systems or procedures before NM23.0 migration. NM23.0 OPT took place from the 28/02/2019-08:00 UTC to the 28/03/2019-15:00 UTC.

Please send any questions related to the OPT to nm.opt@eurocontrol.int.

5.2.4   NM23.0 migration

The migration of NM systems from NM22.5 to NM23.0 started on the 30/04/2019 and last 7 days.

5.3 Release NM23.0 content

5.3.1 Airport and TMA Network Integration

FB975: Airport Programme - NM23.0	
Users impacted	U13. CDM-Airport U15. Advanced ATC TWR Airport
Application impacted	A05. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	The required DPI improvements are based on experience acquired with A-CDM processes, which are continuously refined in coordination with the stakeholders. The processing of the Departure Planning Information (DPI) messages evolves and it is continuously improved to accommodate the identified needs of the A-CDM community.
Description	**CR_044117: Improve syntax checking of DPI messages** The syntax of DPI messages provided via AFTN will be aligned with the NM B2B syntax. The following changes will be made: 4. The SID field will be mandatory in an A-DPI; 5. The fields ARCTYP, REG, TAXITIME and DEPSTATUS will be forbidden in a C-DPI; 6. The value TOTUNKNOWN will no longer be accepted in the reason-field of the C-DPI. Note that the reason-field in the C-DPI is mandatory when the DPI message is provided via B2B, but will remain optional when it is provided via AFTN in order to allow current airports to implement the reason-field. **CR_044321: Correct TTOT acceptance around filing time for regulated flights** In NM22.5, a T-DPI-t message, which contains a TTOT in the past (earlier than Current time - 10 min), is rejected. Such a TTOT however may correctly reflect the real operational situation when the flight is regulated and has a long ATFM delay, in which case the TTOT remains based on the TOBT value. Such a T-DPI-t is normally sent to inform on an updated TSAT, SID, etc. Hence, it can happen that the TTOT value is more than 10 min in the past compared to the filing time. The acceptance criteria of the TTOT from a T-DPI-t message will therefore be corrected so that such a T-DPI-t is accepted. The T-DPI-t, which contains a TTOT value in the past (earlier than Current time - 10 min), will no longer be rejected as long as the TTOT value does not change compared to the one provided in a previous T-DPI-t message.
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	**CR_044117: Improve syntax checking of DPI messages** Those airports sending DPI messages via AFTN that are still providing any of the information listed at points 1), 2) and 3) above will need to modify their systems in order to comply with the modified syntax. Otherwise, the message will be rejected. Airports who are planning to migrate the DPI transmission to B2B need to be aware that the reason-field is mandatory in the C-DPI. **CR_044321: Correct TTOT acceptance around filing time for regulated flights** The CDM airports that are currently applying an adjustment to the clock, i.e. sending TTOT = Current time + Taxi Time, in this situation, may consider updating their system so that the TTOT value provided in the T-DPI-t remains equal to TOBT + Taxi Time. Such a T-DPI-t will no longer be rejected for those CDM airports that are currently not applying an adjustment to the clock in the described situation.
Service reference	Network Manager Business-to-business (B2B) web services Reception and distribution of real-time airport, air traffic control and surveillance data

Network Manager

NETWORK MANAGER RELEASE NOTES

Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O2: FB975 will not be part of the NM Release OPT (Operational Testing Session)
Documentation publication	DPI Implementation Guide NM B2B manuals

FB992: DPI Improvements - NM23.0	
Users impacted	U1. Flow Manager (FMP) U13. CDM-Airport U15. Advanced ATC TWR Airport
Application impacted	A05. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	The information exchange between NMOC and airports is continuously enhanced, in coordination with the CDM stakeholders. Improvements to the processing of the Departure Planning Information (DPI) messages are continuously implemented based on the identified needs and experience of the A-CDM community with A-CDM processes.
Description	**CR_039924: CTOT extension request via A-DPI** The Tower Update A-DPI message is an A-DPI message that contains the value "TWRUPDATE" in a separate depstatus-field. A CDM airport or an Advanced ATC TWR airport will have the option to send a Tower Update A-DPI message for the following purposes: 1. Request a 10 min CTOT extension The CTOT extension will be granted only if a number of conditions are met. If the CTOT extension cannot be granted, either the message will be rejected or a network impact assessment will be made, resulting in e.g. a new CTOT. 2. Request a new CTOT When the TWR controller estimates that the flight will not be able to depart inside its STW, even if a CTOT extension would be granted, he/she will have the option to provide a Tower Update A-DPI. This will be processed exactly the same as a T-DPI-s message with a TTOT later than the STW, i.e. a network impact assessment will be made, resulting in e.g. a new CTOT. 3. De-suspend a flight that was suspended by the airport (via C-DPI) A Tower Update A-DPI provided for a flight that was suspended by the airport via a C-DPI will trigger a network impact assessment and the flight will be de-suspended. Note that a classic A-DPI is rejected in this case. The Tower Update A-DPI is manually triggered by the TWR controller based on the operational status of the flight. **CR_043612: Flow controller User Command to send first available CTOT** When a CTOT extension cannot be granted (upon a request made via phone call), NMOC will have the possibility to manually trigger a CTOT recalculation, resulting in an SRM with a new CTOT, an SLC or an FLS. The minimum CTOT used will be equal to the attempted value of the forced CTOT. **CR_041042: C-DPI with reason UNDOADPI** TWRs at CDM airports or Advanced ATC TWR airports will have the option to provide a C-DPI with reason UNDOADPI to request the de-activation of a flight that was erroneously activated by a wrong A-DPI. This message will be processed automatically in the same way as a manual de-activation of a flight that was activated by an A-DPI.

	Unlike for all other values for the C-DPI reason, the flight will not be suspended when the reason UNDOADPI is provided. • If provided via AFTN, the C-DPI reason value should be "UNDOADPI". • If provided via B2B Web Services, the C-DPI reason value should be "UNDO_ADPI".
mpact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	**CR_039924: CTOT extension request via A-DPI** Only those CDM airports or Advanced ATC TWR airports that wish to make use of the Tower Update A-DPI will be impacted. Their systems will have to be adapted in order to include in the A-DPI message an additional depstatus-field with value "TWRUPDATE" and be ready to process the response from NM systems. Advanced ATC TWR airports are advised to implement the Tower Update A-DPI for de-suspending a flight (use case 3 in the Description section). Otherwise, the only other option to de-suspend a flight is through a new EOBT from a DLA/CHG message. For A-CDM airports, it is recommended to first send a T-DPI-t or a T-DPI-s to de-suspend the flight, triggered by e.g. an updated TOBT. The CDM airport or Advanced ATC TWR airport needs to establish procedures for the TWR that describe: • The situations when a Tower Update A-DPI message can be triggered (manually). • The required action that needs to be taken depending on the reply from ETFMS to the Tower Update A-DPI request The intention to provide to NM the Tower Update A-DPI message shall be communicated to the NM A-CDM Team and the details shall be recorded in the DPI ICD before it is implemented. **CR_043612: Flow controller User Command to send first available CTOT** The TWR controller can call NMOC to request a CTOT extension. When the extension cannot be granted, following the network impact assessment performed by the flow controller, NMOC currently asks TWR to apply the return to stand procedure. Afterwards, an update of the EOBT/TOBT is expected. The TWRs have requested to receive a new CTOT in this case, and be given the flexibility to decide what to do with that flight, rather than having to rely on an action from the AO or the ground handler. Knowing that the flight is under the control of ATC, NMOC will be able to provide a more operationally fitting reply to the TWR when a CTOT extension cannot be granted. **CR_041042: C-DPI with reason UNDOADPI** Currently, airports can call NMOC to request a manual flight de-activation. Only those CDM or Advanced ATC TWR airports that wish to replace this phone coordination by a message exchange will be impacted. They will need to adapt their system to provide this new reason value in the C-DPI. An update of the procedure will be required, instructing the TWR on the possible situations when a C-DPI with reason UNDOADPI can be manually triggered (e.g. flight was erroneously activated by a wrong AOBT input). The reason UNDOADPI shall not be used in any other C-DPI message that is sent for other reasons.
Service reference	Network Manager Business-to-business (B2B) web services Reception and distribution of real-time airport, air traffic control and surveillance data
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O2: FB992 will not be part of the NM Release OPT (Operational Testing Session)

Documentation publication	ATFCM Operations Manual DPI Implementation Guide Flight Progress Messages Document NM B2B manuals

5.3.2 Airspace Management and Advanced FUA

FB972: ASM - Advanced FUA process improvements - NM23.0	
Users impacted	U02. Airspace Manager (AMC)
Application impacted	A01. CHMI A03. CIAM A04. CACD
Objective	The objective is to provide more flexible solutions to manage airspace structure data via AUP/UUP
Description	FB972 will provide the following AFUA process improvements: **CR_036912: CDR expansion to consider RELATED/CROSSING/OFFLOAD routes vertical limits** CDR expansion will trigger NEARBY routes as they are specified, and not limit the update to the vertical limits of the allocated RSA. **CR_042424: Restriction Grouping** The fine tuning of the selection of traffic to be validated by FUA Restrictions requires a combination of multiple restrictions. AMCs will have the possibility to ask for the creation of a restrictions group to manage these restrictions in a coherent way (e.g. activate / deactivate). This improvement is a pre-requisite to manage complex FUA restrictions. **CR_042633: Complex FUA restrictions** Complex FUA restrictions will be composed by basic restrictions identified by sub-codes. The single complex FUA restriction and all sub-restrictions associated will be activated simultaneously whatever restriction and/or sub-restriction selected. **CR_041209: FUA KPIs Updated Reports** FUA KPIs Updated Reports will improve data visualization and reporting capabilities for the measurement of FUA application achievements linked to performance monitoring obligations
Impact for external users	I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	• CIAM: Possibility to specify if expansion of allocated airspaces should go below and/or above the allocation • CIAM: Possibility to select/deselect all sub-restrictions belonging to a complex FUA restriction clicking on any of them • [v2.0 - addition] NM B2B: Based on the validation of Complex FUA restriction, an error message will be notified to local ASM tools if not all sub-codes are activated simultaneously
Service reference	Network operations monitoring and reporting Airspace management Network Manager Business-to-business (B2B) web services Network Operations Portal Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related

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Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB972 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	FUA - AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B manuals NOP Portal Users Guide

5.3.3   CTM (Cooperative Traffic Management)

FB891: **API improvements - NM23.0**	
Users impacted	U01. Flow Manager (FMP) U10. Non-CDM Airport U12. Internal NM U13. CDM-Airport
Application impacted	A05. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	Enhancement of arrival planning processes
Description	FB891 is part of a programme of small incremental improvements including NM B2B related services. **CR_044609: Extends the flight arrival information included into NM B2B services** NM will provide additional information via NM B2B webservices, in particular: - The minimum/maximum acceptable TTA (Target Time of Arrival). - The currently selected STAR (to know the stack where the flight is going to). - The Estimated Time Over the metering fix (to initialize the arrival sequence). **CR_044640: Improves the selection of the TTO fix included in SAM / SRM messages** NM will remove terminal and helipoints from SAM/SRM messages. **CR_044611: Improved Cherry pick feature:** • Extends the fields available to the network cherry pick measure proposal requests NM will provide the optional Regulation Rate and Update Capacity fields via NM B2B webservices. • Improves the treatment of arrival planning information in a network cherry pick measure.
Impact for external users	I0. No impact. I3. Impact to clients' systems.
Impact description	**I0. No impact.** FB891 will have no impact to the general population (those not participating NM Arrival Planning via B2B). **I3. Impact to clients' systems** FB891 will have an impact on users that are specifically developing their end system towards extended arrival management or AOP-NOP integration. • The users may now choose to include the new arrival planning information fields into their local algorithms. • Network Cherry Pick measure via NM B2B may now be proposed with a defined rate that can update the TV capacity monitoring value. Network Cherry Pick measure slot times no longer artificially blocked by exempted flights when applying Arrival Planning Information.

	FB891 will have an impact on clients' systems that were previously unable to process SAM/SRM messages containing PTID with numeric characters (these points will no longer be presented in SAM/SRM messages).
Service reference	Network Manager Business-to-business (B2B) web services Reception and distribution of real-time airport, air traffic control and surveillance data (for SAM and SRM messages)
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB891 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Initially, the NM B2B reference manual will be updated. In time new Implementation Roadmap and Implementation Guides will be produced similar to that used for DPI and FUM.

FB917: DCB Measure proposal via B2B - NM23.0	
Users impacted	U01. Flow Manager (FMP) U12. Internal NM
Application impacted	A05. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	The Operational objective of this functional block is to improve the coordination between NMOC and FMP by supporting via B2B actions that are today coordinated manually. It also consists in supporting local coordination between AO and FMPs on specific STAM rerouting measure.
Description	**CR_044626: New B2B service - flight based** This CR contains the creation of new service available in B2B to FMPs to propose to NM to exclude flights from an existing regulation and to propose to NM to force a flight in a regulation. **CR_044628: M-CDM fine tuning for rerouting STAM** This CR will support FMP-AO coordination on proposed STAM: it will align the M-CDM mechanism to a simplified STAM workflow.
Impact for external users	No impact if not used
Impact description	If externals decide to use the functionalities, they will need to modify their systems and possibly their HMIs. As the services support the coordination in existing procedures between FMP and NMOC, there is no need to change procedures with NMOC. There is a possible impact on FMP internal procedures.
Service reference	Network Manager Business-to-business (B2B) web services
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration
Users' testing	O1: FB917 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	NM B2B manuals

FB980: Predictability: Yo-Yo flight plans identification - NM23.0

Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U8. AO or CFSP
Application impacted	A1. CHMI A2. CIFLO, CIAO A5. Flow management systems (Predict, ETFMS) A10. NOP Portal
Objective	Identify Yo-Yos in filed flight plans
Description	NM is committed to support reduction of flight plans with Yo-Yo profile. A Yo-Yo flight can be defined as following a vertical profile that is planned to (after reaching initial top of climb and before reaching final top of descent during the cruising phase) descent certain amount of FLs and then climb certain amount of FLs. Purpose of this FB is to carry out predictability enhancements defined in Flight Plan Predictability Action Plan approved by NDOP, with goal to increase level of predictability in tactical operations. NM System will detect filed flight plans containing Yo-Yo profile. Information on flight plans with Yo-Yo profile will be available to AOs concerned and FMPs through CHMI/NOP Portal flight list. For additional information on FB980, please contact nm.flightefficiencysupport@ops.cfmu.eurocontrol.int
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface.
Impact description	NM system will be used for live YoYo detection based on predefined detector parameters. Flight plans and change messages submitted will be checked on YoYo presence. This kind of detection, upon FPL or CHG message submission, will enable enough time for reaction on YoYo profiles. If YoYo is detected, information will be distributed through CHMI/NOP flight list "YY" column to AOs and FMPs concerned. When detected, this information will be used by AOs and FMP in CDM process in order to agree on actions: • to refile flight plan without YoYo profile • or to adhere to the flight plan with YoYo profile
Service reference	Network Operations Portal Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	FB980 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	CHMI ATFCM Reference Guide NOP Portal Users Guide

5.3.4 EAIMS (European ATM Information Management Service)

FB971: NM airspace data model evolution - NM23.0	
Users impacted	U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil)

	U4. Airspace User (Military)
	U5. ENV data provider
	U7. Post-ops analyst
	U8. AO or CFSP
	U10. Non-CDM Airport
	U13. CDM-Airport
	U11. ARO
	U12. Internal NM
	U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI
	A2. CIFLO, CIAO
	A4. CACD
	A5. Flow management systems (Predict, ETFMS)
	A6. FPL (IFPS)
	A7. Datawarehouse (NMIR)
	A11. NOP B2B
	A12. ASM Tools
	A13. NMVP
	A14. n-CONECT
Objective	NM Airspace model evolution in preparation of downloading airspace data from EAD.
Description	**CR_039807: ICAO non-compliant TP identifiers** It will no more be possible for NM to enter new TP (Terminal Procedure) synonyms having an ICAO non-compliant identifiers (e.g. AMVAR11) into CACD. TP Identifier according to ICAO is AAA(AA) + N + A or AAA(AA) + N (A = letter, N = figure) TPs are published with a name: beacon + number only. According to ICAO Annex 11 appendix 3 (SERA too), the route indicator (final letter) is only mentioned where required. ANSPs having ICAO non-compliant TP identifiers agreed at ODSG and RNDSG to adapt their publications. As soon as the TP identifiers are ICAO compliant, NM will update TP identifiers to ICAO-compliant format and TP synonyms will gradually disappear. **CR_042415: Review of NM Point models towards AIXM 5.1 – part 3** NM will align the CACD data model towards AIXM, more particularly the Collocated points: VOR and DME are 2 separate physical devices, which usually have slightly different geographical locations, but they can be a part of a "merged" NAVAID of type VOR/DME. CACD supports collocated NAVAIDs, meaning that VOR/DME and its parts, VOR and DME, may have slightly different geo-positions. Before the change, the coordinates of the reference points (RFP) were calculated using the distance and radial measurements from the VOR/DME position. After the change, the distance will be measured from the precise DME location, whilst the radial will be taken from the precise VOR location. **CR_043842: Timesheet to allow sunsets and sunrises** In CACD, timesheets associated to AD flight rules will allow definition of the time intervals based on sunsets (SS) and sunrises (SR) plus/minus a number of minutes, as defined in AIXM model, for example from SS+10 to SR-20. The same definition of the time intervals is possible for the AD flight rules restrictions that are derived from AD flight rules, they may also contain references to SR and/or SS. The exact time values of Sun Set and Sun Rise will be calculated by CACD, using the coordinates of the Aerodrome Reference Point (ARP). Both relative time (eg SS+10) and

	explicit SS/SR values for each AD, calculated for the following 2 AIRAC cycles, will be propagated to the client systems.
Impact for external users	**CR_039807: ICAO non-compliant TP identifiers** I0. No impact. **CR_042415: Review of NM Point models towards AIXM 5.1 – part 3** I2. Impact on Human-Machine interface. **CR_043842: Timesheet to allow sunsets and sunrises** I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	**CR_042415: Review of NM Point models towards AIXM 5.1 – part 3** Property VerticalRange for points - Points are not always available at all levels - NAVAIDs have vertical radius - Waypoints can serve e.g. as boundary point only at given levels Property Radius for NAVAIDs - NAVAIDs can not be used for long DCTs beyond their radius - Some NAVAIDs are not useable for long distance DCT segments
Service reference	Network Manager Business-to-business (B2B) web services Flight plan filing and management Airspace data
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB971 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual Provision of CACD Data AD Operations Manual NM B2B manuals NMIR Users' Guide NOP Portal Users Guide

5.3.5 FPFDE (Flight Plan and Flight Data Evolution)

FB1012: FF-ICE filing Function - file eFPL - NM23.0

Users impacted	U8. AO or CFSP U12. Internal NM
Application impacted	A6. FPL (IFPS) A11. NOP B2B
Objective	FF-ICE/1 enhances the flight plan data exchanges facilitating a CDM process between AOs/CFSPs, the Network Manager and ANSPs in the pre-departure phase of the flight. The aim is to improve the consistency and the accuracy of 4D flight trajectories maintained by the different stakeholders.
Description	The FB builds on existing NM systems functionality and evolves them towards the latest ICAO flight plan provisions (FF-ICE flight plan) and the associated latest flight information exchange format version (FIXM v4.1.0) in order to provide filing of FF-ICE flight plans in FIXM format.

Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	External users choosing to use the FIXM services will have to adapt their systems to provide FPLs in FIXM format.
Service reference	[Flight plan filing and management](#)
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1012 will be part of the NM Release OPT (Operational Testing Session) on PREOPS
Documentation publication	IFPS Users Manual NM B2B manuals

5.3.6   n-CONECT

5.3.7   Operations Improvements

CR_043914: TACT activation versus Expecting FSA & AOWIR services - NM23.0	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U8. AO or CFSP U13. CDM-Airport U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A2. CIFLO, CIAO A3. A5. Flow management systems (Predict, ETFMS) A10. NOP Portal A11. NOP B2B
Objective	Create a consistent flight status across NM systems.
Description	CR_043914 brings an improvement to eliminate one of the statuses present in ETFMS, the TACT Activation triggered by T-DPI-s messages. The T-DPI-s marks the departure sequencing at the local CDM platform. The TACT Activation status in ETFMS is linked to the creation of the CTFM. Normally, this is expected to happen when the flight is off-blocks, but no confirmation from ATC (e.g. FSA, DEP, CPR) has been received yet. The passing to TACT Activation status forbids the use of AOWIR by the AO and the ETFMS counts the flight as expected to receive the first FSA in the next few minutes. However, when a valid T-DPI-s is processed by ETFMS, an early TACT Activation may occur. This blocks the AOWIR functionality for AOs from that moment, which may take place up to 40 minutes before TOBT. Moreover, in order to prevent counting such flights as about to receive a FSA, currently, A-CDM departures are removed from the expecting FSA count, which is displayed in CHMI, NOP Portal and via B2B.
Impact for external users	I2. Impact on Human-Machine interface. I3. Impact on clients' systems.

Impact description	Thanks to CR_043914, T-DPI-s messages will not trigger the early TACT Activation in ETFMS. This will result in: • AOWIR will remain available after sequencing; providing AOs with an extended use of the feature for A-CDM departures. • The expecting FSA count will re-include departures from A-CDM, providing FMPs with accurate counts on flights that are expected to be airborne shortly. • TACT Activation for A-CDM departures will take place later than today, at reception of A-DPI. This status is reflected in the CHMI and NOP Portal with 't' in the status column/field 'Type of Flight Data'; 'TA' via B2B and the generation of EFD and FUM messages with status 'TA' and 'CDMSTATUS PRESEQUENCED'.
Service reference	Network Manager Business-to-business (B2B) web services Network Operations Portal Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: CR_043914 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual CHMI ATFCM Reference Guide Addendum to ATFCM CHMI & MAP Reference Guides NOP Portal Users Guide

FB958: Correction and tuning of the external data processing - NM23.0	
Users impacted	U08. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A05. Flow management systems (Predict, ETFMS)
Objective	Improve the actual vertical view and align ETFMS Flight Data (EFD) output with the CACD input
Description	**CR_043137: CTFM Flight Curtain improvement.** NM will improve the CTFM curtain profile by avoiding the peak/dip in most obvious cases. This improvement will be directly reflected into the EFDs (ETFMS Flight Data) and PSFDs (Publish/Subscribe Flight Data) output. **CR_044114: Terminal Points to be shown in the EFD.** NM will align its systems (CACD, ETFMS and EFD / PSFD) in the output of the same terminal points as presented in the CACD.
Impact for external users	I3. Impact on clients' systems.

Impact description	**CR_044114: Terminal Points to be shown in the EFD.**
	A Terminal Point presented in NM22.5 as GEO point:
	`-PT -PTID GEO01 -FL F100 -ETO 180409050250`
	Will be changed to a known CACD information as from NM23.0:
	`-PT -PTID MD039 -FL F100 -ETO 180409050250`
	Other examples (on Helicopter and NERS points) will be provided in a future version of the NM Release Notes.

Service reference	Reception and distribution of real-time airport, air traffic control and surveillance data
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O2: FB958 will not be part of the NM Release OPT (Operational Testing Session)
Documentation publication	Flight Progress Messages Document

FB977: Rerouting Evolutions - NM23.0	
Users impacted	U3. Airspace User (Civil) U8. AO or CFSP U12. Internal NM
Application impacted	A1. CHMI A2. CIFLO, CIAO A10. NOP Portal
Objective	Provide AOs with enhanced rerouting capabilities identified by AOs.
Description	In NM release 23.0, the NM will focus on aligning the interfaces of AOWIR and IFPUV and enhance the interface of both to ease the use of these rerouting tools. **CR_044707: Permit identification of the flow impact (CTOT) before filing the flight plan (IFPUV).** The IFPUV system will provide the CTOT to the AO before filing the flight plan. **CR_044706: Avoid ATFM measures function in AOWIR in IFPUV proposed routes.** Currently aircraft operators have to follow a cumbersome procedure when they need to avoid ATFM measures (e.g. regulations or scenarios). The new function improves usability and simplifies the steps. It allows aircraft operators to avoid regulated areas with the objective to decrease delay. **CR_043722: Present last validity value for route proposals in IFPS and IFPUV.** By displaying the last validity in the NOP/CHMI interfaces, NM will inform aircraft operators with the maximum time to which the OBT of the flight may be shifted without triggering IFPS errors **CR_044708: AOWIR overload is no longer an error.** NM systems will no more forbid AOs to file the flight plans through the overloaded areas.
Impact for external users	I2. Impact on Human-Machine interface.
Impact description	**CR_044707: Permit identification of the flow impact (CTOT) before filing the flight plan (IFPUV).** The change enhances the HMI in both IFPUV / NOP and IFPUV / CHMI. A new column on the route list will present the expected CTOT of the proposed route. It is important to remark that the CTOT presented does not trigger a booking of the slot. Therefore it represents an approximate value. **CR_044706: Avoid measure function in CHMI / NOP IFPUV and CHMI/NOP AOWIR.** The NM systems will provide a list of measures affecting the initial route. The aircraft operator will be able to select the measure from the list. The reference location of this measure will populate the "Avoid airspace"/"Avoid point" field so the NM systems produce only the routes avoiding the specified airspace/point. **CR_043722: Give last validity for route proposals in IFPS and IFPUV.** A new column "Last validity" will contain two potential values:

	• "+" if the route is valid for more than 4 hours, • the time until the route is valid if the validity period of the route in IFPS is less than 4 hours. **CR_044708: AOWIR overload is no longer an error.** The alternate routes generated in the NOP Portal / CHMI AOWIR and the IFPUV will be presented even if traffic volumes along the routes are overloaded. Note that overloaded traffic volumes may eventually become regulated.
Service reference	Network Operations Portal Collaboration Human Machine Interface Flight plan filing and management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1. FB977 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual IFPS Users Manual CHMI ASM Function Reference Guide CHMI ATFCM Reference Guide NOP Portal Users Guide

FB999: Flight Planning Domain improvements - NM23.0	
Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A6. FPL (IFPS)
Objective	Change IFPS behaviour as requested by the EUROCONTROL NM Stakeholders
Description	**CR_044325: Prevent multiple flight planning** NM has received reports that some AUs file multiple flight plans (with different ARCIDs)) in an attempt to get a CTOT close to the desired EOBT. As it artificially overloads ETFMS, it has been decided to implement a mechanism in IFPS to prevent multiple flight planning. With this change, IFPS will reject any FPL that is submitted that would create two flights that overlap that have the same aircraft registration (overlap= Same ADEP, ADES, REG and Flying period) Example of the error that will be returned: EFPM321: FPL WITH SAME REG MARKINGS AND OVERLAPPING FLYING PERIOD EXISTS:WOO65 VTBS1550 EBBR1102 DOF/181225 **CR_044418: Remove the special overlap association logic for Type of Flight 'X'** For historical reasons, Type of Flight 'X' (mostly training flights) have had a specific flight (overlap) association logic in IFPS.

With NM23.0 NM will remove this specific treatment and Type of Flight 'X' will be treated the same way as other flight types (Scheduled flights 'S', non-scheduled 'N', General aviation 'G' or Military flights 'M').

CR_044506: Reduce output of IFP/IFPSROUTEMOD in FPLs

NM have received complaints that the occurrences of FPLs containing IFPSROUTEMOD is too high, the following has been agreed by the ODSG.

The only time that the IFP/IFPSROUTEMOD indicator is included in a FPL:

1. IFPS manually changes the route when FPL contains IFPSRA.

2. IFPS manually changes the route when FPL contains a special status indicator (e.g. MEDEVAC) and no contact possible with the flight plan originator.

CR_043145: Improve logic for associating RQP to multiple FPLs

It is recommended to submit RQP with the EOBT and the DOF in order to facilitate the association with a FPL in the case IFPS holds multiples matching FPLs.

When IFPS is not able to identify the FPL that is requested, the RQP goes for manual processing.

This CR aims at reducing manual processing while improving the quality of the replies to RQP messages.

Upon reception of an RQP matching multiple FPLs:

- It will only associate to those FPLs with an EOBDT up to 6 hours in the future when compared to the IFPS system time.
- If all matching FPLs have an EOBDT later than 6 hours when compared to the IFPS system time, then the RQP shall associate to all of them.

Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	**CR_044325: Prevent multiple flight planning** Flight Plan Originators should be aware of the new error that will be returned if they file two flights that overlap with the same aircraft registration. **CR_044418: Remove the special overlap association logic for Type of Flight 'X'** Flight Plan Originators who submit flight plans with Type of Flight 'X' should not expect the specific flight association rule that used to be applied in IFPS. **CR_044506: Reduce output of IFP/IFPSROUTEMOD in FPLs** The ANSPs that receive FPLs that contain the IFP/IFPSROUTEMOD indicator should understand the new rules for the inclusion be IFPS. **CR_043145: Improve logic for associating RQP to multiple FPLs** Originators of RQP message may receive more than one FPL in response to an RQP.
Service reference	Flight plan filing and management
Safety assessment	FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB999 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual

FB1000: Airspace Data Domain improvements - NM23.0	
Users impacted	U3. Airspace User (Civil) U7. Post-ops analyst U12. Internal NM

	U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A2. CIFLO, CIAO A6. FPL (IFPS) A11. NOP B2B
Objective	Early access to ENV Test Airspace data and PRE VAL Airspace Data
Description	In NM22.5 IFPUV doesn't allow to receive FPLs more than 120 hours in advance. This limits the processing of FPLs against Test tape (AIRAC + 1) Data. Users (AOs, ANSPs and CFSPs in particular) would like to check FPLs earlier (more than 5 days before the AIRAC) To allow this, NM23.0 will provide IFPUV users access to: • Test AIRAC data (AIRAC +1) - 17 days before the AIRAC, • Ad-hoc test AIRAC Data (for specific airspace projects) Access will be provided via IFPUV on the CHMI or the NOP Portal. Access via NM B2B service will be provided.
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	I1: Impact on procedures. Users will have to select which database they want to use for IFPUV validation. I2: Impact on Human-Machine interface. Users will have to select which database they want to use for IFPUV validation. I3: Impact on clients' systems. IFPUV will be used earlier by users for flight plan validation against new Airspace Data in NM systems
Service reference	Network Manager Business-to-business (B2B) web services Network Operations Portal Collaboration Human Machine Interface Flight plan filing and management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1000 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	IFPS Users Manual NM Operational Problem reporting AD Operations Manual NM B2B manuals

FB1001: ATFCM Domain improvements - NM23.0

Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U8. AO or CFSP U9. CAA, EASA U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport

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	U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A5. Flow management systems (Predict, ETFMS)
Objective	Improvement of existing ATFCM services.
Description	**CR_044350: FAM reduction** The Flight Activation Monitoring mechanism parameter for suspension of: • Flights departing from FAM-enabled areas, • Or flights departing from non FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination/crossing a FAM-enabled areas, will be reduced by 5 minutes; from 25 minutes to 20 minutes. The stepped reduction of the parameter was decided at ODSG/41 to support flight planning and predictability in the European ATM Network. The change is aligned with ICAO: any changes to the EOBT of more than 15 minutes for any IFR flight within the IFPZ shall be communicated to the IFPS. (ICAO Doc 7030, 2.3.2.1). This implementation is the second step of the parameter reduction. Further information can be found at: https://www.eurocontrol.int/function/flight-activation-monitoring
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	**CR_044350: FAM reduction** Possible impact on flights departing from FAM-enabled areas or of flights departing from non-FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination/crossing a FAM-enabled areas that are not reported as airborne. Such flights will be shifted in their CTFM by 5-minute steps three times (currently four) and will be eventually suspended after another 5 minutes if not reported as airborne (FSA, CPR message received by the NM). FMPs, airports and AOs should be advised of the change and ensure that adequate operational actions are taken.
Service reference	Strategic, pre-tactical, tactical and post-ops air traffic flow and capacity management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1: FB1001 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual DPI Implementation Guide

FB1019: e-HelpDesk improvements - NM23.0	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U7. Post-ops analyst U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U15. Advanced ATC TWR Airport U12. Internal NM

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Application impacted	A5. Flow management systems (ETFMS) A7. Datawarehouse (NMIR) A10. NOP Portal
Objective	Improvements on the e-HelpDesk services.
Description	The network situation as experienced during summer 2018 will repeat or even deteriorate in the coming summer seasons. The NM is now investing in changes to enhance the e-HelpDesk service for Summer 2019. The implemented changes will help to keep high quality levels of the service, prioritize the most urgent network requests by keeping acceptable levels of workload of the different actors involved. The changes included in release NM23.0 initiates transformation that will permit a focus service. **CR_045011: E-helpdesk access for TWR and FMP.** By providing the e-HelpDesk service to the FMP and TWR users, the new users will have the possibility to use an electronic exchange to accommodate their requests. The electronic exchange permits NMOC to visualize and sort the most urgent requests. TWR and FMP will have the possibility to request Slot extension, Slot improvement and Exclusion from regulation. NM will provide the necessary training, documentation and practical guidelines for the new users. **CR_045012: Prioritization of FMP / TWR / AO requests.** By extending the access to new users, it is necessary to associate a business prioritisation logic. This logic permits to respond based on the urgency of the requests. The prioritization rules consider amongst others, the type of request (e.g. extension versus improvement), the proximity to the CTOT to the time stamp of the requests and the originator of the request. **CR_045014: Extend Duplicate request rule.** NM noted a large quantity of multiple requests for the same flight. From the release NM23.0, NM will strengthen this rule to ensure that the relevant request is replied, CDM improved and avoid unnecessary workload on requester and NMOC side. **CR_045015: Automatic processing of requests before SIT1.** The change supports the automatic processing of requests for slot improvement and extension that are sent before the slot is allocated at SIT1, EOBT-2 hours. The processing of requests received before allocation, often delays or prevents the processing of more urgent requests. Acting on pre-allocated flights would prevent NMOC to act on urgent requests and would have a potential negative effect on delay reduction. **CR_044319: Automatic processing of requests based on average delay.** By implementing this change, NM will enable the possibility to automatically process the requests based on the local average delay of a regulation. The selection criteria for automatic processing will be based on the delay of a flight versus the local average delay of surrounding flights in the most penalising regulation. NMOC staff will have the possibility to fine tune the local average delay by specifying a weighting factor.
Impact for external users	I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems.
Impact description	**CR_045011: E-helpdesk access for TWR and FMP.** By enabling the e-HelpDesk services to TWR / FMP, these external users will be able to access NOP Portal via token, to request Slot extension, Slot improvement and Exclusion of flight from regulation. Adequate web training, documentation and information campaign will be done as part of release. **CR_045012: Prioritization of FMP / TWR / AO requests.** An external request can be queued based on the defined priorities. If AO and TWR are making the same type of request for the same flight, the TWR request will overwrite the request from AO. Priority of the users is defined on the following order: TWR, FMP, AO. **CR_045014: Extend Duplicate request rule.**

	External user is not supposed to send multiple e-HelpDesk requests of a same type for the same flight. New system behaviour will automatically reject that kind of requests. **CR_045015: Automatic processing of requests before SIT1.** Requests for slot improvement/extension coming before SIT1 (2h before off-block time) will be automatically processed, NM will provide appropriate response message. **CR_044319: Automatic processing of requests based on average delay.** If the request is automatically processed, external users will be provided with appropriate message including information about local average delay and explanation for performing the automatic processing of the request. The local average value will be equally presented in a new column in the e-helpdesk list.
Service reference	Network Operations Portal Collaboration Human Machine Interface
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1. FB1019 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	ATFCM Users Manual ATFCM Operations Manual

5.3.8 Performance Programme

FB973: Performance Work Programme - NM23.0	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U6. Management (eg crisis management, performance management) U7. Post-ops analyst U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A5. Flow management systems (Predict, ETFMS) A7. Datawarehouse (NMIR)
Objective	Objective of the FB is to correct the ATFM delay calculation where the current delay calculation method doesn't respect the philosophy adopted by the NDOP delay calculation Task Force and agreed by NDOP/NMB.
Description	The en-route ATFM delay is the delay calculated by NM as defined in Commission Regulation (EU) No 255/2010 of 25 March 2010. It is expressed as the difference between "the take-off time requested by the aircraft operator" and the calculated take-off time allocated by ETFMS (CTOT). The NDOP Delay Calculation Task Force identified situations where updates to "the take-off time requested by the aircraft operator" are not considered in the (current) delay calculation. **CR_044410: ATFM delay calculation (adaptation based on DPI-s after STW)** ATFM delay resulting from a TTOTs after the STW (due to OBT update) will be re-calculated taking into account the latest OBT update from the T-DPIs. (Plus other ATFM delay calculation improvements that are needed).

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	NM will monitor the impact of the improvement on the ATFM delay and consequently on KPIs and statistics.
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	New calculation of ATFM delay will be reflected in the various reports produced by NM and available in NMIR. Users using them may have to update their procedures or systems to take care of this change.
Service reference	Network operations monitoring and reporting
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' testing	O1. FB973 will be part of the NM Release OPT (Operational Testing Session)
Documentation publication	None

6   Documentation

Network Operations handbook	
Network Operations library	https://www.eurocontrol.int/library?f%5B0%5D=activity%3A774
ATFCM Users Manual	https://www.eurocontrol.int/publication/atfcm-users-manual
ATFCM Operations Manual	https://www.eurocontrol.int/publication/atfcm-operations-manual
NM B2B documentation	https://ost.eurocontrol.int/sites/B2BWS/default.aspx Registration required - contact NM.servicerequests@eurocontrol.int
CCAMS User Manual	https://www.eurocontrol.int/publication/ccams-user-manual
IFPS Users Manual	https://www.eurocontrol.int/publication/ifps-users-manual Flight Plan guide: https://contentzone.eurocontrol.int/fpl/default.aspx
Flight Plan Guide and IFPS errors guide	https://contentzone.eurocontrol.int/fpl/default.aspx
NMIR Users Guide	https://www.eurocontrol.int/publication/nmir-users-guide

7 ABBREVIATIONS

ACC3	Air Cargo or Mail Carrier operating into the Union from a Third Country Airport
A-CDM	Airport-Collaborative Decision Making
AD	Aerodrome
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
ADEXP	ATS Data Exchange Presentation
A-DPI	Airport-Departure Planning Information
AFTN	Aeronautical Fixed Telecommunication Network
AFUA	Advanced Flexible Use of Airspace
AIRAC	Aeronautical Information, Regulation and Control
AIS	Aeronautical Information Services
AIXM	Aeronautical Information Exchange Model
ALTN	Alternate
AMC	Airspace Management Cell
ANSP	Air Navigation Service Provider
ANU	Air Navigation Unit
AO	Aircraft Operator
AOBT	Actual Off Block Time
AOP	Airport Operations Plan
AOWIR	Aircraft Operator What-if Reroute
AP	Arrival Procedures
API	Arrival Planning Information
APOC	Airport Operations Centre
ARCID	Aircraft Identification
ARCTYP	Aircraft Type
ARINC	Aeronautical Radio Incorporated
ARO	Air Traffic Services Reporting Office
ARP	Aerodrome Reference Point
ASM	Airspace Management
ATC	Air Traffic Control
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATOT	Actual Take-Off Time
ATS	Air Traffic Services
ATTOT	Aircraft Operator Target Take-Off Time
AU	Airspace User
AUP	Airspace Use Plan
B2B	Business-to-Business
B2C	Business-to-Consumer
CAA	Civil Aviation Authority

CACD	Central Airspace and Capacity Database (new name of ENV)
CADF	ECAC Centralized Airspace Data Function
CASTAR	Computer Aided Synchronization Tool for Airspace Repositories
CCAMS	Centralised SSR Code Allocation & Management
CDM	Collaborative Decision Making
C-DPI	Cancel-Departure Planning Information
CDR	Conditional Route
CFMU	Central Flow Management Unit
CFSP	Computerised flight plan service provider
CHG	Modification Message
CHMI	Collaboration Human Machine Interface
CIAM	Collaboration Interface for AMCs
CIAO	Collaboration Interface for AO
CIFLO	Collaboration Interface for Flow management position
CIREN	Collaboration Interface for Remote Environment Access (CHMI for ENV Coordinators)
CITO	Collaboration Interface for Tower
CNS	Communications, Navigation, Surveillance
CPA	Collaboration Portal Application
CPR	Correlated Position Report
CR	Change Request
CSO	NMOC Customer technical Service desk and Operations
CSST	Call-Sign Similarities Tool
CTFM	Current Tactical Flight Model
CTM	Cooperative Traffic Management
CTOT	Calculated Take-Off Time
CUA	Common User Access
DCB	Demand and Capacity Balancing
DCT	Direct Route
DEP	Departure (Airport)
DLA	Delay or Delay Message
DME	Distance Measurement Equipment
DOF	Date of Flight
DOM	Domestic
DPI	Departure Planning Information
DWH	Data Warehouse system
EAD	European AIS Database
EAIMS	European ATM Information Management Service
EASA	European Aviation Safety Agency
EET	Estimated Elapsed Time
EFD	ETFMS Flight Data
eFPL	FF-ICE flight plan
EIDW	ICAO code of Dublin airport
ENGM	ICAO code of Oslo Gardermoen airport

ENV	NM Environment System (former name of CACD)
ENVCOOR	National Environment Coordinator
EOBD	Estimated Off Block Date
EOBDT	Estimated Off Block Date and Time
EOBT	Estimated Off Block Time
ERNIP	European Route Network Improvement Plan
ETFMS	Enhanced Tactical Flow Management System
ETO	Estimated Time Over
EU	European Union
EUROCONTROL	European Organization for the Safety of Air Navigation
EUUP	European Update airspace Use Plan
FAAS	Flight Assessment and Alert System
FAM	Flight Activation Monitoring
FB	Functional Block
FF-ICE	Flight and Flow Information for a Collaborative Environment
FFR	Fire Fighting
FIXM	Flight Information Exchange Model
FL	Flight Level
FLS	Flight Suspension Message
FMP	Flow Management Position
FPFDE	Flight Plan and Flight Data Evolution
FPL	Flight Plan message (ICAO format)
FRA	Free Route Airspace
FSA	First System Activation message
FUA	Flexible Use of Airspace
FUM	Flight Update Message
GEO	GEO Point
GRRT	Group Re-Routing Tool
HEAD	Head of State flight
HMI	Human-Machine Interface
HTML	Hypertext Markup Language
I2	Incident Type 2
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICD	Interface Control Document
IFP	Keyword from IFPS used in Field 18 to provide a warning
IFPLID	Individual Flight Plan Identity code
IFPS	Integrated Initial Flight Plan Processing System
IFPSROUTEMOD	IFPS Route Modification
IFPUV	IFPS Unit for Validation
IFPZ	IFPS Zone

NETWORK MANAGER RELEASE NOTES

IFR	Instrument Flight Rules
INC	Incident
IR	Implementing Rule
KPI	Key Performance Indicator
Lat	Latitude
Long	Longitude
LRC	Local RAD Coordinator
M&R	Monitoring and Reporting
M-CDM	Measure Collaboration Decision Making
MEDEVAC	Medical evacuation
MILO	Military Liaison Officer
MPR	Most Penalizing Regulation
N/A	Not Applicable
NAVAID	Navigation Aid
n-CONECT	network-COmmoN Enhanced Collaborative ATM
NDOP	Network Directors of Operations
NERS	North Atlantic European Routing System
NEWRTE	New Route
NM	Nautical Mile
NM	Network Manager
NMB	Network Management Board
NMD	Network Manager Directorate
NMIR	NM Interactive Reporting
NMOC	Network Manager Operations Centre
NMVP	Network Manager Validation Platform
NOM	Network Operations Management
NOP	Network Operations Plan
NPP	Network Performance Plan
NPZ	No Planning Zone
NRC	National RAD Coordinator
NSD	Network Strategy and Development (DNM)
NSP	Network Strategy Plan
OAT	Operational Air Traffic
OBT	Off Block Time
ODSG	Operations and Development Sub-Group
OPLOG	Operational Log
OPP	Opportunity
OPS	Operations
OPT	Operational testing
ORM	Operational Reply Message
P/S	NM B2B Publish/Subscribe
P3	Procedure 3
PC	Personal Computer

PC	Provisional Council
PENS	Pan-European Network Service
PM	Post Meridiem
PREDICT	Variant of TACT used for Pre-Tactical Work
PREVAL	Pre-Validation (CACD)
PSFD	Publish Subscribe Flight Data
PT	Point: ENV data entity type
PTR	Profile Tuning Restriction
Q2	Second quarter
QRV	Query Replay Viewer
R&D	Research and Development
RAD	Route Availability Document
REF	Reference Point
REG	Registration
REJ	Reject Message
RFP	Reference Points
RNDSG	Route Network Development Sub Group
RP2	Reporting Period 2
RQP	Request Flight Plan Message
RRP	Rerouting Proposal Message
RS	Restriction
RSA	Restricted Airspace
RWY	Runway
SAFA	Safety Assessment of Foreign Aircraft (Programme)
SAM	Slot Allocation Message
SAR	Search and Rescue
SDD	Static and Dynamic Data (EAD)
SDO	Static Data Operation
SERA	Standardised European Rules of the Air
SES	Single European Sky
SESAR	Single European Sky ATM Research
SID	Standard Instrument Departure
SIT1	Slot Issue Time 1
SITA	Societe Internationale de Telecommunications Aeronautiques
SLC	Slot Cancellation message
SO	Strategic Objective
SR	Sunrise
SRM	Slot Revision Message
SS	Sunset
STAM	Short-Term ATFM Measures
STAR	Standard Terminal Arrival Route
STS	Status Indicator
STW	Slot Tolerance Window

SWIM	System-Wide Information Management
TA	TACT Activated
TACT	Tactical System (predecessor of ETFMS)
TCF	Transponder Code Function
TCO	Third-Country Operator
T-DPI	Target DPI
T-DPI-s	Target DPI - Sequenced
T-DPI-t	Target DPI - Target
TMA	Terminal Manoeuvring Area
TO	Time Over
TOBT	Target Off Block Time
TP	Terminal Procedure
TSA	Temporary Segregated Area
TSAT	Target Start-Up Approval Time
TTA	Target Time of Arrival
TTLEET	Total Estimated Elapsed Time
TTO	Target Time-Over
TTOT	Target Take Off Time
TV	Traffic Volumes
TWR	Aerodrome Control Tower or Aerodrome Control
UDPP	User Driven Prioritisation Process
UI	User Interface
URL	Uniform Resource Locator
UTC	Coordinated Universal Time
UUP	Updated Airspace Use Plan
VFR	Visual Flight Rules
VOR	Very High Frequency Omnidirectional Range

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