

NETWORK MANAGER RELEASE NOTES

**PLANNED FOR IMPLEMENTATION IN
2017-2018**



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Document Changes Record

Ed.	Status	Date	Reason for change
1.0	Published	29/11/2016	First edition - NM21.0 content and initial deployment plan.
1.1	Published	06/02/2017	- Additional information on NM21.0 FBs. - NM21.0 migration plan.
1.2	Published	13/03/2017	- Information on the NM21.0 OPT session - Additional information on NM21.0 FBs - Browser Policy update (§2.1.1.1) - NM21.0 migration plan updated
1.3	Published	03/04/2017	- URL to download the NM21.0 CHMI (§4.1.3) - NM B2B PREOPS migration date (§4.1.3) - NM B2B compatibility (§2.1.1.3.3)
1.4	Published	25/04/2017	- OPT exercise extended to the 25/05/2017 - ACC3 service unavailability during migration
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2.1	Published	05/07/2017	- Additional information on NM21.5 FBs - NM21.5 migration plan
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2.3	Published	06/09/2017	- SSR Codes availability via B2B (§2.2.3.2) - Additional information on NM21.5 FBs
2.3.1	Published	07/09/2017	Small modification in FB862
2.4	Published	29/09/2017	- NMB2B AIXM 5.1 publication backward compatibility (§2.2.3.3) - URL of the NM21.5 Presentation to externals

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>

(Choose "Subscribe to receive e-mail notifications when the NM Release Notes are updated" in the field "purpose of the request").

The current document is available at:

<http://www.eurocontrol.int/lists/publications/network-operations-library?type=3317&keyword=>

**Any questions or comments related to the Network Manager Releases may be sent to:
nm.releases@eurocontrol.int**

2. RELEASES CONTENT

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

Programme	Functional Block		NM21.0	NM21.5
Airport and TMA Network Integration		§3.1		
FB778	DPI Improvements		§5.2.1	
FB800	Airport Programme		§5.2.1	
Airspace Management and Advanced FUA		§3.2		
FB780	Lead AMC Live Updateable		§5.2.2	
Cooperative Traffic Management		§3.3		
FB731	Scenario management		§5.2.3	
FB826	Develop Arrival Planning Information B2B in NMOPS (PJ.24)		§5.2.3	
FB839	Slot swapping - Front End		§5.2.3	
FB805	Implementation measures coordination			§5.3.1
EAIMS (European ATM Information Management Service)		§3.4		
FB862	NM Airspace Model Evolutions			§5.3.2
FPFDE (Flight Plan and Flight Data Evolution)		§3.5		
FB834	Improved restriction model and ATFM processes through use of enhanced flight plan data		§5.2.4	
FB866	Improved restriction model and ATFM processes through use of enhanced flight plan data – continuation			§5.3.3
FRA (Free Route Airspace)		§3.6		
FB781	Part Free Route Implementation at ACCs		§5.2.5	
FB876	FRA Cross border Restriction			§5.3.4
Operations Improvements		§3.7		
CR_039708	Flight plan message filing and distribution in FIXM format via B2B		§5.2.6	
FB737	Support to flight efficiency		§5.2.6	
FB814	IFPS Workload Evolutions		§5.2.6	
FB864	IFPS Workload Evolutions - continuation			§5.3.5
FB819	NM B2B improvements		§5.2.6	
FB820	Flight Planning Domain improvements		§5.2.6	
FB821	Airspace Data Domain improvements		§5.2.6	
FB822	ATFCM Domain improvements		§5.2.6	
FB827	Flight Plan processing across AIRAC cycle			§5.3.5
FB852	Airspace Data Domain improvements			§5.3.5
FB853	ATFCM Domain improvements			§5.3.5
FB895	Cross-Domain Activities			§5.3.5
CR_042951	Automate PRE-OPS setup to enable users to independently test UUPs			§5.3.5
Performance Programme		§3.8		
FB875	Performance Work Programme			

v2.1: After further investigations, FB876 (FRA Cross border Restriction) will not impact externals: it has thus been removed out of the NM Release Notes.

v2.3: After further investigations, FB875 (Performance Work Programme) will not impact externals: it has thus been removed out of the NM Release Notes.

2.1. IMPORTANT NOTIFICATIONS RELATED TO NM21.0 MIGRATION

2.1.1. NM21.0 - Browsers compatibility

In NM21.0 the following browsers are recommended:

- Internet Explorer 11
- FireFox 52 ESR

In addition, NM applications are still supported on Firefox 45 ESR on best effort basis (regression testing has been performed).

2.1.2. NM21.0 - Operating Systems compatibility

In NM21.0, Windows versions other than Windows 7 are not supported for CHMI.

2.1.3. NM21.0 - NM B2B web service

2.1.3.1. NM21.0 - Decommission of old NM B2B URLs on OPS

As announced during the NM B2B technical forum and in the NM B2B documentation, the current NM B2B URLs will be decommissioned for OPS with NM21.0.

- Old B2B URLs for OPS to be decommissioned:

https://www.nm.eurocontrol.int:16443/B2B_OPS

- New B2B URLs for OPS (already operational) using port 443 (instead of 16443 for the old URLs):

https://www.b2b.nm.eurocontrol.int/B2B_OPS

Old OPS URLs remains available until the migration to NM21.0.

Please note that old URLs for PREOPS have been decommissioned with NM20.5.

2.1.3.2. NM21.0 - NM B2B: Unavailability of version NM19.0

It is reminded to the 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, NM19.0 will no more be available (OPS and PREOPS) after NM21.0 migration.

2.1.3.3. NM21.0 - NM B2B Compatibility

In the coming NM 21.0 release, 4 operational changes (FB780 - Lead AMC Live Updateable, FB781 - Part Free Route Implementation, FB821 - Airspace Data Domain improvements, FB834 - Improved restriction model and ATFM processes) affect the publication of the AIXM 5.1 datasets (IDS and CDS).

In order to reduce any possible impact for users, Eurocontrol will not operationally deploy via ENV updates the new functionalities before the AIRAC 05/17 on 25/05/2017.

NM B2B users may test the new datasets by requesting access to the OPT chain at nm.opt@eurocontrol.int (please provide your certificate number). More information is available on the NM B2B OneSkyTeam website (authentication required):

<https://ost.eurocontrol.int/sites/B2BWS/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FB2BWS%2FShared%20Documents%2F1%20%2D%20Technical%20Resource%20%28OPS%20%2D%20NM21%2E0%29%2FB2B%20compatibility%20scenario>

2.2. IMPORTANT NOTIFICATIONS RELATED TO NM21.5 MIGRATION

2.2.1. NM21.5 - Browsers compatibility

In NM21.5 the following browsers are recommended:

- Internet Explorer 11
- FireFox 52 ESR

2.2.2. NM21.5 - Operating Systems compatibility

In NM21.5, Windows versions other than Windows 7 are not supported for CHMI.

2.2.3. NM21.5 - NM B2B web service

2.2.3.1. NM21.5 - NM B2B: Unavailability of version NM19.5

It is reminded to the 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, NM19.5 will no more be available (OPS and PREOPS) after NM21.5 migration.

2.2.3.2. NM21.5 - NM B2B: CCAMS SSR codes no more available for specific user profiles

As from NM21.5 migration, B2B users with the following profiles:

- AO and AO Flight Filing
- AIRPORT
- GROUND_HANDLING

will no more be able to retrieve flights' CCAMS SSR codes via B2B.

This applies to all B2B versions on OPS and PREOPS.

Users with these profiles should check if they query the SSR Codes in their application. If so, they should modify it to stop querying it.

2.2.3.3. NM21.5 – NM B2B: AIXM 5.1 publication backward compatibility

Some operational changes introduced by NM 21.5 (FB862, FB864, FB866) may affect B2B users using FlightRestrictions of the AirspaceStructure service: if users want to decode the new FlightRestrictions, they will have to adapt their software code before the 3rd of November 2017.

Additional information together with test data are available in the NM B2B OneSkyTeam:

<https://ost.eurocontrol.int/sites/B2BWS/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FB2BWS%2FShared%20Documents%2F1%20%2D%20Technical%20Resource%20%28OPS%20%2D%20NM21%2E5%29%2FB2B%20compatibility%20scenario>

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 de-fragmented 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. COOPERATIVE TRAFFIC MANAGEMENT

Cooperative Traffic Management is the collaborative process of determining 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

- **STAM**

The responsibilities and supporting procedures between NM and the ANSP for the execution of Tactical ATFCM are currently under review to cope with the evolutions of the roles and responsibilities in ATFCM. The Programme will also improve the support to the NM stakeholders (helpdesk, AOLO, etc.) and the access to the NM services in particular for the FMPs (CIFLO, Web services, etc.)

In order to close the gap between ATC and ATFCM, Short-Term ATFCM Measures (STAM) shall be developed requiring dynamic coordination between more than one ACC, the AOs and NM. The objective of STAMs is to prevent sector overloading, whilst reducing delays, by using air traffic flow management techniques, close and during real time operations. While STAMs measures focus on solving specific local issues the Network impact needs to be taken into account including the link to Scenario Management services.

3.4. EAIMS (EUROPEAN ATM INFORMATION MANAGEMENT SERVICE)

EAIMS aims at deploying the system and associated services that will act as the reference source of aeronautical information for pan-European, FAB and national systems covering ARO/AIS/ASM/ATFCM/ATC, flight 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, secure and standardised way from a single access point (through the future NM ATM Portal and the SWIM Yellow Profile).

3.5. PPFDE (FLIGHT PLAN AND FLIGHT DATA EVOLUTION)

This Programme enhances the flight plan data exchanges between AOs/CFSPs and the Network Manager 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.

It will introduce the ICAO FF-ICE/1 flight data processes and exchanges with its enriched content of the feedback regarding airspace availability and constraints.

The Programme is the very first step on the path towards the trajectory based operations.

3.6. FRA (FREE ROUTE AIRSPACE)

The aim of the FRA Project is to adapt the FPL processing systems and processes to cope with the route network evolutions impacting the NM services, such as DCTs, full Free Route Airspace initiatives both at State and regional level.

3.7. OPERATIONS IMPROVEMENTS

This Programme includes any improvements done to the NM systems or services currently in operation.

- **Domains improvements**

Each Release delivers Corrections and Tuning for the NM Domains:

- ATFCM Domain.
- Flight Planning Domain.
- Airspace Data Domain.

- **Call-Sign Similarities (CSST)**

Air-Ground communication, including call sign similarity/confusion, is one of the largest contributors to ATM safety events and remains a key priority. Reliable mitigation for the risk imposed by similar call signs (such as 527F 527D or 361M 369M) can be achieved by addressing the call sign allocation process within airlines.

The NM has established a Call Sign Management Cell (CSMC) to develop a centralized Service aiming at pan-European CSS solutions.

One key element in providing the Service is the publication of agreed Call Sign Similarity Rules. These Rules are at the heart of the Call Sign Similarity Tool (CSS Tool).

The CSMC has also established procedures with participating aircraft operators and ANSP's to monitor the operational effectiveness of the CSS Service and Tool.

Development of the CSS Tool and its specifications by EUROCONTROL is closely coordinated with a Call Sign Similarity User Group (CSSUG), which includes representations from AOs, ANSPs and other aviation organizations (e.g. ICAO and IATA).

- **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 16 states and the number of users is expected to increase in the coming years.

3.8. 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. DEPLOYMENT

Deployment Plan	2017												2018											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Release NM21.0																								
Presentation of NM21.0 to externals			15																					
OPT			■	■	■																			
Start of migration					02																			
Release NM21.5																								
Presentation of NM21.5 to externals										11														
OPT										■	■													
Start of migration										17														

4.1. NM21.0 MIGRATION

4.1.1. Presentation of NM21.0 to externals

An audio conference presenting the NM21.0 Release took place on the 15th of March 2017. Slides and recording are available at:

<http://www.eurocontrol.int/sites/default/files/publication/files/20170315-presentation-of-nm21.0-to-externals.pdf>

4.1.2. NM21.0 OPT session

NM21.0 OPT session took place from 20/03/2017 to 25/05/2017.

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

4.1.3. NM21.0 migration plan

The migration of NM systems from NM20.5 to NM21.0 took place between the 2nd of May 2017 and 9th of May 2017.

4.2. NM21.5 MIGRATION

4.2.1. Presentation of NM21.5 to externals

An audio conference presenting the NM21.5 Release took place on the 11th of September 2017 in the afternoon. Slides and recording may be downloaded at:
<https://www.eurocontrol.int/sites/default/files/publication/files/20170911-presentation-of-nm21.5-to-externals.pdf>

4.2.2. NM21.5 OPT session

NM21.5 OPT (Operational Testing session) will enable users to assess the potential impact of NM21.5 against their systems or procedures before NM21.5 migration.

OPT is planned to start on the 1st of September 2017 till 13th of October 2017 (dates will be confirmed in the Release Notes).

Users will be able to:

- Download and test the new NM21.5 CHMI,
- Test the new NM21.5 NOP Portal,
- Test some new FBs (operational scenario provided).

No registration is required. OPT instructions guide is available at:

<http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/release-deployment/NM-OPT-instructions.pdf>

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

4.2.3. NM21.5 migration plan

NM21.5 migration is planned to start on the 17th of October 2017. Please note that in case of a business or technical issue, the NM21.5 migration could be postponed. If this is the case the NM Release Notes would be updated accordingly.

Software / Service (Times are UTC)	Unavailable from	To	Remark	Business impact during migration
CHMI software	CHMI software and documentation availability: - For OPT (Operational Tests) users: Instructions will be published in the NM OPT guide. - For OPS (Operations) users: - For non NM-managed PC: NM21.5 CHMI software will be available as from the 22/09/2017 at http://www.nm.eurocontrol.int/chmi_appsoft/CHMI/13.5.4/chmiaoinst13.5.4.pdf - For NM-managed PC: Software will be pushed on the PCs between the 22/09/2017 and the 12/10/2017 but not activated (see below).			
ATFCM CHMI activation except CIAM	17/10/2017 20:00	17/10/2017 23:00	Expected downtime 1h30 + 1h30 provision in case of rollback	No access to NM services via CHMI
CIAM AMC activation	24/10/2017 15:30	24/10/2017 19:00	-	No access to NM services for CHMI AMC positions (using CIAM)
NOP Portal (CPA) unavailability	17/10/2017 20:00	17/10/2017 23:00	Expected downtime 1h30 + 1h30 provision in case of rollback	No access to NOP Portal (Public and Protected)
NMIR (former CIR) access (BIS system) unavailability	17/10/2017 23:00	18/10/2017 06:00	NMIR will also be unavailable during the DWH (datawarehouse) migration (see below)	No access to the NM Interactive Reporting (NMIR)
IFPUV unavailability	23/10/2017 21:00	23/10/2017 23:00	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	23/10/2017 21:00	23/10/2017 23:00	Expected downtime 1H00 + 1H00 provision in case of rollback	No SAFA service during this time period

CSST service unavailability	18/10/2017 07:00	18/10/2017 09:00	-	No CSST service during this time period
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System (Times are UTC)	Unavailable from	To	Remark	Business impact
ATFCM services				
ETFMS, PREDICT, CUA	17/10/2017 20:00	17/10/2017 23:00	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)	17/10/2017 23:00	18/10/2017 06:00	-	No Query/Replay in CHMI, no NMIR
Flight Plan services				
IFPS	23/10/2017 21:00	23/10/2017 23:00	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
Update of Environmental data				
ENV/CACD	24/10/2017 15:30	24/10/2017 19:00	-	No access to CIAM

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).

NM21.5 documentation, wsdl and xsd files
The NM21.5 documentation (including wsdl and xsd files) is available on the NM B2B services OneSky Team website <https://ost.eurocontrol.int/sites/B2BWS>.

Platform		Before NM21.5 PREOPS migration - 18/09/2017 26/09/2017 06:00	After NM21.5 PREOPS migration - 18/09/2017 26/09/2017 14:00	Migration to NM21.5 OPS From 17/10/2017 20:00 To 17/10/2017 23:00 Expected downtime 1h30 + 1h30 provision in case of rollback	After the 17/10/2017 23:00
Pre-ops	NM19.5	Available	Not available	Not available	Not available
	NM20.x and NM21.0	Available	Available	Not available	Available
	NM21.5	Not available	Available	Not available	Available
Ops	NM19.5	Available	Available	Not available	Not available
	NM20.x and NM21.0	Available	Available	Not available	Available
	NM21.5	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.

5. NETWORK MANAGER EVOLUTIONS

5.1. INTRODUCTION

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	
<p>“Internal NM” means that the Functional Block has no direct impact for external 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.</p>	
Users impacted	<p>The categories of NM Users which are impacted by the new features of the Functional Block:</p> <ul style="list-style-type: none"> 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 U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP) U0. Other (specify):
Application impacted	<p>The NM application(s) or service(s) that will be impacted by the Functional Block:</p> <ul style="list-style-type: none"> 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-CONNECT A0. Others (specify):
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 Man-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: http://www.eurocontrol.int/nm-services-catalogue
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’ validation	Depending on the Operational deployment plan: <ul style="list-style-type: none"> • If D1: Is an OPT planned for this FB? • 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.
Training sessions	Training sessions, i.e. the training dates, and the related links for access.

5.2. RELEASE NM21.0

5.2.1. Airport and TMA Network Integration

FB778 - DPI Improvements	
Users impacted	U1. Flow Manager (FMP) U10. Non-CDM Airport U13. CDM-Airport U12. Internal NM U14. Air Navigation Service Provider (ANSP) U0. Other (specify): TWR/ATC
Application impacted	A5. Flow management systems (Predict, ETFMS) A11. NOP B2B
Objective	NMOC will better accept and process the actual flown SID by the aircraft, as communicated in the DPI or the FSA messages or the FlightUpdate request (B2B). The TWR/ATC is a reliable source and has better knowledge about the actual value of the SID, in accordance with the clearance given. Especially for small airports, flights can receive direct clearance from TWR (to the first en-route point, or to an intermediate point of the route, or even to an ad-hoc point not part of the route). Processing this departure information will ensure the flight profiles will better reflect reality and the traffic counts will be improved.
Description	<p>CR_039938 - Accept waypoint in SID field</p> NMOC will support the following possible SID values: <ul style="list-style-type: none"> • The ICAO designator of a SID as published in the AIP (not new); • or the value "DCT", meaning DCT (direct) clearance from TWR to the first en-route point. Please note that the part related to DPI messages has been implemented in NM19.5 (FB699 - CR_037417); • or the ICAO designator of a nearby waypoint or navigation aid point, meaning DCT clearance from TWR to that point (which is not necessarily a point on the current route). When receiving a value in the SID field, ETFMS will first check that it has been defined in the NM database (CACD) and, only if it finds a matching departure procedure, will it subsequently process the SID according to the following rules: <ul style="list-style-type: none"> • For a SID field containing the value "DCT", NMOC will assume a DCT between ADEP and the first en-route point of the current trajectory. • For a SID field containing a waypoint or a navigation aid point, NMOC will assume a DCT between ADEP and the specified point. NMOC will look for an optimal and realistic trajectory to connect the specified point with the route. NMOC will reject the SID value provided if it has not previously been defined in NM database (CACD). In that case, ETFMS records an oplog "NOT_FULLY_PROCESSED" with reason "Unknown SID" and it does not update the flight profiles.
Impact for external users	I3. Impact on clients' systems (on an operational need basis).
Impact description	If ANSPs/ATC/TWR decide to communicate DCT (direct) clearance via the SID field to NMOC, they have to use, via the ENV coordinator, the dedicated procedure for notification of CACD updates to NMOC. CDM Airports, Advanced ATC TWR Airports and ANSPs may update their software in order to send waypoints or navigation aid points in the SID field of DPI and FSA messages or in FlightUpdate request (B2B) in order to indicate a direct clearance from the TWR/ATC to that point. Please note that this is on a voluntary/operational need basis.
Service	ID P3410 - NM B2B

reference	ID P3411 - Data distribution ID S315 - Load 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' validation	The FB will not be part of the NM21.0 OPT session.
Documentation publication	Network Operations HANDBOOK: <ul style="list-style-type: none"> • ATFCM Users Manual • ATFCM Operations Manual User Manuals: <ul style="list-style-type: none"> • DPI Implementation Guide • Flight Progress Messages • NM B2B Reference Manuals
Training sessions	None

FB800 - Airport Programme	
Users impacted	U1. Flow Manager (FMP) U8. AO or CFSP U13. CDM-Airport
Application impacted	A1. CHMI A10. NOP Portal A11. NOP B2B
Objective	Display additional DPI information on the CHMI, protected NOP Portal; output via B2B Web Services.
Description	<p>CR_040776 - Display TOBT / TSAT / Taxi time to ops users New columns will be added to the Flight List of the CHMI. They will contain the TOBT / TSAT / Taxi time information from the DPI messages. Having the TOBT / TSAT / Taxi time information, not only in the flight data part but also in the flight list of CHMI, will ensure increased operational awareness of AOCCs for their flights, by centralizing all the relevant information in one place. Note that this requirement has been implemented on the NOP Portal in NM20.5 (CR_037419) and on B2B in a previous release.</p> <p>CR_040026 - Display C-DPI Reason-field to ops users The content of the REASON field in the C-DPI message will be displayed in the Flight Data Display on CHMI and NOP Portal and will be output via B2B. If present, the reason-field contains the reason for the transmission of the Cancel-DPI (C-DPI) message. Informing operational stakeholders of the reason why previously sent DPI information is no longer valid increases the awareness of AOs of the airport local conditions related to their flight, allowing them to take the necessary actions (request an airport slot, file a DLA mess, update TOBT). This requirement refers both to the C-DPIs received via AFTN as well as to the ones received via B2B.</p>
Impact for external users	I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	CR_040776 - Display TOBT / TSAT / Taxi time to ops users This CR will modify the CHMI interface (Flight Lists) so may have an impact on Users' Procedures.

	<p>CR_040026 - Display C-DPI Reason-field to ops users If they want to make use of the information, Operational stakeholders may have to update their procedures (and possibly their B2B interface).</p>
Service reference	<p>ID P3410 - NM B2B ID P348 - Network Operations Portal ID P349 - CHMI (Collaboration Human Machine Interface) Applications</p>
Safety assessment	<p>S6. FB is Safety related</p>
Operational deployment plan	<p>D1. FB will be deployed in Operation along with the release migration.</p>
Users' validation	<p>The FB will not be part of the NM21.0 OPT session.</p>
Documentation publication	<p>User Manuals:</p> <ul style="list-style-type: none"> • CHMI ATFCM Reference Guide • NOP Portal Users Guide • DPI Implementation Guide • NM B2B Reference Manuals
Training sessions	<p>None</p>

5.2.2. Airspace Management and Advanced FUA

<p>FB780 - Lead AMC Live Updateable</p>	
Users impacted	<p>U2. Airspace Manager (AMC)</p>
Application impacted	<p>A3. CIAM A4. CACD A11. NOP B2B A12. ASM Tools A14. n-CONNECT</p>
Objective	<p>Supporting the dynamic change of airspace responsibility.</p>
Description	<p style="text-align: center;">Operational usage of this FB is postponed to the 25/05/2017</p> <p>This FB will implement a delegation relationship between the responsible AMC and the RSA, whose applicability shall depend on a Time Table List (TTL) defining the scheduling according to which the RSA responsibility is delegated to another AMC. Each RSA shall have a responsible AMC at all time and that only one AMC shall be responsible for it at a given moment in time.</p> <p>Such delegation shall be centrally implemented by CADF in the NM systems on D-1 at latest: lead time correspondent to the issue of the Ready AUP.</p> <p>In case of succession of multiple Lead AMCs for the same RSA within the same AUP 24-hours cycle, the interested AMCs shall issue their own AUP - on D-1 at latest - according to the TTL, in order to avoid overlaps in the allocation time.</p> <p>In order to avoid also conflicts in concurrent ENV/CIAM updates, the Lead AMC shall be able to make changes to the allocation of an RSA within its own leadership time interval (as defined in the TTL), i.e. as long as the RSA falls within its own area of responsibility.</p>
Impact for external users	<p>I1. Impact on procedures. I3. Impact on clients' systems.</p>
Impact description	<ul style="list-style-type: none"> • CIAM and n-CONNECT: Addition of the airspace delegation to the Related Data tab for Unit of type AMC. • B2B and DWH: Addition (AIXM extension) of the airspace delegation to the Related Data tab for Unit of type AMC. • Impact on procedures: It must be taken into account that airspace delegation shall be allowed only when the AUP is either in INTENT or DRAFT status or

	not at all existent, ensuring that no active AUPs/UUPs get invalidated. In practice, this means that the Lead AMC can be changed at any time until one hour before the AUP release (12:00 UTC) on D-1. Furthermore, it shall be taken into account that a delegation is going to be allowed only when the area is available.
Service reference	ID A221 - Airspace Management (ASM) Processes ID P3410 - NM B2B
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' validation	The FB will not be included in the Release OPT.
Documentation publication	FUA - AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B manuals
Training sessions	None

5.2.3. Cooperative Traffic Management

FB731 - Scenario management	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U12. Internal NM
Application impacted	A5. Flow management systems (Predict, ETFMS) A10. NOP Portal
Objective	<p>This FB will deliver 5 new features to improve internal NM process for scenario Management: scenario publication and repository</p> <p>CR_041991 - Publication of Scenario in NOP Operational deployment of CR_041991 will take place in a future Release. Facilitate the publication of Scenario on the NOP to reduce NM workload and harmonize the format the information published. Although in this first release, the Scenario information published will not change from current situation, request to AOG/ODSG have been made to review the scenario information to be published.</p> <p>CR_041992 - Scenario Repository Create a single repository, in NM system in a first step, to store all scenarios to facilitate and support usage, querying, post ops and revalidation. This feature is the main enabler to improve Scenario management.</p> <p>CR_041993 - Horizontal rerouting improvements Improve the rerouting options to improve solution findings (specific RAD information, conditional rerouting constraints, etc.)</p> <p>CR_041994 - Support for publication The generation of the rerouting and the map used for the scenario publication is high workload for NM. The objective is to facilitate the generation and recomputation of the map and the selection of the published information (refile field, on/off load areas, etc.)</p> <p>CR_041995 - Scenario AIRAC revalidation For improved usage of scenario, it is essential to have a repository containing valid scenarios. This CR is the first step for automatic revalidation checks.</p>
Description	<p>No direct new feature available for externals: the FB will improve the quality of services.</p> <p>CR_041991 - Publication of Scenario in NOP</p> <ul style="list-style-type: none"> Images auto upload in NOP

	<ul style="list-style-type: none"> PDF information available in the NOP contain images and structured text <p>CR_041992 - Scenario Repository</p> <ul style="list-style-type: none"> Scenario attributes (including off-load, on-load, reference location, applicability) Query scenario from regulation editor, scenario repository, flight list and load display in ETFMS/PREDICT Auto fill of measure editors Improved TACT display <p>CR_041993 - GRRT horizontal rerouting improvements</p> <ul style="list-style-type: none"> Specific disable/ignore of specific RAD Introduce logical operators in the rerouting constraint conditions <p>CR_041994 - GRRT support for publication</p> <ul style="list-style-type: none"> GRRT produce a publishable map Automatic proposal of refile routes and on/off load area (editable) <p>CR_041995 - Scenario AIRAC revalidation:</p> <ul style="list-style-type: none"> ENV (environmental) entities checking Checking correctness of scenario attributes
Impact for external users	I0. No impact.
Impact description	The publication of recomputed alternative routing through the ANM TV description in the NOP Help may impact the internal operational process for AUs used to looking in the NOP for Scenario Description: the rerouting information available in the ANM TV Description will be more accurate for flight captured by a scenario.
Service reference	ID P3410 - NM B2B ID S315 - Load and capacity management
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	This FB is part of the NM21.0 OPT session
Documentation publication	NOP Portal Users Guide
Training sessions	None

FB826 - Develop Arrival Planning Information B2B in NMOPS (PJ.24)	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U7. Post-ops analyst U8. AO or CFSP U9. CAA, EASA U10. Non-CDM Airport U13. CDM-Airport U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A5. Flow management systems (Predict, ETFMS) A11. NOP B2B

	A0. Others (specify): Airport Systems
Objective	The objectives of the FB are: <ul style="list-style-type: none"> To integrate Flight arrival information into the Network Operations Plan, To adapt NM traffic demand trajectories with received arrival information, To enhance ATFCM arrival measures with local ANSP/Airport priorities and targets.
Description	Access to the new capabilities will be strictly managed and following successful certification will be available to the participants of SES H2020 projects namely: PJ24, PJ25 and the CEF2015 project. The usage of the capabilities will be during periods that will be announced by those projects in consultation with the relevant NM stakeholder group fora.
Impact for external users	I0. No impact.
Impact description	The direct impact for non-participant external users should be low as detailed below. In the first instance, the FB826 changes will only be available to explicitly agreed participants of SESAR sponsored trial exercises. These projects will be responsible for announcing the precise dates and content for the operational demonstrations in due course. These changes will NOT be made generally available to other external users until after the trial exercises have been concluded. These enhancements will generally manifest as: <ol style="list-style-type: none"> Improvements to NM's traffic demand. Improvements compared to traditional ATFCM arrival regulations. Recordings of new Arrival Planning Information messages in the flight OPLOGs which are visible for all users accessing these logs. For some flights: arrival regulations may now become the most penalising regulation to explicitly fulfil airport arrival flow flight prioritisation that is put in place to best serve TMA, airport resources and aircraft turnaround planning optimisations.
Service reference	ID P3410 - NM B2B ID S315 - Load and capacity management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D2. FB will be subject to a Pilot Phase (Operational Trial) followed by a Go/NoGo decision for ops deployment after Release Migration.
Users' validation	Project's PJ24, PJ25 and CEF2015 will all perform OPS validations. Extensive usage of the PREOPS will be undertaken for technical integration validation purposes.
Documentation publication	No update to ops documentation for NM21.0.
Training sessions	No general training for NM21.0. This will be handled in the specific H2020 projects.

FB839 - Slot swapping - Front End

Users impacted	U8. AO or CFSP U12. Internal NM
Application impacted	A10. NOP Portal
Objective	Objective of the FB is to facilitate AUs (Airspace Users) in the identification, assessment and request of eligible flights for ATFCM Slot Swapping.
Description	The FB will provides: <ul style="list-style-type: none"> an intuitive NOP portal function allowing AUs to identify candidate flights for

	<p>ATFCM regulation Slot Swapping;</p> <ul style="list-style-type: none"> • swap assessment information for the subject and object flights; • a simple interface to request eligible swaps directly to the NM e-help desk. <p>Operational description of slot swapping may be found in the ATFCM ops manual (§6.7.2.6)</p>
Impact for external users	<p>I1. Impact on procedures. I2. Impact on Man-Machine interface.</p>
Impact description	<p>AUs will have the opportunity to identify, assess and to request eligible slot swaps for priority, regulated flights. AUs will access this new feature through the familiar NM NOP portal flight lists and e-help desk process. AUs should review their local instructions accordingly.</p>
Service reference	<p>ID P348 - Network Operations Portal ID S315 - Load and capacity management</p>
Safety assessment	<p>S4. Safety assessment to be performed or on-going</p>
Operational deployment plan	<p>D1. FB will be deployed in Operation along with the release migration.</p>
Users' validation	<p>This FB is planned to be part of the NM21.0 OPT session.</p>
Documentation publication	<p>NOP Portal Users' Guide</p>
Training sessions	<p>None</p>

5.2.4. FPFDE (Flight Plan and Flight Data Evolution)

<p>FB834 - Improved restriction model and ATFM processes through use of enhanced flight plan data</p>	
Users impacted	<p>U1. Flow Manager (FMP) U8. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP)</p>
Application impacted	<p>A1. CHMI A4. CACD A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A10. NOP Portal A11. NOP B2B</p>
Objective	<p style="text-align: center;">Operational usage of this FB is postponed to the 25/05/2017</p> <p>The Network Manager intends to improve flight planning and flow management services using more flight plan information in order to increase safety and improve ATM operation. The processing of CNS (Communication Navigation Surveillance) capabilities evolves now in line with the evolutions of ICAO (2012). The restriction model is expanded to cope with the ICAO 2012 capabilities and the regulation model is also expanded to permit to apply tactical regulations considering specific equipment cases. The load monitoring improvement permits to differentiate traffic based on additional flight status or flight planning information (e.g.PBN equipment) This FB is the start of a series of improvements on IFPS and ETFMS that paves the way for the use of new enhanced flight plan information in the future.</p>
Description	<p>CR_041732 - Flight planning able to process CNS capabilities The change permits to publish via B2B the new capabilities, without any change or impact on the AIXM model.</p>

CR_041733 - Regulation able to impose specific CNS capabilities in a non-mixed environment.

The change permits to create regulations that suspend non equipped aircraft and allocates a slot for the equipped aircraft with the specified rate. The change supports specific RNP APCH equipment cases like:

- Case 1 / “B” in field 10a OR - S2 in field 18
- Case 2 / “B” in field 10a OR - “G” in field 10a with “S1” in field 18

Notes:

- It remains mandatory to always include “R” in field 10a whenever PBN/ is included in field 18.
- NM processing improvement covers other existing operational requirements (e.g. Nice (LFMN), Le Bourget (LFPB) cases)

CR_041738 - Regulation able to impose CNS capabilities in a mixed environment.

This CR permits to create regulations that generate the specified rates/proportion between the equipped aircraft and non-equipped aircraft. The change supports specific RNP APCH equipment cases like:

- Case 1 / “B” in field 10a OR - S2 in field 18
- Case 2 / “B” in field 10a OR - “G” in field 10a with “S1” in field 18

Notes:

- It remains mandatory to always include “R” in field 10a whenever PBN/ is included in field 18.
- NM processing improvement covers other existing operational requirements (e.g. Nice (LFMN), Le Bourget (LFPB) cases).

CR_041621 - Load Monitoring Improvement.

The change permits, by creating the necessary traffic volumes and adequate flows, to differentiate in the load display:

- The flights presenting specific CNS information in the FPL.
- The flights affected by a scenario with Delay Threshold mechanism (*).

(*). All flights that present an expected delay higher than the threshold value will be suspended at EOBT-2 (and likely to reroute). To facilitate the monitoring tasks to FMPs and airspace users, those flights will be differentiated in the load display. In order to achieve that a specific flow has to be requested to NM attached to the traffic volume of the scenario.

Impact for external users	I1. Impact on procedures. I2. Impact on Man-Machine interface.
Impact description	The ANSPs will have the possibility to define airspace restrictions based on the ICAO 2012 capabilities. The ANSP will have to re-define environment restrictions based on the old model (e.g. restrictions that were based on RNAV will have to be re-defined based on the extended restriction model). The ANSPs will have the possibility to define regulations based on the two equipment cases in scope. For example, it will be possible to encode SIDs, STARs, ATS Routes as RNAV5 and/or RNAV1. So if a SID is encoded as only available for flights which are RNAV1 equipped, a FPL using the SID which only has RNAV5 equipage would be rejected. The load monitoring possibilities are improved as described above.
Service reference	ID P3410 - NM B2B ID S315 - Load and capacity management ID S323 - Flight Plan pre-validation
Safety assessment	S6. FB is Safety related
Operational	D1. FB will be deployed in Operation along with the release migration.

deployment plan	
Users' validation	FB834 is planned to be part of the NM21.0 OPT session.
Documentation publication	ATFCM Users Manual ATFCM Operations Manual IFPS Users Manual NM B2B manuals
Training sessions	None

5.2.5. FRA (Free Route Airspace)

FB781 - Part Free Route Implementation at ACCs	
Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U14. Air Navigation Service Provider (ANSP)
Application impacted	A4. CACD
Objective	Some parts of European airspace due to traffic density and complexity require an incremental approach to Free Route Airspace (FRA) implementation. This means that in some cases only part of an ACC or UAC can initially conduct FRA operations. Currently NM systems can only support the implementation of FRA if the airspace is co-incident laterally with the area of responsibility of an ACC. This FB will further support the implementation of FRA by ANSPs in the core area of Europe enabling compliance with Pilot Common Project EU Implementing Rule EU No 716/2014 for the implementation of FRA across EU States by 1 January 2022.
Description	Operational usage of this FB is postponed to the 25/05/2017 CR_041839 - Create FRA as an Airspace Type In the context of the developing FRA concept, the current usage of pre-existing AUAs, AUAGs or FIRs for the creation of FRA restrictions is inadequate. ANSPs are proposing FRA implementations defined by partial AUAs and/or partial Elementary Sectors. Not having a dedicated airspace type requires: <ul style="list-style-type: none"> to artificially split sectors or AUA to align them to the FRA volume, to artificially create volumes (test airspaces) that are to be excluded or added to the FRA definitions and validations. The solution is to introduce a new airspace type FRA which will allow the definition of FRA through Air Blocks (ABs).
Impact for external users	I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	CR_041839 - Create FRA as an Airspace Type CR_041839 will have a major impact on FRA Data providers to NM as they will no more be obliged to use CTA to define the FRA Airspace As from NM 21.0 NM will be able to create a FRA Airspace with coordinates (Airblocks) defined by ANSP.
Service reference	ID S334 - Airspace Data Management
Safety assessment	S4. Safety assessment to be performed or on-going
Operational	D1. FB will be deployed in Operation along with the release migration.

deployment plan	
Users' validation	Inclusion of the FB into the NM21.0 OPT is under assessment.
Documentation publication	Provision of CACD Data
Training sessions	None

5.2.6. Operations Improvements

CR_039708 - Flight plan message filing and distribution in FIXM format via B2B	
Users impacted	U8. AO or CFSP U10. Non-CDM Airport U11. ARO U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP)
Application impacted	A11. NOP B2B
Objective	Flight plan message filing and distribution in FIXM format
Description	NM will deliver via B2B flight plan message filing Flight plan message filing and distribution in FIXM 4.0 format. Please note that the purpose of the change is to support only the exchange of the ICAO 2012 flight plan (not all the extended FPL concept). The FIXM4.0 format option will be available for the following NM B2B Web services: <ul style="list-style-type: none"> • Flight Plan Validation • Flight Plan Creation • Flight Plan Update • Flight Plan Retrieval
Impact for external users	I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	The impact is only valid if the external user chooses to implement FIXM flight planning.
Service reference	ID P3410 - NM B2B ID S323 - Flight Plan pre-validation ID S325 - Flight Plan Processing and Distribution
Safety assessment	S6. CR is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	The CR will be available on NM B2B PREOPS
Documentation publication	NM B2B manuals
Training sessions	None

FB737 - Support to flight efficiency	
Users impacted	U3. Airspace User (Civil) U8. AO or CFSP

	U12. Internal NM
Application impacted	A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS)
Objective	Support to flight efficiency and allow GRRT template to automatically generate RRP
Description	<ul style="list-style-type: none"> • Automatic RRP generations based on the GRRT template parameters <p>Group re-routing tool will calculate possible route improvements (in accordance with AOs predefined criteria stored in the GRRT template) and send RRP to the subscribed AOs in automatic manner, in scheduled intervals.</p> <p>Before NM21.0, for AOs having their own GRRT template criteria, the system would automatically mark the re-routing opportunity in CHMI (OPP column) without sending RRP. For that reason, when it was requested, RRP were provided manually. With FB737, all RRP will be treated automatically, if this feature is requested by the user and defined in the GRRT template.</p> <p>AOs interested in receiving flight efficiency related RRP/OPPs will have to subscribe to this service by submitting an email to nm.flightefficiencysupport@eurocontrol.int.</p> <ul style="list-style-type: none"> • Segregation of RRP generated by MILO position and IFPS <p>The RRP message will have a new comment "PURPOSE IS CDR OPPORTUNITY" if proposal is generated by the MILO (Military Officer) position in NMOC.</p> <p>With this modification, it will be possible to distinguish RRP created by MILO from those generated for the Flight Efficiency Initiative purposes.</p>
Impact for external users	I1. Impact on procedures.
Impact description	<ul style="list-style-type: none"> • Automatic RRP generations based on the GRRT template parameters <p>There is not impact to the external users (AOs) that do not subscribe to the flight efficiency RRP service.</p> <p>AOs that subscribed to the service should continue to perform qualitative checks of received RRP before submitting the amended FPL, in order to ensure that received RRP are operationally acceptable for them.</p> <ul style="list-style-type: none"> • Segregation of RRP generated by MILO position and IFPS <p>New comment will be added to the RRP message if proposal is generated by the NMOC's MILO position. This comment will be used to distinguish RRP created by MILO from those created for the flight efficiency initiative.</p> <p>MILO generated RRP example (change in bold italic):</p> <p>-TITLE RRP -ARCID XYZ53U -IFPLID AT00083875 -ADEP LTFJ -ADES EDDL -EOBD 170203 -EOBT 0800 -ORGRTE N0439F380 TUDBUIJ Q26 TIXIP L602 BUDOP DCT PATAK DCT LALES L602 BABUS DCT SOPGA T170 RAPET T843 ARNIX T852 EKSAK/N0389F220 T852 TINS A T854 DOMUX DOMUX2G -RRTREF LTFJEDDL5003 -NEW RTE N0439F380 TUDBUIJ TUDBU Q26 DEGET DCT BELGA DCT DEXIT DCT SULUS T852 EKSAK/N0389F220 T852 TINS A T854 DOMUX DOMUX2G -RESPBY 0834 -REASON OUTREG -COMMENT PURPOSE IS CDR OPPORTUNITY -TAXITIME 0015</p>
Service reference	ID S325 - Flight Plan Processing and Distribution

Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	FB737 is not planned to be part of the NM21.0 OPT
Documentation publication	None
Training sessions	None

FB814 - IFPS Workload Evolutions	
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) A7. Datawarehouse (NMIR)
Objective	CR_040923 - Allow the use of POSRTE for DLA messages It is possible for a DLA message to be invalid in IFPS and the required action is for the AO to file a new route. For IFPS to be able to give routing assistance, it will be possible to send a possible route (POSRTE) in the reject message.
Description	CR_040923 - Allow the use of POSRTE for DLA messages The POSRTE in a DLA will help the Airspace User submit a change to the route that is consistent with the new EOBT, reducing the IFPS Staff workload associated to the phone conversations that normally take place when a DLA message is rejected with route errors. With this change the POSRTE shall be automatically included in the REJ message sent for a DLA message that was rejected for a route or profile error. Example of message: -TITLE REJ -MSGTYP IDLA -FILTIM 061823 -ORIGINDT 1703061823 -BEGIN ADDR -FAC EVRAZPZX -END ADDR -POSRTE N0422F360 VALED DCT ADAXA M864 KOLJA M611 DEGUL UN872 PAM UL980 REF SO UY76 ODR OB Y76 ERING -ERROR PROF199: GOBOT UZ701 EEL IS A CLOSED CDR 2 IN FL RANGE F245..F660 -OLDMSG (DLA-WIN23EW-EVRA0545-EGKK-DOF/170307)
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	CR_040923 - Allow the use of POSRTE for DLA messages If a DLA message is rejected by IFPS for a route/profile error, the filer of the DLA message may now see the POSRTE field in the REJ message. This may have an impact on the procedures in place.
Service reference	ID S325 - Flight Plan Processing and Distribution
Safety	S6. FB is not Safety related

assessment	
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	This FB is planned to be part of the Release's OPT session.
Documentation publication	Network Operations HANDBOOK: <ul style="list-style-type: none"> IFPS User's Manual
Training sessions	None

FB819 - NM B2B improvements	
Users impacted	<p>U1. Flow Manager (FMP) U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U11. ARO U13. CDM-Airport U14. Air Navigation Service Provider (ANSP)</p>
Application impacted	<p>A4. CACD A5. Flow management systems (Predict, ETFMS) A11. NOP B2B A14. n-CONNECT</p>
Objective	<p>The objectives of FB819 are to:</p> <ul style="list-style-type: none"> Extend the targeted users of NM B2B web services (P/S Flight Data in particular) to FMPs, by making the P/S Flight Data message a complete alternative to EFD. Provide more adapted and more efficient solutions for start-up, contingency and re-synchronisation. <p>FB819 also improves the efficiency in processing the tactical updates.</p>
Description	<p>The FB819 improves the Flight Data via P/S providing more information as well as means for re-synchronisation, contingency etc.:</p> <ul style="list-style-type: none"> CR_041835 - Make flight version number available via B2B. The goal is to provide users with the version number of any given flight updates via publish/subscribe and via Request/Reply. It should help to determine which flight update is the latest. This is especially important in case of system failure, contingency, etc. <p>FB819 also improves the efficiency in processing the tactical updates:</p> <ul style="list-style-type: none"> CR_041836 - Support update of multiple tactical plans at once in B2B. The goal is to provide users with the ability to update multiple tactical plans (Update Capacity plan, Update OTMV plan) at once. It should help improve the efficiency in processing the tactical updates.
Impact for external users	I3. Impact on clients' systems.
Impact description	External users will have to modify their systems in order to be able to benefit from the FB819 improvements.
Service reference	<p>ID P3410 - NM B2B ID P3411 - Data distribution ID S315 - Load and capacity management</p>
Safety assessment	S6. FB is Safety related

Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	The FB819 is planned to be available during the OPT session on the PRE-OPS platform.
Documentation publication	NOP/B2B Reference Manuals
Training sessions	None

FB820 - Flight Planning Domain improvements

Users impacted	<p>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)</p>
Application impacted	<p>A1. CHMI A4. CACD A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A7. Datawarehouse (NMIR) A11. NOP B2B</p>
Objective	<p>CR_041417 - Add IFP indicator after IFPSRA Objective of the CR is to make sure that any route change without coordination by IFPS is clearly identified in the distributed flight plan.</p> <p>CR_034852 - Allow ARCADDR in AFP message The current IFPS system does not allow the ARCADDR/CODE field in AFP messages. With the increase in the use of MODE_S, we receive a large number of flight plans that include the ARCADDR (CODE). There are some occasions where the ARCADDR is missing or incorrect and ANSPs want to modify or add the ARCADDR with an AFP message. The change will benefit downstream ANSPs who also use the ARCADDR in their systems.</p> <p>CR_041322 - Prevent VFR levels Following the Standardised European Rules of the Air (SERA) Regulation (IR 923/2012, binding since 04.12.2014), flying VFR is (in principal) not allowed above FL195. Despite appropriate information held in the relevant AIPs, flights that traversed controlled airspace above FL195 with VFR applying have repeatedly caused significant problems to the ATCOs involved. The corresponding flight plans had successfully passed IFPS validation.</p>
Description	<p>CR_041417 - Add IFP indicator after IFPSRA A new IFP indicator IFPSROUTEMOD will be made available. The IFP / IFPSROUTEMOD indicator will be inserted into the Item 18 of the flight plan when IFPS automatically changes the route after processing the IFPSRA indicator from the filed flight plan.</p> <p>CR_034852 - Allow ARCADDR in AFP message IFPS will allow the -ARCADDR field in ADEXP format AFP messages, and the CODE field in ICAO format AFP messages. The ARCADDR/CODE field received in an AFP message shall be used to update the field 18 content of the associated flight plan. These fields will be used in combination of the other field 18 content of the associated</p>

	<p>flight plan to build a complete field 18 within the ACH message.</p> <p>CR_041322 - Prevent VFR levels</p> <p>An error is raised when a FPL has an RFL above F195 within the VFR portion.</p> <p><u>NOTE - Transition rules:</u></p> <ul style="list-style-type: none"> Starting VFR with a change to IFR with an RFL above F195 (e.g. N0350VFR DCT BIG/N0420F330 IFR) - is OK IFR with an RFL above F195 commencing a decent to a VFR level (e.g. N0350F330 DCT BIG/N0420F120 VFR) - is not OK. IFR with an RFL below F195 commencing a climb to a level above F195 under VFR (e.g. N0350F130 DCT BIG/N0420F220 VFR) - is not OK. An error will be raised when a flight plan message has an RFL above F195 that does not end in 0 (e.g. 255) within the IFR/GAT portion.
Impact for external users	<p>I1. Impact on procedures.</p> <p>I3. Impact on clients' systems.</p>
Impact description	<p>CR_041417 - Add IFP indicator after IFPSRA</p> <p>The new IFP indicator may have an impact on systems that receive flight plan messages from IFPS. The new IFP indicator may mean changes to procedures for the airspace users or ANSPs.</p> <p>CR_034852 - Allow ARCADDR in AFP message</p> <p>The CODE/ARCADDR field is already present in IFPS output. This CR allows for ATC to send CODE/ARCADDR in an AFP to IFPS. There will be no impact unless ATC adapt their systems to start sending the CODE/ARCADDR.</p> <p>CR_041322 - Prevent VFR levels</p> <p>The new rules for processing the VFR part of the route in IFPS will have an impact on organizations that file flight plan messages to IFPS.</p>
Service reference	<p>ID P3410 - NM B2B</p> <p>ID P3411 - Data distribution</p> <p>ID S323 - Flight Plan pre-validation</p> <p>ID S325 - Flight Plan Processing and Distribution</p>
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration
Users' validation	This FB is planned to be part of the Release's OPT session.
Documentation publication	<p>Network Operations Handbook:</p> <p>IFPS User's Manual</p> <p>User Manuals:</p> <p>NM B2B manuals</p>
Training sessions	None

FB821 - Airspace Data Domain improvements	
Users impacted	<p>U1. Flow Manager (FMP)</p> <p>U2. Airspace Manager (AMC)</p> <p>U3. Airspace User (Civil)</p> <p>U4. Airspace User (Military)</p> <p>U5. ENV data provider</p> <p>U7. Post-ops analyst</p> <p>U8. AO or CFSP</p> <p>U12. Internal NM</p>

	U14. Air Navigation Service Provider (ANSP)
Application impacted	A4. CACD A7. Datawarehouse (NMIR)
Objective	Enhance CACD operations quality and as a consequence Flight Plan validation and capacity management
Description	<p>CR_040043 - Restriction Dependent Applicability Operational usage of CR_040043 is postponed to the 25/05/2017 Currently a RAD Dependant Applicability actually references only 1 danger area or CDR. This has led to a number of issues such as not being able to encode procedures within the RAD to ensure correct flight planning, having to redesign procedures to suit the NM systems, limiting the ability of AMCs to move away from publishing the opening/closing of CDRs within the AUP/UUP to danger area activations. This CR will allow a RAD Dependant Applicability to reference more than 1 danger area or CDR.</p> <p>CR_039723 - Get Rej data from IFPS systems overflying Finland/second report arriving departing Finland AD's Finland requested enhancement in CACD to better handle FRA, FUA and military activity. They requested NM to get a report with the flight plans overflying or arriving/departing their country that have been rejected by IFPS. The reason is to analyse if the Rejected FPLs are caused by the daily Airspace situation and if so, to possibly adapt the military area's activation time to provide more capacity to AOs. The way the information will be provided is under investigation (NMIR, FTP file, other).</p>
Impact for external users	I1. Impact on procedures.
Impact description	<p>CR_040043 - Restriction Dependent Applicability This CR will simplify the implementation of complex restrictions. Where before NMOC had to implement two or more restrictions to cope with multiple dependent Applicability requests (more than 1 area, etc.) With this change NMOC can reduce the creation of restrictions when NMOC has complex restrictions requests. In fact in most of the cases NMOC will only need 1 restriction</p> <p>CR_039723 - Get Rej data from IFPS systems overflying Finland/second report arriving departing Finland AD's This CR impacts Finland only and provides them a report to be used for post-ops analysis.</p>
Service reference	ID S325 - Flight Plan Processing and Distribution ID S334 - Airspace Data Management
Safety assessment	S6. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	CR_040043 will not be part of the NM21.0 OPT. Testing of CR_039723 will be organised with Finland.
Documentation publication	Provision of CACD Data FUA - AMC/CADF Operations Manual
Training sessions	None

FB822 - ATFCM Domain improvements

Users impacted	U3. Airspace User (Civil) U8. AO or CFSP U12. Internal NM
Application impacted	A5. Flow management systems (Predict, ETFMS)
Objective	Overall improvement of existing services.
Description	CR_041622 - Parameter to control additional suspensions The CR will improve the delay threshold mechanism. The objective is to avoid re-suspension of flights that already confirmed. This situation can happen when a regulation is modified resulting in a small increase of delays. CR_041166 – Improve True Revision Process The ETFMS applies a True Revision Process to try to improve the CTOT of flights that have been issued a slot. This currently happens every 5 minutes but after the change it will happen every 1 minute.
Impact for external users	I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	CR_041622 - Parameter to control additional suspensions Less likelihood of receiving further FLS messages for confirmed (FCM) flights that had been suspended before by the same regulation. CR_041166 – Improve True Revision Process Earlier usage of released slots thanks to the change to the True Revision Process with the potential of more slot improvements sent to AOs.
Service reference	ID A121 - Network Operations Monitoring ID P3411 - Data distribution ID S315 - Load and capacity management
Safety assessment	S5. FB is Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	The CR_041622 is planned to be part of NM21.0 OPT session.
Documentation publication	ATFCM Users Manual ATFCM Operations Manual
Training sessions	Part of normal NM21.0 training

5.3. RELEASE NM21.5

5.3.1. Cooperative Traffic Management

FB805: Implementation measures coordination	
Users impacted	<p>U1. Flow Manager (FMP) U3. Airspace User (Civil) U8. AO or CFSP U12. Internal NM</p>
Application impacted	<p>A1. CHMI A5. Flow management systems (Predict, ETFMS) A11. NOP B2B</p>
Objective	<p>This FB805 aims to support ANSPs on the implementation and coordination for ATFCM measures relying on NM B2B services. It also includes necessary changes to support the maintenance of the scenario repository.</p> <p>CR_042552 - Query & Apply Scenario from Repository via B2B This CR will facilitate NM B2B access to NMOC scenario list and description details (measures and attributes) as well as NM B2B application of the measures to FMPs. It will facilitate B2B access of the NMOC scenario list and description details to AOs.</p> <p>Local and NMOC scenario information are not always completely synchronized. The objective of this CR is to facilitate alignment between both local and network information through the usage of one source of information: the NM Scenario Repository.</p> <p>CR_042553 - Query applicable Scenario for a TV via B2B Facilitate and support FMP in the identification of applicable scenarios to a given flight list or to off load a specific Traffic Volume.</p> <p>CR_042552 - Simulate Scenario from the Repository Enable the FMP to access simulations via B2B to get the expected impact of an ATFCM measure.</p>
Description	<p>This FB805 will improve services regarding Scenario Management (continuation of FB731 in NM21.0) FB805 also provides FMPs with NM B2B services in order to perform the following actions:</p> <p>CR_042552 - Query & Apply Scenario from Repository via B2B This CR will allow users to:</p> <ul style="list-style-type: none"> • Access to the list of scenarios in the Scenario Repository via B2B • Query Scenario Repository to obtain: <ul style="list-style-type: none"> ○ Scenario Attributes ○ Scenario Measures (including measure attributes) • Apply scenario from the Scenario Repository via NM B2B <p>CR_042553 - Query applicable Scenario for a TV via NM B2B This CR will allow users to:</p> <ul style="list-style-type: none"> • Query applicable scenarios for a TV flight list via NM B2B • Query applicable scenarios from a TV count display via NM B2B <p>CR_042552 - Simulate Scenario from the Repository This CR will allow users to:</p> <ul style="list-style-type: none"> • Access simulation tool in ETFMS/PREDICT via B2B • Start and stop a simulation of a selected scenario via B2B • Query accessible simulation results via B2B

Impact for external users	I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	I1: Coordination and implementation procedures to cover the new services available via B2B. I2: Impact on the NOP Portal because of the new fields in the regulation and rerouting measures. I3. Integrate the correct software code of the new B2B services in the clients' systems.
Service reference	B9-3 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' validation	This FB is part of the NM21.5 OPT session.
Documentation publication	ATFCM Users Manual ATFCM Operations Manual Network Manager Connection Guide NM B2B manuals

5.3.2. EAIMS (European ATM Information Management Service)

FB862: NM Airspace Model Evolutions	
Users impacted	U3. Airspace User (Civil) U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A4. CACD A11. NOP B2B A14. n-CONNECT
Objective	Align CACD model to allow seamless data download from the EAD and EAIMS
Description	<p style="text-align: center;">Operational use of this FB is postponed to the 03/11/2017 (cf. §2.2.3.3)</p> <p>CRs included in FB862 constitute the first wave of NM systems adaptations for the seamless data download from the EAD and future EAIMS and are part of the NM strategic objective No. 2. This FB contains CACD data model changes dedicated to the Aerodrome domain, with an intention to gradually roll out changes to this and other domains in the subsequent NM releases.</p> <p>CR40552: Accept AD with no ICAO and no IATA ID</p> <p>Some world-wide Aerodromes have neither an ICAO Location Indicator, nor an IATA Identifier. This is typically the case for small VFR Aerodromes. Currently, in CACD one of the above is used as a primary key. To provide ability to store and reference all world-wide aerodromes in CACD the following solution is proposed. All Aerodromes will be identified by a-UID an unique CACD designator, which is:</p> <ul style="list-style-type: none"> • an ICAO Location Indicator, if it is not blank; • an IATA Identifier, if ICAO Location Indicator is blank; • 4 alphanumeric composed of Country Code plus 2 or 3 numeric

	<p>alphanumeric characters, if ICAO Location Indicator and IATA Identifier are blank (e.g. EB01 for the Belgian Aerodrome or K123 for the US Aerodrome).</p> <p>This change will provide an ability to download all world-wide Aerodromes from the EAD and later on from the EAIMS. It will support an evolution of the world-wide FPL processing, validation and distribution capabilities in the NM systems, by allowing to refer to Aerodromes that have neither ICAO Location Indicator, nor an IATA Identifier, in FPL field 18 DEP/ or DEST/ in the following NM releases.</p> <p>CR40564: Runway Relative Position</p> <p>CACD allows L, R and C as an indication of the Runway Relative Position. To align with AIXM 5.1 model and to allow seamless data downloads from the EAD and EAIMS, all alphabetic characters will be accepted to indicate Runway Relative Position, e.g. T – for tarmac or G – for grass Runways. The CACD therefore will contain correct values of the Runway Relative Position, which will be included in the B2B export provided via NM B2B services. The solution consists of the syntax check business rules adaptation in CACD.</p> <p>CR41043: Aerodrome type as a separate property</p> <p>Currently in CACD heliports a characterised by a unique Runway of type 'Heli'. To align with AIXM 5.1 model, an Aerodrome type will be implemented as a separate property, which can have the following values:</p> <ul style="list-style-type: none"> • Aerodrome (AD); • Aerodrome Heliport (AH); • Heliport (HP); • Landing surface (LS); • OTHER. <p>The Runway of type 'Heli' will be removed.</p> <p>This change aims to facilitate a correct data download from the EAD and EAIMS systems and allows a correct depiction of Aerodrome map symbols for the benefit of the n-CONNECT map.</p>
Impact for external users	I3. Impact on clients' systems.
Impact description	<p>External users may need to modify their systems in order to be able to benefit from the FB862 improvements. In particular, CR_041043 implementation would require external systems to accommodate for all Aerodrome types defined by the AIXM 5.1 model. Correct Aerodrome type values will be provided via NM B2B services.</p> <p>[v2.3.1] ADs that do not have ICAO nor IATA identifier will only be handled in the future NM releases (planned starting from NM22.0), therefore, no impact on the external systems in NM21.5. The same applies to Runway Relative Position other than L, R or C.</p>
Service reference	B9-3 Network Manager Business-to-business (B2B) web services B1-2 Airspace data
Safety assessment	S4. Safety assessment to be performed or on-going (Initial Safety Assessment is delivered by the User)
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	FB862 will not be part of the NM OPT session.
Documentation publication	Provision of CACD Data NM B2B manuals

5.3.3. PPFDE (Flight Plan and Flight Data Evolution)

FB866: Improved restriction model and ATFM processes through use of enhanced flight plan data – continuation

Users impacted	<p>U1. Flow Manager (FMP) U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U8. AO or CFSP U12. Internal NM</p>
Application impacted	<p>A1. CHMI A2. CIFLO, CIAO A3. CIAM A4. CACD A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A11. NOP B2B</p>
Objective	<p style="color: green;">Operational use of this FB is postponed to the 03/11/2017 (cf. §2.2.3.3)</p> <p>This functional block is the continuation of a series of improvements on environment and flight planning services that started on release NM21.0. The extension of the environment model and the usage of additional fields of the flight plan will permit to set additional criteria when processing flight plans. This advanced service will satisfy ANSP requests that require to accept and/or accommodate traffic based on local operational needs.</p> <p>The NM21.0 release permitted to use CNS (Communication, Navigation, Surveillance) flight plan information and NM21.5 will permit to use the following information on the flight plan processing:</p> <ul style="list-style-type: none"> • Flight Status (STS) • Code and aircraft Registration fields (CODE and REG) • Aircraft Operator id (AOOPR/ AOARCID)
Description	<p>CR_042606 - Exempt from IFPS restrictions aircraft with a particular status</p> <p>Possibility to exempt from IFPS restrictions aircraft with a particular status. Flight planning shall be able to include a check based on flight status (STS) field present in the flight plan. The check will be done at flight plan submission and at flight plan re-validation, if based on the STS value present in the flight plan the flight shall or shall not be rejected / suspended. Possible STS value: ALTRV, SAR, HEAD, ATFMX, HOSP, HUM, STATE, FFR, NONRVSM, MEDEVAC, MARS, FLTCK, HAZMAT.</p> <p>CR_042607 - Control via IFPS the presence of REG and CODE</p> <p>Control via IFPS the presence of REG and CODE. Flight Planning process shall check flights crossing a specific reference location based on the existing Code (24 bit aircraft address) and Registration mark fields of the flight plan. The presence of Code and Reg for flight plans is mandatory to cross specific reference locations (e.g. NAT region).</p> <p>The change will allow assist the ICAO NAT ANSPs to gain ready access to aircraft SATVOICE numbers. The change will also help, in the case of Aircraft address to identify an aircraft for the purpose of air-ground communications, navigation and surveillance, and would facilitate the implementation of ADS-B, ADS-C and CPDLC and simplify some CNS systems performance monitoring.</p> <p>Following checks will be performed:</p>

	<ul style="list-style-type: none"> • Check the existence of the CODE and REG fields of the FPL if it is intending to fly through the ICAO NAT Region. • Check the existence of the REG field of the FPL if it is intending to fly through the RVSM Airspace (290FL to 410FL). • Check the existence of the REG field for ALL FPLs. Note: if this is activated, then the REG check in RVSM and NAT is implicitly done. <p>CR_042331 - Mandatory aircraft registration in FPLs</p> <p>The ICAO EUR Regional Supplementary Procedures (Doc 7030) include a provision that make it mandatory to include the aircraft registration in flight plans for flights operating in RVSM airspace RVSM-approved aircraft. The IFPS needs to be updated to make this check.</p> <p>As described in Doc. 7030 (2.1.5.1) The aircraft registration shall be inserted in Item 18 of the ICAO flight plan form.</p> <p>Note: The insertion of the aircraft registration does not apply to submissions made using the repetitive flight plan (RPL) listing form.</p> <p>CR_042608 - Use in IFPS the aircraft operator ID to impose operational requests</p> <p>Flight planning shall be able to check based on aircraft operator field. There are concrete operational scenarios that require flight planning checking based on aircraft operator. Two of them are:</p> <ul style="list-style-type: none"> • Due to operational reasons NMOC should have the possibility to forbid certain Aircraft Operators from flying to specific reference locations. This should be coordinated between the relevant actors • Request from an aircraft operator a country to forbid the overflying of their airspace a country by their flights certain Aircraft Operators. <p>The AOOPR field will be used if available and if it is not available then the AOARCID field will be used</p> <p>CR_042609 - Use in IFPS the alternate aerodrome</p> <p>Flight planning will be able to check based on the alternate aerodrome (ALTN) field present in the flight plan. The check will be done at flight plan submission and at flight plan re-validation. There are several operational scenarios where there is a need to trigger a rejection / suspension based on the ALTN aerodrome value:</p> <ul style="list-style-type: none"> • The aerodrome is not accessible as alternate aerodrome. • The alternate aerodrome is CLOSED (e.g. By NOTAM and not related to the normal opening schedule of the airport).
Impact for external users	<p>I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.</p>
Impact description	<p>All change requests described above (except CR_042609) will impact the restriction model, the Human Machine Interfaces and the AIXM data consumed by B2B users will be impacted.</p> <p>The CHMI, CIFLO, CIAO, CIAM, CACD interfaces will be improved to re-structure and enrich the combination possibilities of the conditions defined. Therefore, any CHMI, CIFLO, CIAO, CIAM, CACD user will be impacted by the changes in scope.</p> <p>For these reasons, the new AIXM format and an early draft of the NM B2B Reference Manual will be made available for external users as from 13/07/2017. From this date until 17/10/2017 external users will be able to evaluate the impact and adapt their HMI and/or client systems accordingly.</p>
Service reference	<p>A3-1 Route and airspace design B1-3 Airspace management B9-3 Network Manager Business-to-business (B2B) web services B9-1 Collaboration Human Machine Interface</p>

	B2-2 Flight plan filing and management B1-2 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' validation	FB866 is part of the Release's OPT session
Documentation publication	IFPS Users Manual NM B2B manuals

5.3.4. FRA (Free Route Airspace)

v2.1: After further investigations, FB876 (FRA Cross border Restriction) will not impact externals: it has thus been removed out of the NM Release Notes.

~~FB876: FRA Cross Border Restriction~~

Users impacted	U8. AO or CFSP U14. Air Navigation Service Provider (ANSP)
Application impacted	A4. CACD
Objective	Set of restrictions concept
Description	Set of restrictions will replace the concept of Origin + GroupId + Subgroupid in its role of grouping the various restrictions together. Error messages in the clients system shall not be impacted and refer to the restriction Id (coherency with publication). Restrictions belonging to a set shall be activated as a set either through dependant applicability or alignment of the explicit applicability, insuring that whatever belongs together is activated simultaneously
Impact for external users	I0. No impact.
Impact description	None
Service reference	B1-2 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' validation	This FB will not be part on the NM OPT.
Documentation publication	Provision of CACD Data

5.3.5. Operations Improvements

FB864: IFPS Workload Evolutions - continuation

Users impacted	U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport
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	<p>U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)</p>
Application impacted	<p>A1. CHMI A4. CACD A5. Flow management systems (Predict, ETFMS) A6. FPL (IFPS) A7. Datawarehouse (NMIR) A11. NOP B2B A14. n-CONNECT</p>
Objective	<p>Operational use of this FB is postponed to the 03/11/2017 (cf. §2.2.3.3)</p> <p>The RAD has evolved to have Requested Flight Level (RFL) specified in the textual part of the checking, whereas the IFPS software continues to validate using the calculated FL which results in incorrect errors being raised. The IFPS operator has to manually check the RFL to ensure that the RFL has been set as described in the restriction. The IFPS system should not be causing these erroneous invalid messages.</p>
Description	<p>To stop the IFPS system from presenting erroneous invalid messages because of the use of RFL in the RAD, the model in NM backend systems will be improved to prevent this.</p> <p>With this change it will be possible to set the 'FL' or 'RFL' flag in a traffic flow restriction ENV. IFPS shall use the FL/RFL flag in a restriction when processing flight plan messages.</p>
Impact for external users	<p>I1. Impact on procedures. I3. Impact on clients' systems.</p>
Impact description	<p>Client systems that use the RAD model will be impacted by the change to add the FL/RFL flag. The change may impact the validity of messages filed to IFPS.</p>
Service reference	<p>B9-3 Network Manager Business-to-business (B2B) web services B2-2 Flight plan filing and management B1-2 Airspace data</p>
Safety assessment	<p>S6. FB is Safety related</p>
Operational deployment plan	<p>D1. FB will be deployed in Operation along with the release migration.</p>
Users' validation	<p>FB864 is part of the Release's OPT session.</p>
Documentation publication	<p>IFPS Users Manual Provision of CACD Data Airspace Data Repository (ADR) Data Catalogue Airspace Data Repository (ADR) Data Catalogue Annex A NM B2B manuals</p>

FB827: Flight Plan processing across AIRAC cycle

Users impacted	<p>U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U13. CDM-Airport</p>
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	U11. ARO U12. Internal NM U14. Air Navigation Service Provider (ANSP)
Application impacted	A1. CHMI A6. FPL (IFPS) A7. Datawarehouse (NMIR)
Objective	When a flight is planned to operate over the AIRAC switch, enable IFPS to identify route problems associated to the new AIRAC data.
Description	When a flight is planned to operate over the AIRAC switch, the current IFPS processes the complete route against the environment data associated to AIRAC valid at the estimated departure time ('current AIRAC'). This may create an unsafe situation when there are airspace closures that are after midnight in the 'next AIRAC', that are not visible in the current AIRAC. With this change, IFPS will check both sets of AIRAC data to be able to report the correct errors.
Impact for external users	I1. Impact on procedures. I3. Impact on clients' systems.
Impact description	Airspace Users will see flight plan messages being rejected for errors found in two sets of AIRAC data.
Service reference	B2-2 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' validation	FB827 is part of the Release's OPT session.
Documentation publication	IFPS Users Manual

FB852: Airspace Data Domain improvements

Users impacted	U2. Airspace Manager (AMC) 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	A4. CACD
Objective	Objectives of the FB are: <ul style="list-style-type: none"> To use the RSA(s) as reference location taking into account the time and optionally the level definitions set by the RSA(s) activation. To use other entities than the RSA(s) as reference location but taking in account the time (as it is now) and optionally the level definition set by the RSA(s) activation. By optional it is meant that it must be possible for the user to take in account the level information or not.
Description	For Restrictions with Dependent Applicability (DA) set to CDR(s) or RSA(s),

	<p>the DA should be considered as valid even if traffic is not crossing the CDRs or RSAs used in the DA. In other words, for the purpose of reducing complexities in traffic management, RSA activation or CDR availability/unavailability should be able to re-route traffic not crossing the entities concerned.</p> <p>The FB852 will allow NMOC to have the same min/max as the RSA levels or any other min/max levels availability required.</p> <p>NMOC can't define DCT's as Nearby to a RSA: NMOC needs to define those requests in a restriction, but then the DCT availability is completely open/close instead of taking the same min/max levels as the RSA level availabilities.</p> <p>For objects other than route segments, NMOC will be able to input the following request in CACD: "Even if the flight profile is not crossing the RSA, this is not available when the area is active".</p> <p>And add eventually: "by the way, it is closed for the same level band as the RSA (s)".</p>
Impact for external users	<p>I2. Impact on Man-Machine interface.</p> <p>I3. Impact on clients' systems.</p>
Impact description	<p>The FB will decrease manual workload internally in NMOC.</p> <p>No impact for externals on procedures is foreseen. Impact for externals on interfaces and systems is under assessment.</p>
Service reference	<p>B1-3 Airspace management</p> <p>B9-3 Network Manager Business-to-business (B2B) web services</p>
Safety assessment	<p>S4. Safety assessment to be performed or on-going</p>
Operational deployment plan	<p>D1. FB will be deployed in Operation along with the release migration</p>
Users' validation	<p>FB852 is part of the Release's OPT session.</p>
Documentation publication	<p>FUA - AMC/CADF Operations Manual</p> <p>NM B2B manuals</p>

FB853: ATFCM Domain improvements

Users impacted	<p>U1. Flow Manager (FMP)</p> <p>U3. Airspace User (Civil)</p> <p>U8. AO or CFSP</p> <p>U12. Internal NM</p> <p>U14. Air Navigation Service Provider (ANSP)</p>
Application impacted	<p>A5. Flow management systems (Predict, ETFMS)</p> <p>A10. NOP Portal</p> <p>A11. NOP B2B</p>
Objective	<p>Overall improvement of existing ATFCM services</p>
Description	<p>CR_036503 – Forbid to the user the application of XCD/FCM/RVR regulation</p> <p>The ATFCM Operations manual (section 7) states that when implementing a Regulation, the FCM option shall not be used at the same time when an RVR limit is set. The CR will effectively prevent the possibility to implement such a Regulation via the NOP Portal and NM B2B by changes to the Measures Editor on the NOP Portal and changing the validation rules via NM B2B Regulation proposals for creation and modification of a Regulation.</p>

	<p>CR_042414 – ETFMS Improvements for regulation proposals</p> <p>There are several improvements relative to Regulation proposals via B2B with potential impact on externals:</p> <ul style="list-style-type: none"> • When a flight is removed from the list of already forced flights of a Mandatory Cherry Pick (MCP) Regulation by a B2B proposal to modify, the flight will be automatically unforced. • The MCDM state “coordinated” and MCDM Approval state “stand-by” “Stand-by” will be re-named “acknowledged” “Acknowledged” to ensure state harmonization. • Adapt MCP Regulation proposal period when sent/received by NM. • The ATFM Regulation will include the MCDM state “Draft”. <p>CR_042635 – ETFMS to differentiate between an update to a Regulation proposal and proposal to modify a Regulation</p> <p>ETFMS will be able to distinguish between an update to a Regulation proposal and a proposal to modify a Regulation. Presently, when the B2B user creates an update to a Regulation proposal but there is no Regulation proposal to update, the system creates a proposal to modify a Regulation. Or when a Regulation proposal was rejected and the B2B user creates an update to the rejected Regulation proposal, the update is not rejected. This system behaviour will be avoided. A proposal to update a non-existing Regulation proposal will be rejected and a proposal to update a rejected Regulation proposal will as well be rejected.</p>
Impact for external users	<p>I1. Impact on procedures. I3. Impact on clients' systems.</p>
Impact description	<p>CR_036503 – Forbid to the user the application of XCD/FCM/RVR regulation</p> <p>The validation rules for B2B Regulation proposals for creation and modification of a Regulation will be changed to prevent a request for Regulation with RVR limit and FCM option selected at the same time. Submitting a Regulation with XCD/RVR and FCM will also be prevented on the NOP Portal.</p> <p>Potential operational issues of AOs possibly arising from a Regulation with XCD/RVR & FCM will be avoided. Clients' B2B application might be impacted.</p> <p>CR_042414 – ETFMS Improvements for regulation proposals</p> <ul style="list-style-type: none"> • An unforced flight can benefit from system re-calculations (e.g. when Regulation is Deep Rectified). Operational stakeholders' procedures might need an update. • MCDM state “acknowledged” will indicate that at least one MCDM Actor has updated the MCDM Approval state of a measure. MCDM state and MCDM Approval state terminology will be more harmonized. Clients' B2B application might be impacted. • MCDM Approval state “stand-by” “Stand-by” will be re-named “acknowledged” “Acknowledged”. NM B2B clients' applications might be impacted. • Adapt MCP Regulation proposal period when sent/received by NM. If a flight with ETO outside of the Regulation period is added, the Regulation period will be automatically adapted. • Clients' B2B application might be impacted. <p>CR_042635 – ETFMS to differentiate between an update to a Regulation proposal and proposal to modify a Regulation</p> <p>Clients' B2B application might be impacted to take into account the ETFMS ability to distinguish an update to a Regulation proposal and a proposal to modify a Regulation.</p>
Service	<p>B9-3 Network Manager Business-to-business (B2B) web services</p>

reference	B9-2 Network Operations Portal B3-1 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' validation	FB853 is part of the Release's OPT session.
Documentation publication	ATFCM Users Manual ATFCM Operations Manual NM B2B manuals Regulation Proposals via B2B Use Cases NOP Portal Users Guide

FB895: Cross-Domains activities	
Users impacted	U1. Flow Manager (FMP) U3. Airspace User (Civil) U12. Internal NM
Application impacted	A1. CHMI A2. CIFLO, CIAO A3. CIA A5. Flow management systems (Predict, ETFMS) A10. NOP Portal A11. NOP B2B
Objective	Operational improvements to the NM systems, including: <ul style="list-style-type: none"> Provision of information to external stakeholders regarding the CDM departing traffic. Display accurate information on the delay to external stakeholders regarding the original source of ATFM delays when protected locations are used. <p>Note: Certain traffic volumes with reference locations based on airspaces are designed for airfield restriction purposes (protected location). These traffic volumes need to report their delay characteristics as aerodrome, rather than en-route, to improve accuracy of statistics.</p>
Description	The FB brings improvements to operational systems, particularly it will: CR_042339 - Allow to differentiate traffic departing from CDM airports. The change will permit to display traffic departing from CDM airports in the CHMI → ATFCM → Traffic → Flow Counts display. The information will appear without the necessity to create associated flows in the reference location of the traffic volume. This information will be made available as part of the flow structure via NM B2B. CR_042526 - Help to identify the operational origin of the delay and the congested area when a traffic volume with a protected location is regulated. The change will permit that the protected location will be displayed as the regulated location when a TFV with a protected location is subject to the ATFM measure. Note that today, instead of the protected location, the location presented is the reference location of the traffic volume used.

Impact for external users	I2. Impact on Man-Machine interface. I3. Impact on clients' systems.
Impact description	CR_042339 will provide the additional information on the CHMI and NM B2B. CR_042526 will have an impact in the NOP Portal maps (Current Network Situation Display Map and Initial Network Plan Map), where more accurate information of the actually congested areas will be shown. This CR has no impact on CHMI.
Service reference	B9-3 Network Manager Business-to-business (B2B) web services B9-2 Network Operations Portal B9-1 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' validation	FB895 is part of the Release's OPT session.
Documentation publication	ATFCM Users Manual ATFCM Operations Manual NM B2B manuals

CR_042951: Automate PRE-OPS setup to enable users to independently test UUPs

Users impacted	U2. Airspace Manager (AMC)
Application impacted	A11. NOP B2B
Objective	Due to current lack of testing capability on PREOPS regarding AUP/UUP management and an increasing demand, there is a need to provide users with an automated setup that will allow them to independently test the full scope of AUP/UUP operations on PREOPS.
Description	<p>The script makes the AUPs releasable every day on the PREOPS system, by complementing the AUPs already submitted on the PREOPS platform with NIL AUP.</p> <p>Here are the actions the script automatically performs on daily basis:</p> <p>1) At 22:00 UTC D-1 each day:</p> <ul style="list-style-type: none"> • The script deletes all remaining unpublished UUP valid for current day. • It deletes all AUPs that are in status DRAFT or INTENT for next day. • It generates NIL-AUP for all AMCs that does not have AUP in status READY for next day. • It releases the AUPs for next day. • It sets the first UUP time (the UUP times are to be defined with users). <p>2) At each UUP time on D day (e.g. UUP-10;11;12;13;14;15;16):</p> <ul style="list-style-type: none"> • The script deletes all UUP valid for current day in status DRAFT or INTENT. • It releases the UUP if any exists. • It sets next UUP time if applicable.
Impact for external users	I0. No impact.
Impact	As this change only impacts PREOPS test platform, and provides an

description	operational similar experience, the change is completely transparent to users. Only users who develops and test B2B client application to manage AUP on NMB2B PREOPS platform are concerned by this CR.
Service reference	<u>B1-3 Airspace management</u> <u>B9-3 Network Manager Business-to-business (B2B) web services</u>
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	None
Documentation publication	None

5.3.6. Performance Programme

v2.3: After further investigations, FB875 (Performance Work Programme) will not impact externals: it has thus been removed out of the NM Release Notes.

FB875: Performance Work Programme	
Users impacted	U1. Flow Manager (FMP) U7. Post ops analyst
Application impacted	A1. CHMI A5. Flow management systems (Predict, ETFMS) A7. Datawarehouse (NMIR) A11. NOP B2B
Objective	The main objective is to improve the classification of network intruders using data from FAM message.
Description	This FB will provide new enumerate value(s) regarding the intruder kind.
Impact for external users	I2. Impact on Man-Machine interface
Impact description	The new enumerate value(s) regarding the intruder kind will be visible in all flight list (CHMI and NOP Portal) and via NM B2B.
Service reference	A4-2 Network operations monitoring and reporting B9-3 Network Manager Business-to-business (B2B) web services B9-1 Collaboration Human Machine Interface
Safety assessment	S5. FB is not Safety related
Operational deployment plan	D1. FB will be deployed in Operation along with the release migration.
Users' validation	FB875 is part of the Release's OPT session.
Documentation publication	To be provided.

6. DOCUMENTATION

Network Operations handbook	
Network Operations library	http://www.eurocontrol.int/lists/publications/network-operations-library
ATFCM Users Manual	http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/atfcm-users-manual-next.pdf
ATFCM Operations Manual	https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/ATFCM-Operations-Manual-next.pdf
NM B2B documentation	https://ost.eurocontrol.int/sites/B2BWS/default.aspx Registration required - contact NM.servicerequests@eurocontrol.int
CCAMS User Manual	http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/ccams-user-manual-next.pdf
IFPS Users Manual	http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/ifps-users-manual-next.pdf Flight Plan guide: https://contentzone.eurocontrol.int/fpl/default.aspx
Flight Plan Guide and IFPS errors guide	https://contentzone.eurocontrol.int/fpl/default.aspx

7. ABBREVIATIONS

AB	Airblock
ACC	Area Control Centre or Area Control
ACC3	Air Cargo or Mail Carrier operating into the Union from a Third Country Airport
A-CDM	Airport-Collaborative Decision Making
ACH	ATC flight plan Change
AD	Aerodrome
ADDR	Address
ADEP	Aerodrome of Departure
ADES	Aerodrome of Destination
ADEXP	ATS Data Exchange Presentation
ADR	Airspace Data Repository
ADS	Airspace Data Service
ADS-B	Automatic Dependent Surveillance - Broadcast
ADS-C	Automatic Dependent Surveillance - Contract
AFP	Airborne Flight Plan message
AFTN	Aeronautical Fixed Telecommunication Network
AH	Aerodrome Heliport
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information, Regulation and Control
AIS	Aeronautical Information Services
AIXM	Aeronautical Information Exchange Model
ALTN	Alternate
AMC	Airspace Management Cell
ANM	Air Traffic Flow Management Notification Message
ANSP	Air Navigation Service Provider
AO	Aircraft Operator
AOCC	Airline Operations Control Centre
AOG	Airline Operations Group
AOLO	Aircraft Operators Liaison Officer
AOP	ATM Operations Plan
APCH	Approach
APOC	Airport Operations Centre
ARCADDR	Aircraft address (as in ICAO field 18 CODE/)
ARCID	Aircraft Identification
ARO	Air Traffic Services Reporting Office
ASM	Airspace Management
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATFCM	Air Traffic Flow and Capacity Management
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATS	Air Traffic Services
AU	Airspace User

AUA	ATC Unit Airspace
AUAG	ATC Units Airspaces Grouping
AUP	Airspace Use Plan
B2B	Business-to-Business
BIS	Business Intelligence System
CAA	Civil Aviation Authority
CACD	Central Airspace and Capacity Database (new name of ENV)
CADF	ECAC Centralized Airspace Data Function
CCAMS	Centralised SSR Code Allocation & Management
CDM	Collaborative Decision Making
C-DPI	Cancel-Departure Planning Information
CDR	Conditional Route
CDS	Complete Data Set
CEF	Connecting Europe Facility Programme
CFSP	Computerised flight plan service provider
CHMI	Collaboration Human Machine Interface
CIA	CFMU Internet Application
CIAM	Collaboration Interface for AMCs
CIAO	Collaboration Interface for AO
CIFLO	Collaboration Interface for Flow management position
CIR	CFMU Interactive Reporting (now NMIR)
CNS	Communications, Navigation, Surveillance
CODE	(ICAO field 18) Aircraft Address Code
CPA	Collaboration Portal Application
CPDLC	Controller/Pilot Datalink Communication
CR	Change Request
CSMC	Call-Sign Management Cell
CSS	Call-Sign Similarities
CSST	Call-Sign Similarities Tool
CSSUG	Call-Sign Similarity User Group
CTA	Control Area
CTM	Cooperative Traffic Management
CTOT	Calculated Take-Off Time
CUA	Common User Access
DA	Dependant Applicability
DCT	Direct Route
DEP	Departure (Airport)
DEST	Destination (Airport)
DLA	Delay or Delay Message
DPI	Departure Planning Information
DWH	Data Warehouse system
EAD	European AIS Database
EAIMS	European ATM Information Management Service
EASA	European Aviation Safety Agency
EFD	ETFMS Flight Data

ENV	NM Environment System (former name of CACD)
EOBD	Estimated Off Block Date
EOBT	Estimated Off Block Time
ESR	Extended Support Release
ETFMS	Enhanced Tactical Flow Management System
ETO	Estimated Time Over
EU	European Union
EUR	ICAO European Region
EUROCONTROL	European Organization for the Safety of Air Navigation
FAAS	Flight Assessment and Alert System
FAB	Functional Airspace Block
FAM	Flight Activation Monitoring
FB	Functional Block
FCM	Flight Confirmation Message
FCM	Flow and capacity management
FF-ICE	Flight and Flow Information for a Collaborative Environment
FILTIM	Date and Timestamp of original Message
FIR	Flight Information Region
FIXM	Flight Information Exchange Model
FL	Flight Level
FLS	Flight Suspension Message
FMP	Flow Management Position
PPFDE	Flight Plan and Flight Data Evolution
FPL	Flight Plan message (ICAO format)
FRA	Free Route Airspace
FSA	First System Activation message
FTP	File Transfer Protocol
FUA	Flexible Use of Airspace
GAT	General Air Traffic
GRRT	Group Re-Routing Tool
HMI	Human-Machine Interface
HP	Heliport
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ID	Identifier
IDLA	Individual Delay (message)
IDS	Incremental Data Set
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
IFR	Instrument Flight Rules
IR	Implementing Rule
LS	Landing surface

M&R	Monitoring and Reporting
MCDM	Measure Collaboration Decision Making
MCP	Mandatory Cherry Picking
MILO	Military Liaison Officer
NAT	North Atlantic Traffic
n-CONNECT	network-COMmon Enhanced Collaborative ATM
NEW RTE	New Route
NM	Nautical Mile
NM	Network Manager
NMB2B	
NMD	Network Manager Directorate
NMIR	NM Interactive Reporting (former CIR)
NMOC	Network Manager Operations Centre
NMOPS	NM Operations
NMVP	Network Manager Validation Platform
NOP	Network Operations Plan
NOTAM	Notice to Airmen
NSP	Network Strategy Plan
ODSG	Operations and Development Sub-Group
OPLOG	Operational Log
OPP	Opportunity
OPS	Operations
OPT	Operational testing
ORGRTE	Original Route
OTMV	Occupancy Traffic Monitor Values
OUTREG	Out of Regulation
P/S	NM B2B Publish/Subscribe
PBN	Performance Based Navigation
PC	Personal Computer
PC	Provisional Council
PDF	Portable Document Format
R&D	Research and Development
RAD	Route Availability Document
REG	Registration
REJ	Reject Message
RESPBY	Respond by (time to give a response)
RFL	Requested Flight Level
RNAV	Area Navigation
RNP	Required Navigation Performance
RP2	Reporting Period 2
RPL	Repetitive Flight Plan
RRP	Rerouting Proposal Message
RSA	Restricted Airspace
RVR	Runway Visual Range
RVSM	Reduced Vertical Separation Minimum (in Europe)

SAFA	Safety Assessment of Foreign Aircraft (Programme)
SERA	Standardised European Rules of the Air
SES	Single European Sky
SESAR	Single European Sky ATM Research
SID	Standard Instrument Departure
SO	Strategic Objective
SSR	Secondary Surveillance Radar
STAM	Short-Term ATFM Measures
STAR	Standard Terminal Arrival Route
STS	Status Indicator
SWIM	System-Wide Information Management
TACT	Tactical System (predecessor of ETFMS)
TCF	Transponder Code Function
T-DPI	Target DPI
T-DPI-s	Target DPI - Sequenced
T-DPI-t	Target DPI - Target
TFV	Traffic Volume
TITLE	Message Name
TMA	Terminal Manoeuvring Area
TOBT	Target Off Block Time
TSAT	Target Start-Up Approval Time
TTL	Time Table List
TV	Traffic Volumes
TWR	Aerodrome Control Tower or Aerodrome Control
UAC	Upper Area Control Centre
UDPP	User Driven Prioritisation Process
UID	Unique Identifier
URL	Uniform Resource Locator
US	United States of America
UTC	Coordinated Universal Time
UUP	Updated Airspace Use Plan
VFR	Visual Flight Rules
XCD	Exceptional Conditions