



Network Manager
nominated by
the European Commission



NETWORK MANAGER RELEASE NOTES

PLANNED FOR IMPLEMENTATION 2018-2019

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| Abstract | | | |
| <p>This document describes the new or modified functions (affecting external users) delivered by the Network Manager as part of the Network Manager software releases.</p> <p>This document is available at: http://www.eurocontrol.int/lists/publications/network-operations-library</p> | | | |
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NETWORK MANAGER RELEASE NOTES**Edition History**

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

| Edition No. | Edition Validity Date | Reason |
|--------------------|------------------------------|--|
| 1.0 | 21/11/2017 | First edition - NM22.0 content and initial deployment plan. |
| 2.0 | 16/07/2018 | First edition - NM22.5 content and deployment plan. |
| 2.1 | 06/08/2018 | - Change in the length of the FBZ identifier (cf. FB951) - End date of OPT |
| 2.2 | 12/09/2018 | - New migration plan following NM22.5 postponement (Webex presentation date remains unchanged). - Additional information regarding FB949 (DPI Improvements) and FB964 (Flight Planning Domain improvements) |
| 2.3 | 05/10/2018 | - CHMI software availability postponed (§4.2.3) - URL to download NM22.5 Webex presentation (§4.2.1) |
| 2.4 | 15/10/2018 | - CHMI software availability (§4.2.3) |

NETWORK MANAGER RELEASE NOTES

Table of Contents

| | | |
|----------|---|-----------|
| 1 | INTRODUCTION | 1 |
| 2 | RELEASES CONTENT | 2 |
| 2.1 | IMPORTANT NOTIFICATIONS RELATED TO NM22.0 MIGRATION | 3 |
| 2.2 | IMPORTANT NOTIFICATIONS RELATED TO NM22.5 MIGRATION | 5 |
| 3 | NETWORK STRATEGIC PROJECTS | 6 |
| 3.1 | AIRPORT AND TMA NETWORK INTEGRATION..... | 6 |
| 3.2 | AIRSPACE MANAGEMENT AND ADVANCED FUA | 6 |
| 3.3 | CTM (COOPERATIVE TRAFFIC MANAGEMENT) | 6 |
| 3.4 | EAIMS (EUROPEAN ATM INFORMATION MANAGEMENT SERVICE) | 7 |
| 3.5 | FPFDE (FLIGHT PLAN AND FLIGHT DATA EVOLUTION) | 7 |
| 3.6 | FRA (FREE ROUTE AIRSPACE)..... | 7 |
| 3.7 | N-CONNECT | 7 |
| 3.8 | OPERATIONS IMPROVEMENTS..... | 8 |
| 3.9 | PERFORMANCE PROGRAMME | 8 |
| 4 | DEPLOYMENT | 9 |
| 4.1 | NM 22.0 MIGRATION | 9 |
| 4.2 | NM 22.5 MIGRATION | 10 |
| 5 | NETWORK MANAGER EVOLUTIONS | 13 |
| 5.1 | INTRODUCTION | 13 |
| 5.2 | RELEASE NM22.0 | 15 |
| 5.3 | RELEASE NM22.5 | 33 |
| 6 | DOCUMENTATION | 41 |
| 7 | ABBREVIATIONS | 42 |

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

NETWORK MANAGER RELEASE NOTES

2 Releases content

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

| Programme | Functional Block | | NM22.0 | NM22.5 |
|--|--|-------------|--------|--------|
| Airport and TMA Network Integration | | §3.1 | | |
| FB894 | AOP/NOP Integration Extended DPI - Phase I | | §5.2.1 | |
| FB949 | DPI Improvements | | | §5.3.1 |
| Airspace Management and Advanced FUA | | §3.2 | | |
| FB723 | Rolling AUP | | §5.2.2 | |
| FB951 | ASM - Advanced FUA process improvement | | | §5.3.2 |
| CTM (Cooperative Traffic Management) | | §3.3 | | |
| FB890 | API Developments | | §5.2.3 | |
| FB916 | Scenario Repository Publication via B2B | | §5.2.3 | |
| FB918 | Network Impact Assessments Analysis | | §5.2.3 | |
| EAIMS (European ATM Information Management Service) | | §3.4 | | |
| FB893 | NM airspace model evolution | | §5.2.4 | |
| FB957 | NM airspace model evolution | | | §5.3.3 |
| FPFDE (Flight Plan and Flight Data Evolution) | | §3.5 | | |
| FB833 | PTR Counts - SKIPIN/SKIPOUT to TVs | | §5.2.5 | |
| Operations Improvements | | §3.8 | | |
| FB846 | Airborne message reception (APR, FNM/MFS) | | §5.2.7 | |
| FB906 | Flight Planning Domain improvements | | §5.2.7 | |
| FB907 | Airspace Data Domain improvements | | §5.2.7 | |
| FB967 | e-Helpdesk improvement | | §5.2.7 | |
| FB924 | Rerouting Evolutions | | §5.2.7 | |
| CR_043146 | Output of IFP/IFPSROUTEMOD in FPLs | | §5.2.7 | |
| FB964 | Flight Planning Domain improvements | | | §5.3.4 |
| FB965 | Airspace Data Domain improvements | | | §5.3.4 |
| FB966 | ATFCM Domain improvements | | | §5.3.4 |

Due to on-going work with EASA to address the improvements identified following the NM system outage on 3 April 2018, the content of the NM System Release 22.5 has been significantly reduced. The outstanding content is planned to be included in the NM System Release 23.0.

NETWORK MANAGER RELEASE NOTES

2.1 Important notifications related to NM22.0 migration**2.1.1 NM22.0 - Browsers compatibility**

In NM22.0 the following browsers are recommended:

- Internet Explorer 11
- Edge
- FireFox
- Chrome

The NM web-based HMIs will have been fully tested on Internet Explorer 11, Edge and FireFox.

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

2.1.2 NM22.0 - Operating Systems compatibility

The recommended operating system is Windows 10, Windows 7 will also be supported.

2.1.3 NM22.0 - Increase of the IFP/IFPSROUTEMOD indicator in Flight Plans

There will be an increase in the output of the IFP/IFPSROUTEMOD indicator in Flight Plans.

For more information please refer to CR_043146 - §5.2.8.

2.1.4 NM22.0 - NM B2B web service**2.1.4.1 NM22.0 - NM B2B: Unavailability of version NM20.0**

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

As a consequence, NM20.0 will no more be available (OPS and PREOPS) after NM22.0 migration.

NETWORK MANAGER RELEASE NOTES

2.1.5 NM22.0 - New NMIR available, decommission of old NMIR

As presented at ODSG-39, AOG-18 and NETOPS-17 in 2017, a new version of NMIR will be available with NM22.0.

The new NMIR will be available in operation as from the 03/05/2018 - 06:00 UTC (cf §4.1.3).

Current NM21.5 NMIR will be decommissioned as from the 02/05/2018 - 23:00 UTC (cf §4.1.3).

Impact for current users:

- Access to new NMIR is done via OneSky Online; the token is no more used. Existing NMIR users have to follow the “NM21.5 NMIR Users” below.
- Some rarely used reports have not been migrated to the new NMIR.
- Current NM21.5 version of NMIR will be decommissioned with NM22.0 migration (cf above).
- New NMIR is already available as beta version.

To get access to new NMIR, new NMIR users or users of current NM21.5 NMIR:

- Need an OneSkyTeam account. If they don't have already one, they have to register at <https://ext.eurocontrol.int/elsh/registerNewUserForApplication.do?eurocontrolresourceid=circa>
- Then they have to subscribe to the “NMIR Dashboards” service of OneSky Online at <https://ext.eurocontrol.int/>

Any NMIR related question shall be addressed to nmir.support@eurocontrol.int

NETWORK MANAGER RELEASE NOTES

2.2 Important notifications related to NM22.5 migration**2.2.1 NM22.5 - Browsers compatibility**

In NM22.5 the following browsers are recommended:

- Internet Explorer 11
- Edge
- FireFox
- Chrome

The NM web-based HMIs will have been fully tested on Internet Explorer 11, Edge and FireFox.

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

2.2.2 NM22.5 - Operating Systems compatibility

The recommended operating system is Windows 10, Windows 7 will also be supported.

2.2.3 NM22.5 - NM B2B web service**2.2.3.1 NM22.5 - NM B2B: Unavailability of version NM20.5**

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

As a consequence, NM20.5 will no more be available (OPS and PREOPS) after NM22.5 migration.

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 CTM (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

NETWORK MANAGER RELEASE NOTES

based processes that facilitate a smoother and more predictable sequencing of flights into ATC sectors and Airports. This involves the development and implementation of activities in 5 broadly defined areas of work, namely:

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

3.4 EAIMS (European ATM Information Management Service)

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

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

3.5 FPFDE (Flight Plan and Flight Data Evolution)

This Programme enhances the flight plan data exchanges between AOs/CFSPs, the Network Manager and ANSPs in the pre-departure phase of the flight, with the aim of improving consistency and the accuracy of 4D flight trajectories maintained by the different stakeholders. 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)

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

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

3.7 n-CONNECT

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

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

Through a sequence of projects, the programme will develop services and tools to:

- Ensure access to the Network view to all Stakeholders involved in evolution of NM functions and future ATM;

NETWORK MANAGER RELEASE NOTES

- Make Network information & decision flows available to support operational CDM between different Stakeholders, across the Network and across the ATFCM phases; and
- Take advantage of new technologies.

n-CONNECT will deliver in the following 3 areas:

- B2C interface
- B2B services
- Service management developments in support of both the B2B and B2C services

3.8 Operations improvements

3.8.1 Domain improvements

Every Release delivers improvements to the NM Operational Domains:

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

3.8.2 Transponder Code Function (CCAMS)

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

The final goal is to have the use of the downlinked aircraft identification (e.g. through Mode S) operational in the whole area with CCAMS as a back-up technology. Therefore CCAMS is implemented currently in 16 states and the number of users is expected to increase in the coming years.

3.9 Performance programme

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

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

NETWORK MANAGER RELEASE NOTES

4 Deployment

| Deployment Plan | 2018 | | | | | | | | | | | | 2019 | | | | | | | | | | | |
|-------------------------------------|------|---|----|----|----|---|---|---|----|----|---|---|------|---|---|---|---|---|---|---|---|---|---|---|
| | 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 NM22.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| Presentation of NM22.0 to externals | | | 15 | | | | | | | | | | | | | | | | | | | | | |
| OPT | | | 9 | 26 | | | | | | | | | | | | | | | | | | | | |
| Start of migration | | | | | 02 | | | | | | | | | | | | | | | | | | | |
| Release NM22.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| Presentation of NM22.5 to externals | | | | | | | | | 18 | | | | | | | | | | | | | | | |
| OPT (dates to be confirmed) | | | | | | | | | 17 | 07 | | | | | | | | | | | | | | |
| Start of migration | | | | | | | | | 16 | 13 | | | | | | | | | | | | | | |

4.1 NM 22.0 migration

4.1.1 Presentation of NM22.0 to externals

A video conference presenting the NM22.0 Release took place on the 15th of March 2018. Recording is available at:
<http://www.eurocontrol.int/sites/default/files/publication/files/20180315-presentation-of-nm-22.0-to-externals.pdf>

4.1.2 NM22.0 OPT session

An OPT (Operational Testing session) session took place from the 9th of March 2018 to 26th of April 2018.

4.1.3 NM22.0 migration plan

The migration of NM systems from NM21.5 to NM22.0 started on the 2nd of May 2018 and ended on the 8th of May 2018.

NETWORK MANAGER RELEASE NOTES

4.2 NM 22.5 migration

4.2.1 Presentation of NM22.5 to externals

A video conference presenting the NM22.5 Release took place on the 18th of September 2018.

Recording and slides of the presentation are available at:

<https://www.eurocontrol.int/sites/default/files/publication/files/20180918-presentation-nm22.5-externals.pdf>

4.2.2 NM22.5 OPT session

OPT took place from the ~~3 September~~ 17 September to ~~28 September~~ 7 October.

NETWORK MANAGER RELEASE NOTES

4.2.3 NM22.5 migration plan

NM22.5 migration is planned to start on the ~~16th of October 2018~~ 13th of November.

Due to the implementation of further improvements identified following the NM system outage on 3 April 2018, NM System migration for Release NM22.5 is postponed till 13 November 2018.

| Software / Service (Times are UTC) | Unavailable from | To | Remark | Business impact during migration |
|---|--|---------------------|---|--|
| CHMI software | CHMI software and documentation availability: - For OPS (Operations) users: - For non NM-managed PC: 08/10/2018 16/10/2018 - For NM-managed PC: Software will be pushed on the PCs between the 08/10/2018 16/10/2018 and the 09/11/2018 but not activated (see below). <u>Users having already installed the CHMI v14.5.4 (e.g. for the OPT session) must de-install it and install the new version.</u> Instructions to download the new CHMI software (v14.5.4) are available at: http://www.nm.eurocontrol.int/chmi_appsoft/CHMI/14.5.4/chmiaoinst14.5.4.pdf | | | |
| ATFCM CHMI activation except CIAM | 13/11/2018 21:00 | 14/11/2018 00:00 | Expected downtime 1h30 + 1h30 provision in case of rollback | No access to NM services via CHMI |
| CIAM AMC activation | 20/11/2018 16:30 | 20/11/2018 20:00 | - | No access to NM services for CHMI AMC positions (using CIAM) |
| NOP Portal (CPA) unavailability | 13/11/2018 21:00 | 14/11/2018 00:00 | Expected downtime 1h30 + 1h30 provision in case of rollback | No access to NOP Portal (Public and Protected) |
| IFPUV unavailability | 19/11/2018 22:00 | 20/11/2018 00:00 | Expected downtime 1H00 + 1H00 provision in case of rollback | No Flight Plan validation service via all channels including CHMI, NOP Portal and B2B Web Services |
| SAFA / ACC3 Services (FAAS system) unavailability | 19/11/2018 22:00 | 20/11/2018 00:00 | Expected downtime 1H00 + 1H00 provision in case of rollback | No SAFA service during this time period |
| CSST service unavailability | 14/11/2018 07:00 | 14/11/2018 09:00 | - | No CSST service during this time period |

| System (Times are UTC) | Unavailable from | To | Remark | Business impact |
|--|---------------------|---------------------|---|--|
| ATFCM services | | | | |
| ETFMS, PREDICT, CUA | 13/11/2018 21:00 | 14/11/2018 00:00 | Expected downtime 1h30 + 1h30 provision in case of rollback | No Flow Management Services available via all channels including CHMI, NOP Portal and B2B Web Services |
| DWH (Datawarehouse) | 14/11/2018 00:00 | 14/11/2018 06:00 | - | No Query/Replay in CHMI, no NMIR service |
| Flight Plan services | | | | |
| IFPS | 19/11/2018 22:00 | 20/11/2018 00:00 | Expected downtime 1H00 + 1H00 provision in case of rollback | No Flight Plan filing services via all channels including CHMI, NOP Portal and B2B Web Services |
| Airspace and Capacity Data Services | | | | |
| ENV/CACD | 20/11/2018 16:30 | 20/11/2018 20:00 | - | No access to CIAM |

NETWORK MANAGER RELEASE NOTES

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).

| NM22.5 documentation, wsdl and xsd files | | NM22.5 documentation (including wsdl and xsd files) is planned to be available in draft with PREOPS migration on the NM B2B services OneSky Team website https://ost.eurocontrol.int/sites/B2BWS . | | | |
|--|-------------------|---|--|--|----------------------------|
| Platform | | Before NM22.5 PREOPS migration - 15/10/2018 06:00 | After NM22.5 PREOPS migration - 15/10/2018 14:00 | Migration to NM22.5 OPS From 13/11/2018 21:00 To 14/11/2018 00:00 Expected downtime 1h30 + 1h30 provision in case of rollback | After the 14/11/2018 00:00 |
| Pre-ops | NM20.5 | Available | Not available | Not available | Not available |
| | NM21.x and NM22.0 | Available | Available | Not available | Available |
| | NM22.5 | Not available | Available | Not available | Available |
| Ops | NM20.5 | Available | Available | Not available | Not available |
| | NM21.x and NM22.0 | Available | Available | Not available | Available |
| | NM22.5 | 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 |

NETWORK MANAGER RELEASE NOTES

| | |
|-----------------------------|--|
| | 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 Human-Machine interface. I3. Impact on clients’ systems. |
| Impact description | Description of the impact for the external users. |
| Service reference | Hyperlink toward the NM activity(ies), service(s) and product(s) that will be impacted by this Functional Block. The global catalogue is available at the following address: 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. |

NETWORK MANAGER RELEASE NOTES

5.2 Release NM22.0

5.2.1 Airport and TMA Network Integration

FB894: AOP/NOP Integration Extended DPI - Phase I

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| Users impacted | U01. Flow Manager (FMP) U08. AO or CFSP U12. Internal NM U13. CDM-Airport (only those that participate to the validation exercises) |
| Application impacted | A01. CHMI A05. Flow management systems (ETFMS) A10. NOP Portal A11. NOP B2B |
| Objective | <p>Please note that the changes which are part of FB894 will support validation exercises (in 2018 and 2019) and will only be ready for full operations in 2019.</p> <p>The objective is to advance the integration of airports with the network through enhanced information sharing between the AOP (Airport Operations Plan) and the NOP (Network Operations Plan). This will be achieved by means of the Extended DPI concept which enables both earlier and enriched provision of departure information. Currently, the collaboration between Airports and the Network can be achieved either via the A-CDM or the Advanced ATC TWR Airport concept. These types of airports are sending DPI (Departure Planning Information) messages to the Network in a pre-determined time horizon which starts no earlier than EOBT-3 hours. The timely exchange of relevant airport and network information will improve common situational awareness and will enhance DCB processes and collaborative traffic management (better prediction of traffic demand, more accurate trajectories, more reliable traffic counts, more up-to-date capacities) and will as a whole support a more efficient operational performance for stakeholders and the Network due to better resource allocation.</p> <p>As part of the SESAR Deployment Programme 2015, NM in partnership with Heathrow Airport (LHR), Frankfurt Airport (FRA) and Aéroports de Paris (CDG and ORY) is running the CEF funded project (CEF 2015 113 AF4) aiming at implementing the AOP-NOP Integration concept at these airports. The end date of this project is end of 2019, by which time a fully functional AOP-NOP exchange is expected (following a phased approach), of which the Extended DPI concept is a part of. Initially, ONLY these airports will be concerned by the validation activities, for which they will need to set up a B2B connection. They will need to implement the P-DPI service and preferably also to convert their existing (CDM) DPI messages (sent via AFTN) to the equivalent B2B services.</p> <p>The Pilot Common Project Implementing Rule stipulates that, in total, 24 European airports shall implement the AOP/NOP integration concept by the end of 2022 and for one airport it is recommended.</p> <p>In addition, FB894 will support further AOP-NOP operational demonstrations organised and managed by SESAR PJ24.</p> |
| Description | <p>The Extended DPI concept will be realized by means of points 1. and 2. below:</p> <ol style="list-style-type: none"> A new B2B service called Predicted Departure Planning Information (Predicted DPI, P-DPI). P-DPIs will be sent before the A-CDM horizon and until A-CDM Milestone 1, when the first E-DPI is normally sent. The P-DPI information will be used to update the flight data from the moment the Flight Plan enters ETFMS (EOBT-20hr) at the earliest. The Predicted-DPI will only be available via B2B (no AFTN). <p>AND</p> <ol style="list-style-type: none"> Appending the existing DPI services (Early DPI, Target DPI target and Target |

NETWORK MANAGER RELEASE NOTES

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| | <p>DPI Sequence) with additional fields. The most significant improvement introduced through the Extended DPI concept is that the AOP will be able to provide to the NOP Target Take-off Time (TTOT) information that distinguishes between the source and the reason for a later/earlier TTOT starting with the moment the first P-DPI is sent. That will be achieved by introducing the following separate TTOT fields in the P-DPI: TurnaroundTTOT: TTOT that includes: - Updates of the estimated landing time (ELDT) of the previous legs - Early updates of the TOBT EarliestTTOT: TTOT that includes airport departure capacity constraints in addition to the individual flight constraints (see TurnaroundTTOT above). ConsolidatedTTOT: TTOT based on all constraints including downstream constraints (CTOT). In the A-CDM concept the TTOT value based on a departure capacity constraint is typically sent as of TOBT-40 min in a T-DPI-s message, when the flight enters the time scope of the pre-departure sequencer. Knowing that the P-DPI provision stops after the first E-DPI and in order to close the gap in departure capacity based information until submission of T-DPI-s, the Early DPI, Target DPI target and Target DPI Sequence will be extended with these additional optional fields.</p> |
| <p>Impact for external users</p> | <p>I1. Impact on procedures. I2. Impact on Man-Machine interface. I3. Impact on clients' systems.</p> |
| <p>Impact description</p> | <p>It is a hard requirement that the Extended DPI concept shall not interfere with the existing A-CDM concept. Therefore, the new TTOT fields described above will be optional for the existing DPI services. The single TTOT field from the A-CDM concept will continue to be supported. A-CDM airports not participating to the Extended DPI pilot implementation (CEF 2015 113 AF4) are not affected. The existing DPI provision does not have to be changed. FMPs participating in the validation exercise shall assess whether, based on the P-DPI provision, ATFCM measures can be applied differently. Note that the CTFM may exist prior to the E-DPI and the flight is not TACT activated in this case. Impact for non-participating users will be that the demand/load views and oplogs in CHMI and NOP Portal will be improved based on the new departure data. This new information will be disseminated via the B2B Flight Data service. The TurnaroundTTOT, EarliestTTOT and the ConsolidatedTTOT will be displayed in the Flight Details on CHMI/NOP Portal as well as the CDM Status "Predicted". The client systems that use our Data Distribution Services will be impacted by the relevant updates such as inclusion of the CTFM much earlier than in NM21.5 without TACT activating the flight.</p> |
| <p>Service reference</p> | <p><u>B9-3 Network Manager Business-to-business (B2B) web services</u> <u>B4-1 Reception and distribution of real-time airport, air traffic control and surveillance data</u> <u>B9-2 Network Operations Portal</u> <u>B9-1 Collaboration Human Machine Interface</u></p> |
| <p>Safety assessment</p> | <p>S6. FB is Safety related</p> |
| <p>Operational deployment plan</p> | <p>D2. FB will be subject to a Pilot Phase (Operational Trial) followed by a Go/NoGo decision for ops deployment after Release Migration.</p> |
| <p>Users' validation</p> | <p>Operational validation exercises are planned to take place starting with the third trimester of 2018 and involving only the airports which participate at the CEF 2015 AOP-NOP Integration project and to SESAR PJ24. In 2018 and 2019, the validation exercises will be performed on the NM operational systems.</p> |

NETWORK MANAGER RELEASE NOTES

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| | The purpose of these validation exercises is to prove the gains in demand, load and CTOT predictability in the tactical phase introduced through the Extended DPI concept. |
| Documentation publication | CHMI ATFCM Reference Guide DPI & FUM Implementation Roadmap DPI Implementation Guide Flight Progress Messages Document FUM Implementation Guide NM B2B manuals NOP Portal Users Guide |
| Training sessions | Dedicated training sessions will be organized for the participants to the validation exercises. |

5.2.2 Airspace Management and Advanced FUA

FB723: Rolling AUP

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| Users impacted | U02. Airspace Manager (AMC) U08. AO or CFSP |
| Application impacted | A03. CIAM A10. NOP Portal A11. NOP B2B A12. ASM Tools |
| Objective | The implementation of the FB will allow AMCs to publish AUP information via CIAM and/or ASM tools connected via B2B from D-6 to D-2 whenever feasible, and make it available on the NOP Portal. |
| Description | AMCs shall be able to publish AUPs in DRAFT/READY status from D-6, when information are available, until the current AUP at D-1, which remains the last publication to provide a consolidated set of airspace information at network level (EAUP). This information is consolidated in a DRAFT EAUP published on the NOP portal. Currently, AMCs are able to prepare AUPs DRAFT/READY before D-1 but such information is not shared with airspace users. With Rolling AUP, at least 6 days in advance, the airspace users could be aware, although not for FPL validation purposes yet, of stable information that could be used to improve their planning operations. |
| Impact for external users | I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems. |
| Impact description | Impacts on systems: <ul style="list-style-type: none"> CIAM: allow the early publication of DRAFT/READY AUP messages from D-6. NOP Portal: publish rolling DRAFT EAUP data. ASM Local Tools: being able to manage DRAFT/READY AUPs messages from D-6. NM Web Services: being able to process DRAFT/READY AUP messages from D-6 sent by ASM tools Impact on AMC procedures: AMCs will have to adapt their procedures if they want to be able to publish their national AUPs in DRAFT/READY up to 6 days in advance with all possible information available. |
| Service reference | B1-3 Airspace management B9-3 Network Manager Business-to-business (B2B) web services B9-2 Network Operations Portal B9-1 Collaboration Human Machine Interface |

NETWORK MANAGER RELEASE NOTES

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| 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 planned to be part of the NM OPT session. |
| Documentation publication | FUA - AMC/CADF Operations Manual CHMI ASM Function Reference Guide NM B2B manuals NOP Portal Users Guide |
| Training sessions | None. |

5.2.3 Cooperative Traffic Management

FB890: API Developments

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| 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 |
| Objective | Operational objectives of the FB are the following: <ul style="list-style-type: none"> Integrate Flight arrival information into the NOP. Adapt NM traffic demand trajectories with received arrival information. Enhance ATFCM arrival measures with local ANSP/Airport priorities and targets. |
| Description | The changes will NOT be generally available to the external users. 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 AF4 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 | For PJs' participants: I3. Impact on clients' systems. For PJs' non-participants: FB will have limited impact; FB's enhancement will generally manifest as: <ol style="list-style-type: none"> Improvements to NM's traffic demand counts. Improvements compared to traditional ATFCM arrival regulations. Changes in Operational Logs. |
| Impact description | For PJs' participants who will implement Arrival Planning Information on their local systems, the B2B interfaces will be described in the NM B2B reference manual for NM22.0 In the first instance, the FB890 changes will only be available to explicitly agreed participants of validation trial exercises (PJs). These PJs will be responsible for |

NETWORK MANAGER RELEASE NOTES

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| | <p>announcing the precise dates and content for the operational demonstrations in due course.</p> <p>These changes will NOT be made generally available to other external users until after the trial exercises have been concluded.</p> <p>These enhancements will generally manifest as:</p> <ol style="list-style-type: none"> 1. Improvements to NM's traffic demand. 2. Improvements compared to traditional ATFCM arrival regulations. <p>Recordings of new Arrival Planning Information messages in the flight OPSLOGs which are visible for all users accessing these logs.</p> <ol style="list-style-type: none"> 3. 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 | <p>B9-3 Network Manager Business-to-business (B2B) web services</p> <p>B4-1 Reception and distribution of real-time airport, air traffic control and surveillance data</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 | Project's PJ24, PJ25 and CEF2015 will all perform OPS validations. Extensive usage of the SAT, OPT and PREOPS facilities will be undertaken for technical integration, verification and validation purposes. |
| Documentation publication | None |
| Training sessions | None |

FB916: Scenario Repository Publication via B2B

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| Users impacted | <p>U01. Flow Manager (FMP)</p> <p>U03. Airspace User (Civil)</p> <p>U12. Internal NM</p> |
| Application impacted | <p>A5. Flow management systems (Predict, ETFMS)</p> <p>A10. NOP Portal</p> <p>A11. NOP B2B</p> |
| Objective | <p>As part of the overall Scenario management process, and taking into account the increasing linking between local and network systems, the publication function presents the way ATFCM Scenario information is presented and communicated.</p> <p>This change reflects:</p> <ul style="list-style-type: none"> • Improvements on the publication of ATFCM Scenario information, including TV description and suggested alternative reroutings. • Improvements on the calculation of reroutings and impacted airspaces as part of the Group Rerouting Tool (GRRT) functionality. • Easier access to impacting scenarios per flight in the NOP flightlists. |
| Description | <p>CR_043025: Scenario Publication Improvements</p> <p>Minor improvements that clarify publication content of scenarios such as new ENABLE RAD attribute.</p> <p>CR_043027: Scenario attributes revalidation</p> <p>During scenario validation check correctness of From/To attributes with regard to latest</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>TV definition available.</p> <p>CR_043029: Scenario GRRT improvements (Note: This CR belongs to FB924 but impacts FB916 by improving rerouting feature) This CR will allow more reroutes to be generated (now only within 7 seconds); it will also improve GRRT algorithm to allow vertical optimisation in case of horizontal reroute. Preferred historical reroutes will be taken into consideration when computing reroutings.</p> <p>CR_043030: Query by AO for impacting scenario New field in NOP Portal flight list that indicates 'impacted by zero rate regulation' (i.e. scenario)</p> |
| Impact for external users | <p>If improvements are used:</p> <p>I1. Impact on procedures I2. Impact on Human-Machine interface. I3. Impact on clients' systems.</p> |
| Impact description | <p>In the scenario revalidation process, there is a new TFV check to avoid storing inconsistent scenarios.</p> <p>New B2B fields are available for scenario management (enable RAD) The possibility to identify flights impacted by zero-rate regulations provides the possibility to analyse scenario effectiveness in the post-ops process. This may change analysis procedures.</p> |
| Service reference | <p>B9-3 Network Manager Business-to-business (B2B) web services B9-2 Network Operations Portal B9-1 Collaboration Human Machine Interface</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>This FB is planned to be part of the NM22.0 OPT session</p> |
| Documentation publication | <p>NM B2B manuals</p> |
| Training sessions | <p>None.</p> |

FB918: Network Impact Assessments Analysis

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| Users impacted | <p>U01. Flow Manager (FMP) U03. Airspace User (Civil) U12. Internal NM</p> |
| Application impacted | <p>A01. CHMI A05. Flow management systems (Predict, ETFMS) A11. NOP B2B</p> |
| Objective | <p>FB918 aims to provide a more efficient Network Impact Assessment in all phases of the operation so it can improve the situational awareness of the users.</p> <p>It also aims to increase network performance by allowing local actors to tune the measures they want to apply, in collaboration with NMOC, so the expected effect can be confirmed and the network impact can be limited.</p> <p>Finally, this FB supports collaborative and transparent coordination with clear role for NMOC as a network performance optimizer.</p> |
| Description | <p>CR_043152: Make Measure oplog available in simulations</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>The results of the simulation and related Network Impact assessment are stored in the Measure oplog, which is available via B2B and B2C. This CR will improve the presentation in CHMI and NOP Portal of the Measure oplog with the results from the use of rerouting in simulations and presentation of the Network Impact assessment logs in simulations via B2B/B2C.</p> <p>Please note that the results will also be visible in the Flight oplog: if a user in a simulation creates a regulation/rerouting, he/she will see in the Measure oplog the related simulation entries. But he/she will also see in the Flight oplog of the flights the update of CTOT, rerouting etc.</p> <p>CR_043153: Make the network impact assessment available via B2B</p> <p>The ETFMS create/update measure service will return a basic Network Impact Assessment (NIA). In B2B, fuel consumption and route charges will be made available as additional information in the flight lists.</p> <p>Also, delta counts for impacted TFVs and delta ATFCM situation display (overall network delay and active regulations) will be shared via B2B.</p> |
| Impact for external users | <p>I1. Impact on procedures. I2. Impact on Human-Machine interface. I3. Impact on clients' systems</p> |
| Impact description | <p>I1. Impact on procedures: Coordination and implementation procedures to cover the new services available via B2B</p> <p>I2. Impact on Human-Machine interface and I3. Impact on clients' systems: In order to make use of the new features, users will have to adapt their B2B application/software</p> |
| Service reference | <u>B9-3 Network Manager Business-to-business (B2B) web services</u> |
| Safety assessment | S6. FB is Safety related |
| Operational deployment plan | D1. FB will be deployed in Operation along with the release migration. |
| Users' validation | D1. FB will be deployed in Operation along with the release migration: Some parts of the FB are partly improving the current NIA functionality in operational systems |
| Documentation publication | ATFCM Users Manual ATFCM Operations Manual NM B2B manuals |
| Training sessions | - |

5.2.4 EAIMS (European ATM Information Management Service)

FB893: NM airspace model evolution

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| Users impacted | <p>U02. Airspace Manager (AMC) U03. Airspace User (Civil) U08. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | <p>A01. CHMI A04. CACD</p> |

NETWORK MANAGER RELEASE NOTES

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| | A11. NOP B2B A14. n-CONNECT |
| Objective | CACD model alignment to allow seamless data downloads from the EAD and EAIMS. |
| Description | <p>FB893 constitutes the second wave of the CACD data model adaptations, required to allow the seamless Annex 15 data download from the EAD and future EAIMS to CACD and to allow these data to be used in the future by operational NM systems. Several changes to CACD data model have been already rolled out in NM21.5 (FB862). FB893 is a continuation of these changes. More data model changes will be gradually rolled out over next NM releases.</p> <p>FB893 contains several CRs dedicated to the Aerodrome domain model changes and one CR related to Airspace domain. All changes aim to bring CACD data model closer to AIXM.</p> <p>CR_040713: Aerodrome Elevation</p> <p>Some Aerodromes may have negative field elevation (e.g. Amsterdam EHAM -12ft). For some smaller world-wide Aerodromes field elevation may be unavailable. Currently, CACD does not accept negative Aerodrome field elevation and does not allow field elevation to be blank, in case if Aerodrome elevation is unknown.</p> <p>This CR implementation changes some business rules in CACD to allow negative Aerodrome field elevation to be stored in CACD and also to accept blank field elevation. This change does not impact operational NM systems and does not impact clients' systems. CACD will output negative and blank field elevation values converted to 0.</p> <p>CR_040563: Business rules adaptation for world-wide AD data</p> <p>This CR changes several business rules in CACD to facilitate seamless world-wide AD data consumption from the EAD.</p> <ul style="list-style-type: none"> In CACD all heliports had been characterised by a unique Runway of type 'Heli' before implementation of the CR_041043 in NM21.5, which introduced Aerodrome type not be stored as a separated property. Runway of type 'Heli' is redundant and will be removed. Today in CACD taxi times for all Aerodromes outside ENV_EXTR area are set to 10 minutes for small ADs and to 20 minutes for international ADs. Business rule relaxation will allow taxi times to be blank if unknown, avoiding keeping fictitious values. Currently, Aerodromes outside of ENV_EXTR area must not have associated SIDs and STARs. This business rule will be removed to allow SIDs and STARs outside of ENV_EXTR area to be kept in CACD. Today CACD does not allow storing of runway directions for the Aerodromes outside of ENV_EXTR (ENV Extraction) area. Business rules will be removed to allow Runway directions for alien Aerodromes (i.e. Aerodromes outside the ENV_EXTR area). <p>Definition of the ENV_EXTR area is available at: http://www.nm.eurocontrol.int/STATIC/NM_AREA/</p> <ul style="list-style-type: none"> This CR as a whole will not impact clients' systems. Default taxi times values will be generated for clients' systems (values will be set as before the change). <p>CR_034863: Aerodrome Flight Rules (IFR/VFR)</p> <p>At present Aerodrome flight rules are defined as Flow Restriction both in CACD and NM operational systems. In AIXM model AD flight rules are an attribute of the AD object. To align with the AIXM and to facilitate EAD data download, AD flight rules definition will be moved to the AD level. This attribute can have values: IFR, VFR, BOTH or OTHER. It will also have an associated time schedule, as allowed AD flight rules may change according to the schedule. This change impacts NM B2B clients: AD flight rules will be provided as an attribute of the Aerodrome, as prescribed by AIXM model, and AD flight rules will no longer be provided as a restriction.</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>Next 5 CRs (from CR_041044 to CR_041048) will facilitate Aerodrome data download from the EAD. None of these 5 CRs impact clients' systems as these new attributes will not be exposed via NM B2B.</p> <p>CR_041044: AD property for water This CR adds a property to the Aerodromes in CACD, which would allow distinguishing water Aerodromes.</p> <p>CR_041045: Abandoned or closed AD This CR adds a property for the Aerodromes in CACD which are currently completely 24/7 closed.</p> <p>CR_041046: Emergency only AD or AD with no facilities Some Aerodromes can be uncontrolled. This CR adds an "uncontrolled" property to Aerodromes in CACD.</p> <p>CR_041047: Private ADs This CR adds property "private" to the Aerodromes in CACD.</p> <p>CR_041048: INTL/DOM ADs This CR adds a property to the Aerodromes in CACD, to allow distinguishing between international and domestic ADs. This will be derived from Customs Service availability on the AD. AD is considered as international if Customs Service is available at the AD (can be according to associated timetable or on request). This property will be optional for ADs outside of ENV_EXTR area.</p> |
| Impact for external users | <p>I2. Impact on Man-Machine interface.</p> <p>I3. Impact on clients' systems.</p> |
| Impact description | <p>CIREN users will see new AD properties introduced by set of CRs CR_041044 to CR_041048.</p> <p>CIREN users will see that AD flight rules are no longer provided as a Flow Restriction, but as an attribute of the AD object with its associated schedule (CR_034863).</p> <p>The CR_034863 also impacts clients' systems. AD flight rules and their associated applicable time schedule are moved from flow restriction level to AD attributes level, as defined by AIXM model. External users may need to modify their systems to receive correct AD flight rules values from NM B2B services.</p> |
| Service reference | <p>B9-3 Network Manager Business-to-business (B2B) web services</p> <p>B1-2 Airspace data</p> |
| Safety assessment | <p>S4. Safety assessment to be performed or on-going (Initial Safety Assessment is delivered by the User).</p> |
| Operational deployment plan | <p>D1. FB will be deployed in Operation along with the release migration.</p> |
| Users' validation | <p>FB893 is planned to be part of the NM 22.0 OPT.</p> |
| Documentation publication | <p>AD Operations manual</p> <p>NM B2B manuals</p> |
| Training sessions | <p>None.</p> |

5.2.5 FPFDE (Flight Plan and Flight Data Evolution)

FB833: PTR Counts - SKIPIN/SKIPOUT to TVs

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| Users impacted | <p>U01. Flow Manager (FMP)</p> <p>U12. Internal NM</p> |
| Application impacted | <p>A01. CHMI</p> <p>A05. Flow management systems (Predict, ETFMS)</p> |

NETWORK MANAGER RELEASE NOTES

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| | A10. NOP Portal A11. NOP B2B |
| Objective | This change represents a small step towards the implementation of a concept/design that is aiming to provide FMPs with more flexibility for tuning traffic counts, through the move of all elements directly linked to flow management onto the Traffic Volume. |
| Description | <p>FB833 will improve the NM systems (ETFMS) elements namely the traffic volume model with the aim of providing FMPs with:</p> <ul style="list-style-type: none"> • higher flexibility to FMPs; several TVs with the same reference location can have different skip-in/skip-out values, • the flights airspace profile will no longer present holes/gaps and or overlaps, which is source of reports/questioning from the users, • users can see all the flights penetrating an airspace (querying the flights in an airspace will return all flights even if they are just clipping the airspace), • IFPS and ETFMS brought closer regarding the Airspace profile, as IFPS is not using skip-in/skip-out parameters in support of FPL distribution service. <p>The TV model will be augmented to include skip-in and skip-out parameters. However, the values will be filled-in only when requested by the responsible FMP or ENV coordinator. When these values are not requested to be filled-in the values will indicate "AS_Default" with the meaning that the applicable skip-in/skip-out values are the ones present in the AS that is the reference location of the TV.</p> <p>The skip-in and skip-out granularity will also change from minutes to seconds (in the format mm:ss - minutes:seconds), with a minimum value of 00:00 and a maximum value of 09:00 or 59:59 for skip-in and skip-out respectively.</p> |
| Impact for external users | I3. Impact on clients' systems. |
| Impact description | <p>A first consequence of the FB833 is that the TVs become the main artefacts to be used for flow management while the Airspaces become "physical" elements.</p> <p>FB833 will have an impact on the local tools that are using the Airspace Volume profile for their local computations (from EFDs or PSFDs (B2B)). With the change in subject, EFD client applications can properly derive the collapsed sector profiles, but they will need adjusting to consider the new EFDs airspace profile that will provide the full list of ESs including the portions of the flight that are VFR, OAT and/or STAY (in the FPL) - no holes/no overlaps.</p> <p>The content returned to end users' in response to the following queries (performed using the CHMI, NOP Portal or via B2B) will be computed without considering the skip-in / skip-out parameters and without considering whether a flight or portions of the flight are VFR/IFR, OAT/GAT and/or STAY:</p> <ul style="list-style-type: none"> • Counts performed on Airspace; • Flight lists on Airspace; • Airspace profile of individual flight from any flight lists - <u>no holes / no overlaps</u>; <p>Only the counts and flight lists performed on Traffic Volumes will be computed (returned by ETFMS) considering the skip-in / skip-out parameters and using only the portions of the flight where it is IFR and GAT and not in a Stay.</p> |
| Service reference | B9-3 Network Manager Business-to-business (B2B) web services B4-1 Reception and distribution of real-time airport, air traffic control and surveillance 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 | The FB will be part of the NM OPT session. |

NETWORK MANAGER RELEASE NOTES

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| Documentation publication | AD Operations Manual ATFCM Operations Manual Airspace Data Repository (ADR) Data Catalogue NM B2B manuals |
| Training sessions | None. |

5.2.6 FRA (Free Route Airspace)

FB915 (Significant Point Types Change CACD) has been developed as a prototype and will most likely not be operational in NM22.0. It has thus no impact for externals.

5.2.7 Operations Improvements

FB846: Airborne message reception (APR, FNM/MFS)

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| Users impacted | U08. AO or CFSP U14. Air Navigation Service Provider (ANSP) U12. Internal NM |
| Application impacted | A05. Flow management systems (Predict, ETFMS) A06. FPL (IFPS) A11. NOP B2B |
| Objective | In the context of flight updates provided by different sources, the FNM/MFS are important input received by IFPS today. The APRs are updates received from AOs providing information on their landing time calculation. All these messages are received today through an AFTN/SITA address. With FB846; NM will provide the possibility to users to send these legacy messages (FNM, MFS received by IFPS and APR received by ETFMS) via the NM B2B web services. |
| Description | This FB contains 2 CRs which request an enhancement of the B2B web services by implementing the legacy FNM, MFS and APR messages: CR_042143 - Flight Update Information to cover FNM/MFS messages CR_042134 - Flight Update Information to cover APR messages Please note that: <ul style="list-style-type: none"> • Sending the FNM/MFS/APR messages via AFTN/SITA will remain possible after NM22.0. • NM does not distribute FNM/MFS/APR messages but distribute ACH/APL from IFPS and EFD/PSFD messages from ETFMS that are the responses to FNM/MFS/APR messages processing. |
| Impact for external users | I3. Impact on clients' system. |
| Impact description | FNM/MFS and APR data providers who decide to transmit these messages via the B2B web services will have to adapt their systems. |
| Service reference | B9-3 Network Manager Business-to-business (B2B) web services |
| Safety assessment | S6. FB is Safety related |
| Operational deployment plan | D1. FB will be deployed in Operation along with the release migration. |
| Users' validation | Like for any new data feed, the FNM/MFS/APR B2B data providers will be subject to |

NETWORK MANAGER RELEASE NOTES

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| | several validations before enabling this feed into IFPS/ETFMS operational systems. |
| Documentation publication | IFPS Users Manual Flight Progress Messages Document NM B2B manuals |
| Training sessions | None. |

FB906: Flight Planning Domain improvements

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| Users impacted | U03. Airspace User (Civil) U04. Airspace User (Military) U08. AO or CFSP U10. Non-CDM Airport U11. ARO U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP) |
| Application impacted | A6. FPL (IFPS) |
| Objective | Enhance the NM Flight Planning Service (IFPS) |
| Description | <p>CR_040039: Suppress Copy REJ ORMs to AOA for RQP messages When ATC send an incorrect RQP message to IFPS that is rejected, the Aircraft Operator may receive a copy of the Reject Operational Reply Message. The change is requested following an Aircraft Operator complaint that the amount of -TITLE REJ for RQP messages received cause confusion and workload issues.</p> <p>CR_041608: Change SEQPT default for APL Because the standard surveillance equipment on commercial aircraft includes Mode_S, some ANSPs have problems when IFPS uses 'C' as the default surveillance equipment in the -SEQPT field (10b) of APL messages. During the AFP Workshop in May 2016, NM stakeholders asked that the default is changed to 'S'.</p> <p>CR_040806: Enhancement of the POSRTE field in IFPS REJ messages To give the Airspace User's more information on the usefulness of the POSRTE field, it will include a difference indicator for the distance (expressed in +/- NM and +/- %). The difference indicator can be either 'PLUS' or 'MINUS', with a NM value and a percentage (PC) value. Example: -POSRTE N0450F400 TOR P601 BAVTA N873 TUSKA UN873 JUIST UP174 EEL UN872 PAM/N0450F410 UN872 DENOX UZ319 MOPIL/N0390F250: DIFF LENGTH PLUS 39NM 4PC</p> |
| Impact for external users | I3. Impact on clients' systems. |
| Impact description | ATC systems that receive APL messages from IFPS may be impacted by the change of the default for the surveillance equipment from C to S. Client systems that receive REJ messages from IFPS may be impacted by the change to the format of the POSRTE field in the message (AFTN/SITA/B2B). |
| Service reference | B9-3 Network Manager Business-to-business (B2B) web services B2-2 Flight plan filing and management |
| Safety assessment | S6. FB is Safety related |
| Operational | D1. FB will be deployed in Operation along with the release migration. |

NETWORK MANAGER RELEASE NOTES

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| deployment plan | |
| Users' validation | This FB will be part of the Release's OPT session |
| Documentation publication | IFPS Users Manual |
| Training sessions | None |

CR_043146: Flight Planning Domain improvements: Output of IFP/IFPSROUTEMOD in FPLs

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| Users impacted | <p>U3. Airspace User (Civil) U4. Airspace User (Military) U8. AO or CFSP U10. Non-CDM Airport U11. ARO U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | A6. FPL (IFPS) |
| Objective | Objective of the change is to make sure that any route change without coordination by IFPS is clearly identified in the distributed flight plan. |
| Description | <p>With the NM21.5 release, the output of the IFP/IFPSROUTEMOD was included when IFPS automatically changed the Field 15 string. The implementation caused difficulties for some ANSPs because of the high number of FPLs that contained the indicator. To solve the issue for the ANSPs, the auto insertion was disabled.</p> <p>With NM22.0, the auto insertion will again be enabled. CR_043146 will reduce (compare to NM21.5) the occurrences of when the IFP/IFPSROUTEMOD is included.</p> <p>IFP/IFPSROUTEMOD indicator will be included in the FPL:</p> <ul style="list-style-type: none"> • When IFPS automatically changed the Field 15 string (like in NM21.5), • EXCEPT IF only the 'DCT' or SID/STAR is removed as the first/last element of the route (new in NM22.0). |
| Impact for external users | I3. Impact on clients' systems. |
| Impact description | The increase in the use of the IFP indicator may have an impact on systems that receive flight plan messages from IFPS. |
| Service reference | <u>B2-2 Flight plan filing and management</u> |
| 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 | Network Operations Handbook IFPS User's Manual |
| Training sessions | None |

FB907: Airspace Data Domain improvements

NETWORK MANAGER RELEASE NOTES

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| Users impacted | <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>U8. AO or CFSP</p> <p>U12. Internal NM</p> <p>U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | A4. CACD |
| Objective | Airspace Data Improvements. |
| Description | <p>CR_042968: The NM ENV system shall support WayPoint ICAO identifiers with 5 alphanumeric characters</p> <p>The NM ENV system supports the WayPoint icaoId to have 5 alphanumeric characters with at least one alphabetic character and prevent the creation of homonyms with Air Routes.</p> <p>CR_043008: NM to represent the correct identifiers of TerminalPoint.</p> <p>Currently the cfmuld of TerminalPoint is derived from aerodrome ID and sequence number; for example EHAM TER point in AIP is EH001 whereas in NM is AM001. This CR will allow NM to modify the derived TER point ID and replace as published in AIP.</p> <p>For example, the point AM001 will be replaced by EH001 in CACD. TerminalPoints will be visible in EFD (ETFMS Flight Data) data as GEO points (same situation than in NM21.5). TerminalPoints will be visible in NM B2B PSFD (Publish Subscribe Flight Data).</p> <p>CR_043022: New AS “CDA” Client Defined Area</p> <p>Today NM is using “Test Airspace” operational in Traffic Volumes, Restrictions, ... They are not available via B2B, neither in official ICAO Doc publications. New “CDA” Airspace type will be created that could be made available via NM B2B.</p> |
| Impact for external users | <p>CR_042968: Implementation of helicopter routes in NM CACD published by Switzerland and approved by ICAO. e.g.: LS212 / LS213 used as ENRoute point in Helicopter route KY252</p> <p>CR_043008: Implementation of TER point in CACD as published in the AIP</p> <ul style="list-style-type: none"> • <u>NM B2B flight data users</u> processing FTFM/RTFM/CTFM data shall consider the existence of exported TerminalPoints containing alphanumeric characters. • <u>EFD (ETFMS Flight Data Users)</u> processing FTFM/RTFM/CTFM data will NOT be impacted on the change. The export of TerminalPoints present in the profile is postponed to NM22.5 to mitigate the impact on external applications. <p>CR_043022: “CDA” will be used operationally and possibility made them available to external customers. Test Airspaces remain but will not be made available for external users</p> |
| Impact description | <p>CR_042968: This will allow Helicopter route Flight Planning.</p> <p>CR_043008: Correct implementation of TER points in CACD.</p> <p>CR_043022: visibility of Non Published Airspaces, allowing their operational used.</p> |
| Service reference | <p><u>B1-3 Airspace management</u></p> <p><u>B9-3 Network Manager Business-to-business (B2B) web services</u></p> <p><u>B1-2 Airspace data</u></p> |
| Safety | S5. FB is not safety related. |

NETWORK MANAGER RELEASE NOTES

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| assessment | |
| Operational deployment plan | 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) |
| Users' validation | FB907 is not part of the NM22.0 OPT. |
| Documentation publication | AD Operations Manual Airspace Data Repository (ADR) Data Catalogue Airspace Data Repository (ADR) Data Catalogue Annex A NM B2B manuals |
| Training sessions | None |

FB924: Rerouting Evolutions

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| Users impacted | U08. AO or CFSP U12. Internal NM U14. Air Navigation Service Provider (ANSP) |
| Application impacted | A01. CHMI A05. Flow management systems (Predict, ETFMS) A06. FPL (IFPS) A10. NOP Portal A11. NOP B2B |
| Objective | The functional block aims at improving the quality delivered by the NM systems (Flight Planning and Enhanced Tactical Flow Management System) when generating routes. This functional block will also improve operational usability and user experience on CHMI/NOP AOWIR tool. |
| Description | <p>The following specific changes are included:</p> <p>CR_042940 which contain three functional improvements in CHMI/NOP AOWIR</p> <ol style="list-style-type: none"> 1) <u>CHMI/NOP AOWIR shall present IFPS valid alternatives</u> When using CHMI/NOP AOWIR, the ETFMS provides alternatives that may or may not be IFPS compliant, it is up to the user to "try" each alternative individually. The CR will make AOWIR present only IFPS valid alternatives and show a first assessment on probable delay/suspension in the new route. 2) <u>CHMI/NOP AOWIR shall present overload valid alternatives and withdraw false overload positives:</u> Currently, AOWIR does not deliver any alternatives where the capacities have been reached (overload), while IFPS proposals do not check possible overloads. The change aims at allowing CHMI/NOP AOWIR to display reroutings alternatives where existing overloads are not deteriorated. 3) <u>Additional AOWIR options and data to improve usability:</u> <ul style="list-style-type: none"> • A new drop down menu is implemented where the user can choose between horizontal or vertical rerouting • New checkbox which is enabling operator to see only IFPS compliant routes • New column "Error" - a summary of the IFPS/Overload/MAX Shift Delay reply on the alternative. • FCI and RCI columns are providing Fuel Consumption Indication and Route Charge Indication for alternatives presented <p>CR_043225: Vertical rerouting improvements (Requested Flight Level sequence shaper improvement) <u>Vertical rerouting improvements</u> (Requested Flight Level sequence shaper improvement) Today flight planning tools users (NOP / CHMI IFPUV & CHMI IFPS) cannot explicitly</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>propose vertical alternatives to correct an invalid flight plan.</p> <p>The change aims at improving the alternative proposed by first providing a vertical alternative if available.</p> <p>To achieve that, whenever IFPS is proposing a route, it should first try a vertical alternative to correct errors and if none can be found, IFPS should try the horizontal alternatives.</p> |
| Impact for external users | <p>I1. Impact on procedures (if features used).</p> <p>I2. Impact on Human-Machine interface (if features used).</p> <p>I3. Impact on clients' systems.</p> |
| Impact description | <p>Better quality of rerouting alternatives for Flight Planning and Enhanced Tactical Flow Management System.</p> <p>Improved usability on CHMI/NOP AOWIR, providing a consolidated feedback from flight plan and flow perspective.</p> <p>Impact on HMI and the steps to follow to use CHMI/NOP AOWIR tool.</p> |
| Service reference | <p><u>B9-2 Network Operations Portal</u></p> <p><u>B9-1 Collaboration Human Machine Interface</u></p> <p><u>B2-2 Flight plan filing and management</u></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 be part of the NM22.0 OPT session.</p> |
| Documentation publication | <p>ATFCM Users Manual</p> <p>IFPS Users Manual</p> <p>CHMI ATFCM Reference Guide</p> <p>NOP Portal Users Guide</p> |
| Training sessions | <p>Included in Release Training and Release Presentation to external (Webex).</p> |

FB967: e-Helpdesk improvement

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|----------------------|---|
| Users impacted | <p>U3. Airspace User (Civil)</p> <p>U8. AO or CFSP</p> <p>U12. Internal NM</p> |
| Application impacted | <p>A10. NOP Portal</p> |
| Objective | <p>Improvement of the E-Helpdesk service.</p> |
| Description | <p>In order to reduce NMOC workload and provide faster replies to AO requests that cannot be accommodated in the present network delay status, the following CRs were introduced to optimize the existing automatic rejection functionality of the E-Helpdesk.</p> <ul style="list-style-type: none"> <p>CR_043185: Automatic delay improvement request rejection (AUTOREJ) based on global delay parameter for a pre-defined period of time</p> <p>It is possible for NMOC to turn on the E-Helpdesk to automatically process slot improvement requests with a delay lower than a global parameter set by the NMOC. Now, it will be possible to set the automatic processing for <u>a defined time period</u>. The automatic processing does not apply on flights in "READY" status.</p> <p>CR_043186: Automatic delay improvement request rejection (AUTOREJ) based on specific regulation(s) delay parameter(s) for pre-defined period(s) of time</p> <p>It will be possible for NMOC to set the E-Helpdesk, for a defined time period, to</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>automatically process slot improvement requests with a delay lower than a specific regulation delay parameter set by the NMOC. The automatic processing does not apply on flights in “READY” status.</p> <ul style="list-style-type: none"> • CR_043187: Automatic slot extension request rejection. The E-Helpdesk will automatically process AO requests for slot extension: <ul style="list-style-type: none"> • For flights departing from CDM airport: the request will not be accepted. • For flights departing from non-CDM or Advanced ATC TWR airports: the request will not be accepted if the current time is not within the 20 minutes window before COBT (CTOT-Taxitime) or the current time has reached COBT (refer to ATFCM Users Manual §8.4.3 Slot Extensions). <p>Note: for internal management reasons, FB908 has been replaced by FB967.</p> |
| Impact for external users | I1. Impact on procedures. |
| Impact description | <ul style="list-style-type: none"> • CR_043185: Automatic delay improvement request rejection (AUTOREJ) based on global delay parameter for a pre-defined period of time if the automatic processing is switched on by the NMOC, the AO requests for slot improvement for delays lower than a global delay parameter set by the NMOC are automatically processed by the E-Helpdesk instead of waiting to be processed manually by the NMOC operator. NMOC can now switch the automatic processing on for a pre-defined period of time. AO will therefore experience faster processing of its requests during the time when the automatic processing is enabled by the NMOC. • CR_043186: Automatic delay improvement request rejection (AUTOREJ) based on specific regulation(s) delay parameter(s) for pre-defined period(s) of time If the automatic processing is switched on by the NMOC, the AO requests for slot improvement for delays lower than a regulation specific delay parameter set by the NMOC will automatically be processed by the E-Helpdesk instead of waiting to be processed manually by the NMOC operator. NMOC can also switch on the automatic processing for a pre-defined period of time. AO will therefore experience faster processing of its requests during the time when the automatic processing is enabled by the NMOC. • CR_043187: Automatic slot extension request rejection For flights departing from non-CDM or Advanced ATC TWR airports, the slot extension requests introduced in the E-Helpdesk at a current time that is not within the 20 minutes window before COBT (CTOT-Taxitime) or at a current time that has already reached COBT will not be accepted. For flights departing from CDM airports, the slot extension request will not be accepted by the E-Helpdesk. The AO will not have to wait for manual processing of the request by the NMOC operator. Requests will therefore be processed faster. |
| Service reference | 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 | FB967 will not be part of the Release's OPT session. |
| Documentation publication | NOP Portal Users Guide |
| Training sessions | Part of normal NM22.0 training. |

5.2.8 Performance Programme

There is no FB impacting externals and related to the Performance Programme in NM22.0.

NETWORK MANAGER RELEASE NOTES

5.3 Release NM22.5

5.3.1 Airport and TMA Network Integration

FB949: DPI Improvements

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| Users impacted | U01. Flow Manager (FMP) U03. Airspace User (Civil) U08. AO or CFSP U12. Internal NM U13. CDM-Airport U14. Air Navigation Service Provider (ANSP) |
| Application impacted | A05. Flow management systems (Predict, ETFMS) |
| Objective | The processing of the Departure Planning Information (DPI) messages evolves and it is continuously improved to accommodate the identified needs of the A-CDM community. The required DPI improvements are normally based on experience acquired with A-CDM processes, which are continuously refined in coordination with the stakeholders. |
| Description | <p>CR_043706: Send SLC when flight no longer affected by regulation When a flight not yet confirmed airborne becomes de-regulated, due to a regulation cancellation, the operational stakeholders shall be informed immediately by means of an SLC, even when the aircraft is already taxiing. In the current implementation (NM22.0), an SLC is not sent if the OBТ is too close.</p> <p>CR_043707: Process T-DPI-s received after forced CTOT When the CTOT was already forced and a new T-DPI-s message is received with a TTOT later than the upper bound of the STW of the previously forced CTOT, the T-DPI-s is processed normally, un-forcing the CTOT and a network impact assessment is performed. In the current implementation (NM22.0), such a T-DPI-s is rejected. By providing a TTOT value in the T-DPI-s which is later than the upper bound of the STW, the TWR at the CDM airport informs NM they are not able to comply with the forced CTOT.</p> <p>CR_044026: Reject A-DPI received after C-DPI An A-DPI message, received for a flight that was suspended by the airport via a C-DPI, shall be rejected. The flight has to be first de-suspended by means of an E-DPI, T-DPI-t or T-DPI-s triggered by e.g. an updated TOBT. A new EOBT from a DLA/CHG message also de-suspends the flight. This ensures that a network impact assessment is performed and the flight does not create an over-delivery. An ERR message with ATFM comment "FLIGHT IS SUSPENDED" is sent. In the current implementation (NM22.0), an A-DPI received for a flight that was suspended for all other suspension reasons, except suspension by the airport, is rejected with the same ERR message indicated above.</p> <p>CR_043611: Preserve TOBT and TSAT after EOBT update The TOBT and TSAT respectively shall be reset on reception of a DPI message that does not contain a TOBT or a TSAT value. They are no longer visible in B2B and B2C applications. The EOBT/TOBT discrepancy (if any) is removed. In the current implementation (NM22.0) the TOBT/TSAT are preserved in this case. The TOBT and TSAT shall be preserved following:</p> <ul style="list-style-type: none"> • A flight plan update (DLA/CHG) • A manual de-activation • A forced CTOT |

NETWORK MANAGER RELEASE NOTES

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| | The TOBT and TSAT are still visible in B2B and B2C applications. In the current implementation (NM22.0) the TOBT/TSAT are reset in this case. |
| Impact for external users | I1. Impact on procedures. I3. Impact on clients' systems. |
| Impact description | <p>CR_043707: Process T-DPI-s received after forced CTOT TWR will receive a new CTOT when they are not able to make the STW, even when the previous CTOT was forced. Cherry picked flights that were forced in the slot list due to a MCP (Mandatory Cherry Pick) regulation can also be unforced by a T-DPI-s message, which will therefore cancel out the effect of the MCP regulation. The concerned AO(s), FMP(s) and NMOC are not immediately alerted when this occurs.</p> <p>CR_043706: Send SLC when flight no longer affected by regulation CDM airports may expect a very late SLC, i.e. even when the flight is already taxiing. This improves situational awareness for the TWR, making them aware of the increased flexibility and margin for operations.</p> <p>CR_044026: Reject A-DPI received after C-DPI CDM airports should no longer send an A-DPI after a C-DPI. This shall be ensured either by a revised local procedure or by a system update. Such an A-DPI will be rejected. An E-DPI, T-DPI-t, T-DPI-s or a new EOBT from DLA/CHG message is expected instead.</p> <p>CR_043611: Preserve TOBT and TSAT after EOBT update The operational stakeholders using the NM B2B and B2C applications should be aware of the updated rules for resetting/preserving the TOBT and TSAT values.</p> |
| Service reference | B4-1 Reception and distribution of real-time airport, air traffic control and surveillance data |
| Safety assessment | S6. FB is Safety related |
| Operational deployment plan | D1. FB will be deployed in Operation along with the release migration. (FBs deployed as D1 normally do not include new or changed ATFCM procedures) |
| Users' validation | O2: FB949 will not be part of the NM Release OPT (Operational Testing Session) |
| Documentation publication | ATFCM Operations Manual DPI Implementation Guide |

5.3.2 Airspace Management and Advanced FUA

FB951: ASM - Advanced FUA process improvement

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|----------------------|--|
| Users impacted | U02. Airspace Manager (AMC) U08. AO or CFSP |
| Application impacted | A03. CIAM A04. CACD A10. NOP Portal A11. NOP B2B A12. ASM Tools |
| Objective | The objective is to provide more flexible solutions to manage airspace structure data via AUP/UUP. |
| Description | <p>FB951 will provide the following AFUA process improvements:</p> <ul style="list-style-type: none"> Overlapping area reservations and associated FBZs: NM will allow overlapping reservations/FBZs by time/level. |

NETWORK MANAGER RELEASE NOTES

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| | <ul style="list-style-type: none"> Overlapping FBZ reservations: NM will allow overlapping reservations of FBZs by time/level. Overlapping area reservations: NM will allow different reservations of the same area to overlap with each other by time and/or level. Partial overlapping area reservations and associated FBZs: NM will allow overlapping reservations/partial FBZs by time/level. |
| Impact for external users | <p>I2. Impact on Human-Machine interface.</p> <p>I3. Impact on clients' systems.</p> |
| Impact description | <ul style="list-style-type: none"> CIAM: allow the simultaneous publication of RSA and associated FBZs via AUP/UUP. ASM Local Tools: being able to manage the simultaneous publication of RSA and associated FBZs via AUP/UUP. NM Web Services: being able to process the simultaneous publication of RSA and associated FBZs via AUP/UUP. The identifier of a FBZ can contain up to 9 characters (instead of 8 in NM22.0): 7 characters from the RSA + "Z" + one numeric (excluding 0). For example, given an RSA TSA21, the associated FBZs may be named TSA21Z, TSA21Z1, TSA21Z2, TSA21Z3, ... TSA21Z9. |
| Service reference | <p>B1-3 Airspace management</p> <p>B9-3 Network Manager Business-to-business (B2B) web services</p> <p>B9-2 Network Operations Portal</p> <p>B9-1 Collaboration Human Machine Interface</p> |
| 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 | O1: FB951 will be part of the NM Release OPT (Operational Testing Session) |
| Documentation publication | <p>FUA - AMC/CADF Operations Manual</p> <p>NM B2B manuals</p> <p>NOP Portal Users Guide</p> |

5.3.3 EAIMS (European ATM Information Management Service)

FB957: NM airspace model evolution

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| Users impacted | <p>U02. Airspace Manager (AMC)</p> <p>U03. Airspace User (Civil)</p> <p>U08. AO or CFSP</p> <p>U12. Internal NM</p> <p>U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | <p>A01. CHMI</p> <p>A04. CACD</p> <p>A11. NOP B2B</p> <p>A14. n-CONNECT</p> |
| Objective | Enhance CACD model alignment to allow seamless data download from the EAD and from the future eEAD. |
| Description | FB957 constitutes the third wave of the CACD data model adaptations, required to allow the seamless Annex 15 data download from the EAD and future eEAD to CACD and to allow these data to be used in the future by operational NM systems. Several changes to |

NETWORK MANAGER RELEASE NOTES

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| | <p>CACD data model have already been introduced in NM 21.5 (FB862) and in NM 22.0 (FB893). FB957 is a continuation of these changes. More data model adaptations will be gradually rolled out over next NM releases.</p> <p>CR_041961: Airspace Border (AB) Maxima Currently, CACD uses airspace blocks to construct the airspaces, even if they have the same vertical limits, because CACD can handle only up to 500 geographical positions of the airspace border vertexes per one airspace volume. AIXM allows large contiguous airspaces (such as FIRs and UIRs) to be defined as undivided volumes. To avoid splitting airspace volumes in an artificial airspace blocks the limitation for the number of airspace border vertexes will be increased to 2000 (figure to be confirmed). This will facilitate the download of the FIRs and UIRs from the EAD. This CR will not impact the clients' systems; as already today artificial airspace blocks are reconstructed into contiguous airspace volumes, when exporting these data via NM B2B services.</p> <p>CR_040567: Remove Business Rule "Point Name Must be blank" Currently, there is a business rule in CACD that prevents Significant Points of type Waypoint (PWP) to have an associated name; they only have an ICAO Id. Some significant points may have names, which are published in the AIPs. To facilitate data download from the EAD, this business rule will be removed, allowing Waypoints to have an associated name, as defined by the AIXM. This CR impacts B2B clients, Waypoint names will be exported in addition to the ICAO IDs.</p> |
| Impact for external users | <p>I2. Impact on Man-Machine interface. I3. Impact on clients' systems.</p> |
| Impact description | <p>CIREN users will see Waypoint names, which may be entered as a result of a CR_040567 implementation. They will be also exported to the clients of NM B2B services.</p> |
| Service reference | <p>B9-3 Network Manager Business-to-business (B2B) web services B1-2 Airspace data</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>FB957 is planned to be part of the NM 22.5 OPT.</p> |
| Documentation publication | <p>AD Operations manual NM B2B manuals</p> |

5.3.4 Operations Improvements

FB964: Flight Planning Domain improvements

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| 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</p> |
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NETWORK MANAGER RELEASE NOTES

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| | U14. Air Navigation Service Provider (ANSP) |
| Application impacted | A1. CHMI A4. CACD A6. FPL (IFPS) A7. Datawarehouse (NMIR) A11. NOP B2B A14. n-CONNECT |
| Objective | <ul style="list-style-type: none"> Facilitate sustainable IFPS operations; Automate unnecessary work; NM Flight Planning Service evolution. |
| Description | <ul style="list-style-type: none"> CR_043836 - IFPS to warn when new NAS entered after route generation IFPS will sent a warning to the IFPS Staff for new NAS that are entered to try to prevent a rerouting that is not operationally acceptable to the Aircraft Operator. The errors are associated to the manual processing of AFP/FNM/MFS messages that have a new route constructed by IFPS. The external visibility of the error is unlikely, but is possible when the message is manually rejected by the IFPS Operator (not normal procedure). Users may see the new error if they have sent an AFP to IFPS that is manually rejected by the IFPS Operator. CR_043829 - Stop reporting route errors for ACH with same oceanic exit point CR_043824 - STS/MEDEVAC shall be the same as STS/HOSP and SAR for the 8.33 Today, IFPS raises an error when a flight that is not 8.33 equipped (no Y in item 10a) but flies into Airspace requiring 833 equipment, except for special flights STS/HOSP and STS/SAR. With NM22.5, STS/MEDEVAC flights will also be excluded. |
| Impact for external users | I3. Impact on clients' systems. |
| Impact description | Client systems may need to be updated due to the change of IFPS error messages with CR_043836. |
| Service reference | B9-3 Network Manager Business-to-business (B2B) web services B9-1 Collaboration Human Machine Interface 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 | O1: FB964 will be part of the NM Release OPT (Operational Testing Session) |
| Documentation publication | IFPS Users Manual |

FB965: Airspace Data Domain improvements

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|----------------|--|
| Users impacted | U1. Flow Manager (FMP) U2. Airspace Manager (AMC) U3. Airspace User (Civil) U4. Airspace User (Military) U5. ENV data provider U7. Post-ops analyst |
|----------------|--|

NETWORK MANAGER RELEASE NOTES

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| | <p>U8. AO or CFSP</p> <p>U12. Internal NM</p> <p>U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | <p>A1. CHMI</p> <p>A2. CIFLO, CIAO</p> <p>A3. CIAM</p> <p>A4. CACD</p> <p>A5. Flow management systems (Predict, ETFMS)</p> <p>A6. FPL (IFPS)</p> <p>A7. Datawarehouse (NMIR)</p> <p>A12. ASM Tools</p> <p>A13. NMVP</p> <p>A14. n-CONNECT</p> |
| Objective | Airspace Domain Improvements for Airspace Data validation and flight plan validation. |
| Description | <p>CR_042927: Forbid DCT's when crossing any type of airspace</p> <p>This CR will allow NM:</p> <ul style="list-style-type: none"> To capture FPLs crossing an active RSA on a DCT from the one crossing an active RSA on an ATS route To capture flights filing on DCT's crossing any other type of airspace where it is forbidden; To capture flights filing on DCT's in a particular slice of airspace where it is forbidden. |
| Impact for external users | <p>CR_042927: Forbid DCT's when crossing any type of airspace:</p> <p>I3. Impact on clients' systems.</p> |
| Impact description | <p>CR_042927: Forbid DCT's when crossing any type of airspace:</p> <p>AOs and CFSPs may have to update their software to take this additional check by NM into account.</p> |
| Service reference | <p>A3-1 Route and airspace design</p> <p>B1-3 Airspace management</p> <p>B9-3 Network Manager Business-to-business (B2B) web services</p> |
| 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 | O1: FB965 will be part of the NM Release OPT (Operational Testing Session) |
| Documentation publication | <p>IFPS Users Manual</p> <p>NM Operational Problem reporting</p> <p>Provision of CACD Data</p> <p>FUA - AMC/CADF Operations Manual</p> <p>AD Operations Manual</p> <p>Flight Progress Messages Document</p> <p>NM B2B manuals</p> |
| FB966: ATFCM Domain improvements | |
| Users impacted | <p>U1. Flow Manager (FMP)</p> <p>U3. Airspace User (Civil)</p> <p>U8. AO or CFSP</p> |

NETWORK MANAGER RELEASE NOTES

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| | <p>U10. Non-CDM Airport U13. CDM-Airport U12. Internal NM U14. Air Navigation Service Provider (ANSP)</p> |
| Application impacted | A5. Flow management systems (Predict, ETFMS) |
| Objective | Improvement of existing ATFCM services |
| Description | <p>CR_043232: Flights overflying CPR coverage area to be subject to Flight Activation Monitoring The Flight Activation Monitoring mechanism coverage will be extended. In addition to the current FAM coverage, flights departing from and landing in non CPR-covered areas will be affected by FAM if they fly through continuously CPR covered area en-route. Such a flight will be suspended if not reported as airborne.</p> <p>CR_042961: FAM reduction The Flight Activation Monitoring mechanism parameter for suspension of flights departing from FAM-enabled areas or of flights departing from non-FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination in FAM-enabled areas will be reduced by 5 minutes; from 30 minutes to 25 minutes. The stepped reduction of the parameter was decided at ODSG/41 to support flight planning and predictability in the European ATM Network. The change is aligned with ICAO: any changes to the EOBT of more than 15 minutes for any IFR flight within the IFPS shall be communicated to the IFPS. (ICAO Doc 7030, 2.3.2.1). This implementation is the first step of the parameter reduction. Further information can be found at: http://www.eurocontrol.int/sites/default/files/publication/files/fam-reduction-leaflet-2018.pdf</p> |
| Impact for external users | <p>I1. Impact on procedures. I3. Impact on clients' systems.</p> |
| Impact description | <p>CR_043232: Flights overflying CPR coverage area to be subject to Flight Activation Monitoring Flights departing from and landing in non CPR-covered areas, but flying through continuously CPR covered area en-route, that are not reported as airborne will be shifted in their CTFM by 5 minute steps and if eventually not activated, the flight will be suspended by FAM. Updates to the EOBT reset the FAM mechanism. Updates to the EOBT after the flight suspension will de-suspend the flight.</p> <p>CR_042961: FAM reduction Possible impact on flights departing from FAM-enabled areas or of flights departing from non-FAM-enabled areas and less than three hours of Estimated Elapsed Time (EET) with a destination in FAM-enabled areas that are not reported as airborne. Such flights will be shifted in their CTFM by 5-minute steps four times (currently five) and will be eventually suspended after another 5 minutes if not reported as airborne (FSA, CPR message received by the NM). FMPs, airports and AOs should be advised of the change and ensure that adequate operational actions are taken.</p> |
| Service reference | 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 | FB966 will be part of the NM Release OPT (Operational Testing Session) |
| Documentation | ATFCM Users Manual |

NETWORK MANAGER RELEASE NOTES

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| publication | ATFCM Operations Manual DPI Implementation Guide |
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NETWORK MANAGER RELEASE NOTES

6 Documentation

| Network Operations handbook | |
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| 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-current.pdf |
| ATFCM Operations Manual | http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/atfcm-operations-manual-current.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-current.pdf |
| IFPS Users Manual | http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/ifps-users-manual-current.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 |
| NMIR Users Guide | http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nmir-users-guide-current.pdf |

7 ABBREVIATIONS

| | |
|-------|---|
| AB | Airspace Border |
| 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 |
| A-DPI | Airport-Departure Planning Information |
| ADR | Airspace Data Repository |
| AFP | Airborne Flight Plan message |
| AFTN | Aeronautical Fixed Telecommunication Network |
| AFUA | Advanced Flexible Use of Airspace |
| AIP | Aeronautical Information Publication |
| AIS | Aeronautical Information Services |
| AIXM | Aeronautical Information Exchange Model |
| AMC | Airspace Management Cell |
| ANSP | Air Navigation Service Provider |
| AO | Aircraft Operator |
| AOA | Aircraft Operator Agency |
| AOG | Airline Operations Group |
| AOP | Airport Operations Plan |
| AOWIR | Aircraft Operator What-if Reroute |
| API | Arrival Planning Information |
| APL | ATC Flight Plan |
| APOC | Airport Operations Centre |
| APR | Aircraft Position Report |
| ARO | Air Traffic Services Reporting Office |
| AS | Airspace |
| ASM | Airspace Management |
| ATC | Air Traffic Control |
| ATFCM | Air Traffic Flow and Capacity Management |
| ATFM | Air Traffic Flow Management |
| ATM | Air Traffic Management |
| ATOT | Actual Take-Off Time |
| ATS | Air Traffic Services |
| ATTOT | Aircraft Operator Target Take-Off Time |
| AUP | Airspace Use Plan |
| B2B | Business-to-Business |
| B2C | Business-to-Consumer |
| CAA | Civil Aviation Authority |
| CACD | Central Airspace and Capacity Database (new name of ENV) |

NETWORK MANAGER RELEASE NOTES

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| CADF | ECAC Centralized Airspace Data Function |
| CCAMS | Centralised SSR Code Allocation & Management |
| CDA | Client Defined Area |
| CDG | Roissy Charles de Gaulle Airport (LFPG) |
| CDM | Collaborative Decision Making |
| C-DPI | Cancel-Departure Planning Information |
| CEF | Connecting Europe Facility Programme |
| CFSP | Computerised flight plan service provider |
| CHG | Modification Message |
| CHMI | Collaboration Human Machine Interface |
| CIAM | Collaboration Interface for AMCs |
| CIAO | Collaboration Interface for AO |
| CIFLO | Collaboration Interface for Flow management position |
| CIREN | Collaboration Interface for Remote Environment Access (CHMI for ENV Coordinators) |
| COBT | Calculated Off Block Time |
| CPA | Collaboration Portal Application |
| CPR | Correlated Position Report |
| CR | Change Request |
| CSST | Call-Sign Similarities Tool |
| CTFM | Current Tactical Flight Model |
| CTM | Cooperative Traffic Management |
| CTOT | Calculated Take-Off Time |
| CUA | Common User Access |
| DCB | Demand and Capacity Balancing |
| DCT | Direct Route |
| DLA | Delay or Delay Message |
| DOM | Domestic |
| DPI | Departure Planning Information |
| DWH | Data Warehouse system |
| EAD | European AIS Database |
| EAIMS | European ATM Information Management Service |
| EASA | European Aviation Safety Agency |
| EAUP | European Airspace Use Plan |
| E-DPI | Early-Departure Planning Information |
| EET | Estimated Elapsed Time |
| EFD | ETFMS Flight Data |
| EHAM | ICAO code for Amsterdam Schiphol airport |
| ELDT | Estimated Landing Time |
| ENV | NM Environment System (former name of CACD) |
| ENV_EXTR | ENV Extraction area |
| EOBT | Estimated Off Block Time |

NETWORK MANAGER RELEASE NOTES

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| ERR | Error Message |
| ES | Elementary Airspace |
| ETFMS | Enhanced Tactical Flow Management System |
| EUROCONTROL | European Organization for the Safety of Air Navigation |
| FAAS | Flight Assessment and Alert System |
| FAM | Flight Activation Monitoring |
| FB | Functional Block |
| FBZ | FPL Buffer Zone |
| FCI | Fuel Consumption Indication |
| FF-ICE | Flight and Flow Information for a Collaborative Environment |
| FIR | Flight Information Region |
| FMP | Flow Management Position |
| FNM | Flight Notification Message |
| FPFDE | Flight Plan and Flight Data Evolution |
| FPL | Flight Plan message (ICAO format) |
| FRA | Free Route Airspace |
| FRA | Frankfurt Airport (EDDF) |
| FSA | First System Activation message |
| FTFM | Filed Tactical Flight Model |
| FUA | Flexible Use of Airspace |
| FUM | Flight Update Message |
| GAT | General Air Traffic |
| GEO | GEO Point |
| GRRT | Group Re-Routing Tool |
| H2020 | Horizon 2020 |
| HMI | Human-Machine Interface |
| HOSP | Hospital Aircraft |
| HTML | Hypertext Markup Language |
| ICAO | International Civil Aviation Organization |
| ID | Identifier |
| IFP | Keyword from IFPS used in Field 18 to provide a warning |
| IFPS | Integrated Initial Flight Plan Processing System |
| IFPSROUTEMOD | IFPS Route Modification |
| IFPUV | IFPS Unit for Validation |
| IFPZ | IFPS Zone |
| IFR | Instrument Flight Rules |
| INTL | International |
| IR | Implementing Rule |
| LHR | London Heathrow Airport (EGLL) |
| Long | Longitude |
| M&R | Monitoring and Reporting |

NETWORK MANAGER RELEASE NOTES

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| MCP | Mandatory Cherry Picking |
| MEDEVAC | Medical evacuation |
| MFS | Message From Shanwick |
| NAS | National Airspace |
| n-CONNECT | network-COMMON Enhanced Collaborative ATM |
| NETOPS | Network Operations Team |
| NIA | Network Impact Assessment |
| NM | Nautical Mile |
| NM | Network Manager |
| NMD | Network Manager Directorate |
| NMIR | NM Interactive Reporting |
| NMOC | Network Manager Operations Centre |
| NMVP | Network Manager Validation Platform |
| NOP | Network Operations Plan |
| NPP | Network Performance Plan |
| NSD | Network Strategy and Development (DNM) |
| NSP | Network Strategy Plan |
| OAT | Operational Air Traffic |
| OBT | Off Block Time |
| ODSG | Operations and Development Sub-Group |
| OPS | Operations |
| OPT | Operational testing |
| ORM | Operational Reply Message |
| ORY | Paris Orly Airport (LFPO) |
| PC | Personal Computer |
| PC | Provisional Council |
| P-DPI | Predicted DPI |
| PJ | SESAR Project |
| PREDICT | Variant of TACT used for Pre-Tactical Work |
| PSFD | Publish Subscribe Flight Data |
| PTR | Profile Tuning Restriction |
| PWP | Published Waypoint |
| R&D | Research and Development |
| RAD | Route Availability Document |
| RCI | Route Charge Indication |
| REJ | Reject Message |
| RP2 | Reporting Period 2 |
| RQP | Request Flight Plan Message |
| RSA | Restricted Airspace |
| RTFM | Regulated Tactical Flight Model (by ATFM Measures) |
| SAFA | Safety Assessment of Foreign Aircraft (Programme) |

NETWORK MANAGER RELEASE NOTES

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| SAR | Search and Rescue |
| SAT | System Acceptance Test |
| SES | Single European Sky |
| SESAR | Single European Sky ATM Research |
| SID | Standard Instrument Departure |
| SITA | Societe Internationale de Telecommunications Aeronautiques |
| SLC | Slot Cancellation message |
| SO | Strategic Objective |
| STAM | Short-Term ATFM Measures |
| STAR | Standard Terminal Arrival Route |
| STS | Status Indicator |
| STW | Slot Tolerance Window |
| 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 |
| TER | Terminated |
| TFV | Traffic Volume |
| TMA | Terminal Manoeuvring Area |
| TO | Time Over |
| TOBT | Target Off Block Time |
| TSA | Temporary Segregated Area |
| TSAT | Target Start-Up Approval Time |
| TTOT | Target Take Off Time |
| TV | Traffic Volumes |
| TWR | Aerodrome Control Tower or Aerodrome Control |
| UDPP | User Driven Prioritisation Process |
| UIR | Upper Flight Information Region |
| URL | Uniform Resource Locator |
| UTC | Coordinated Universal Time |
| UUP | Updated Airspace Use Plan |
| VFR | Visual Flight Rules |

NETWORK MANAGER RELEASE NOTES

DOCUMENT FINAL PAGE