



Network Manager
nominated by
the European Commission



EUROCONTROL Call Sign Similarity Project

Call Sign Similarity Tool (CSST)

ICAO MID Region 1st Call Sign Confusion Ad-hoc Working Group

Abu Dhabi, United Arab Emirates

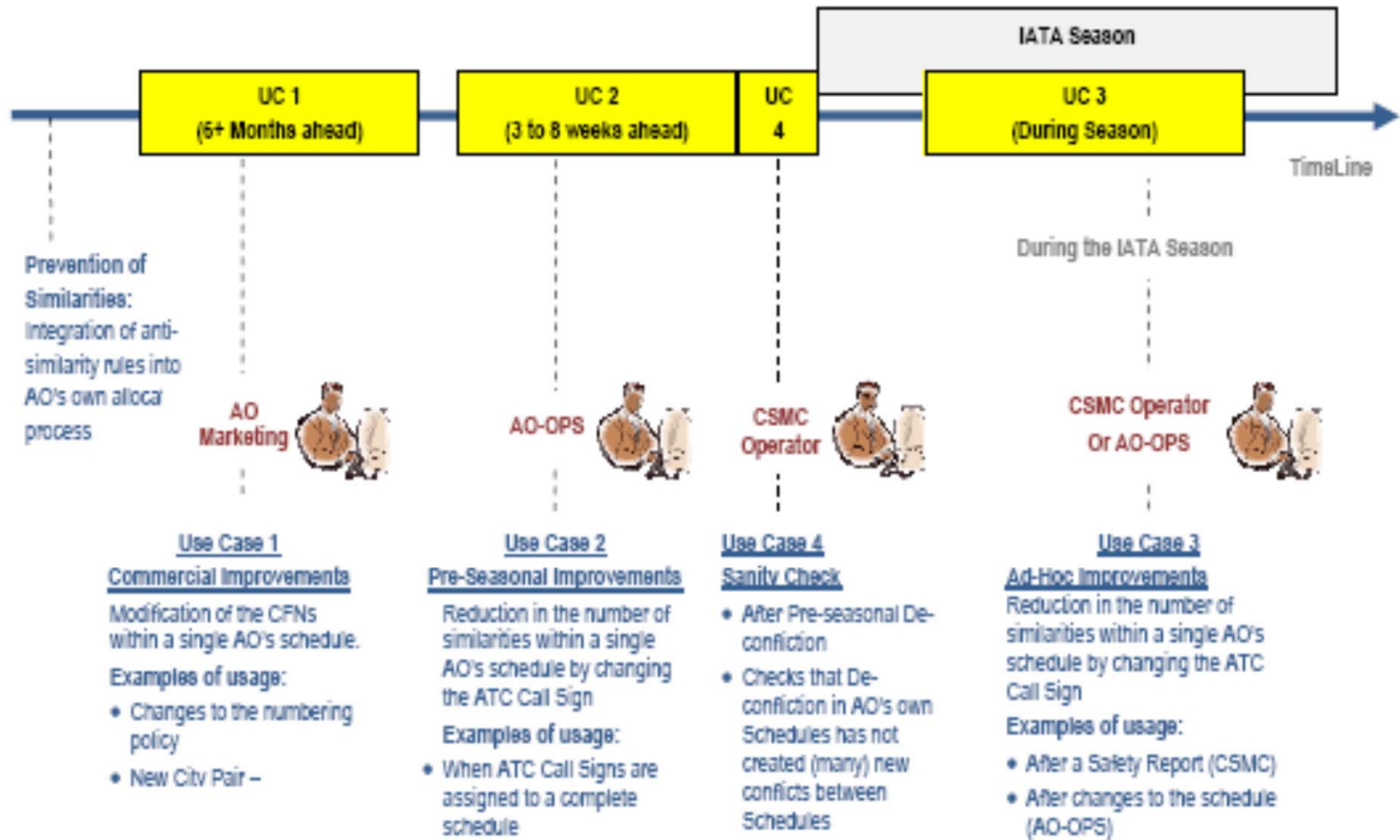
16- 18 February 2015

Richard Lawrence

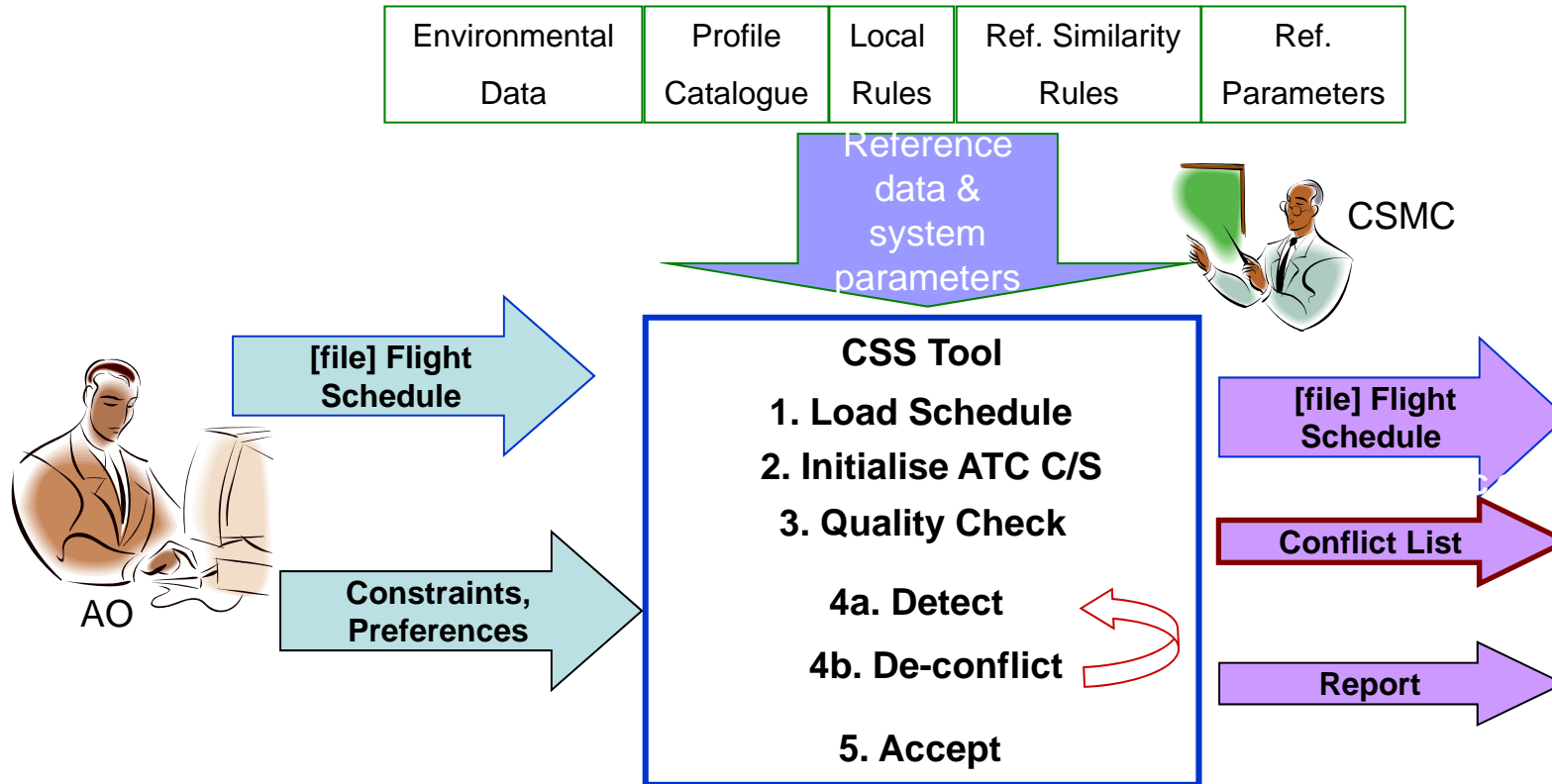
Call Sign Similarity Project Manager

NMD/NOM/SAF

Operational Concept – Use Cases



CSS Tool Overview



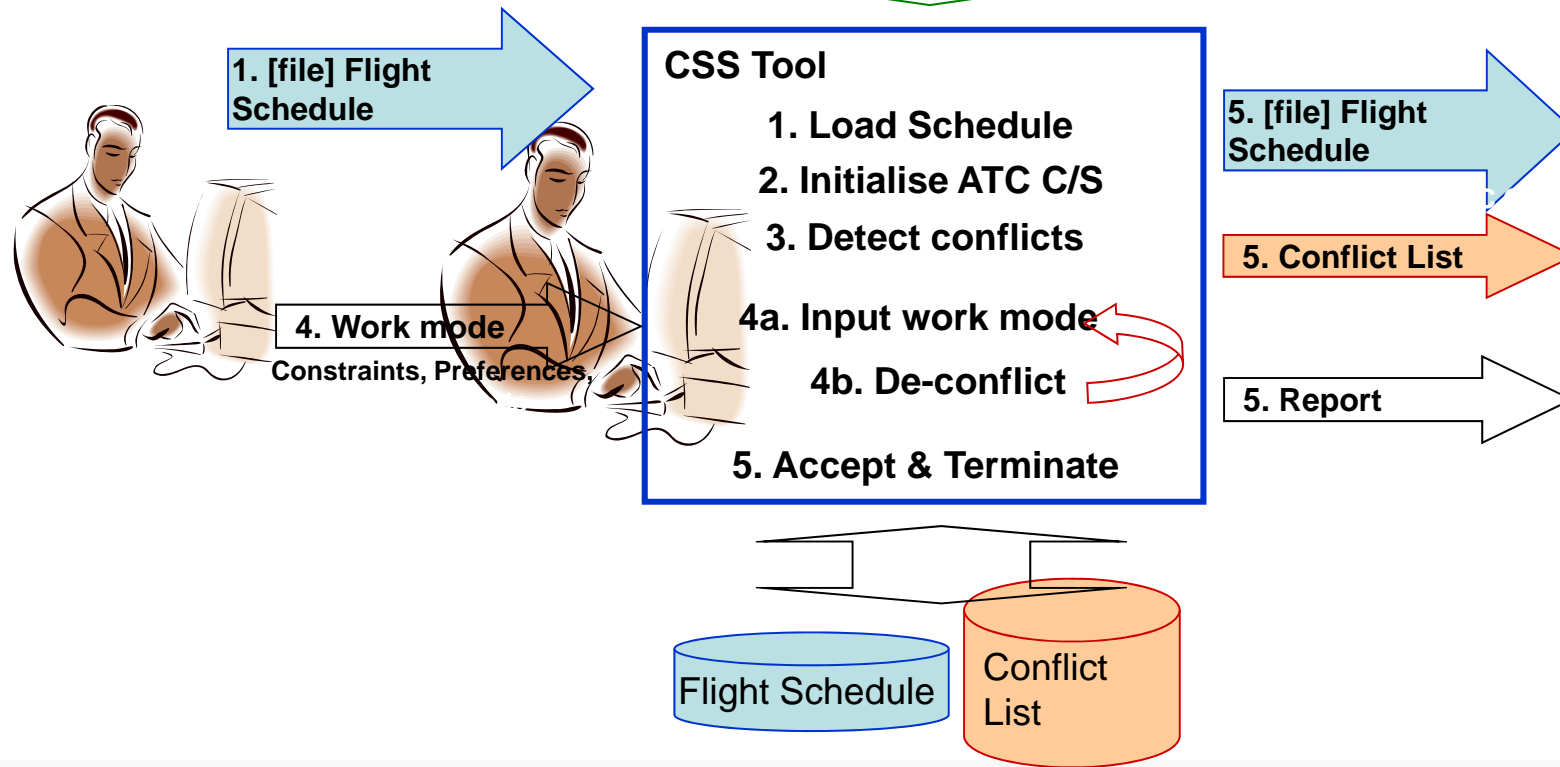
CSS Tool Overview



NM/CSMC

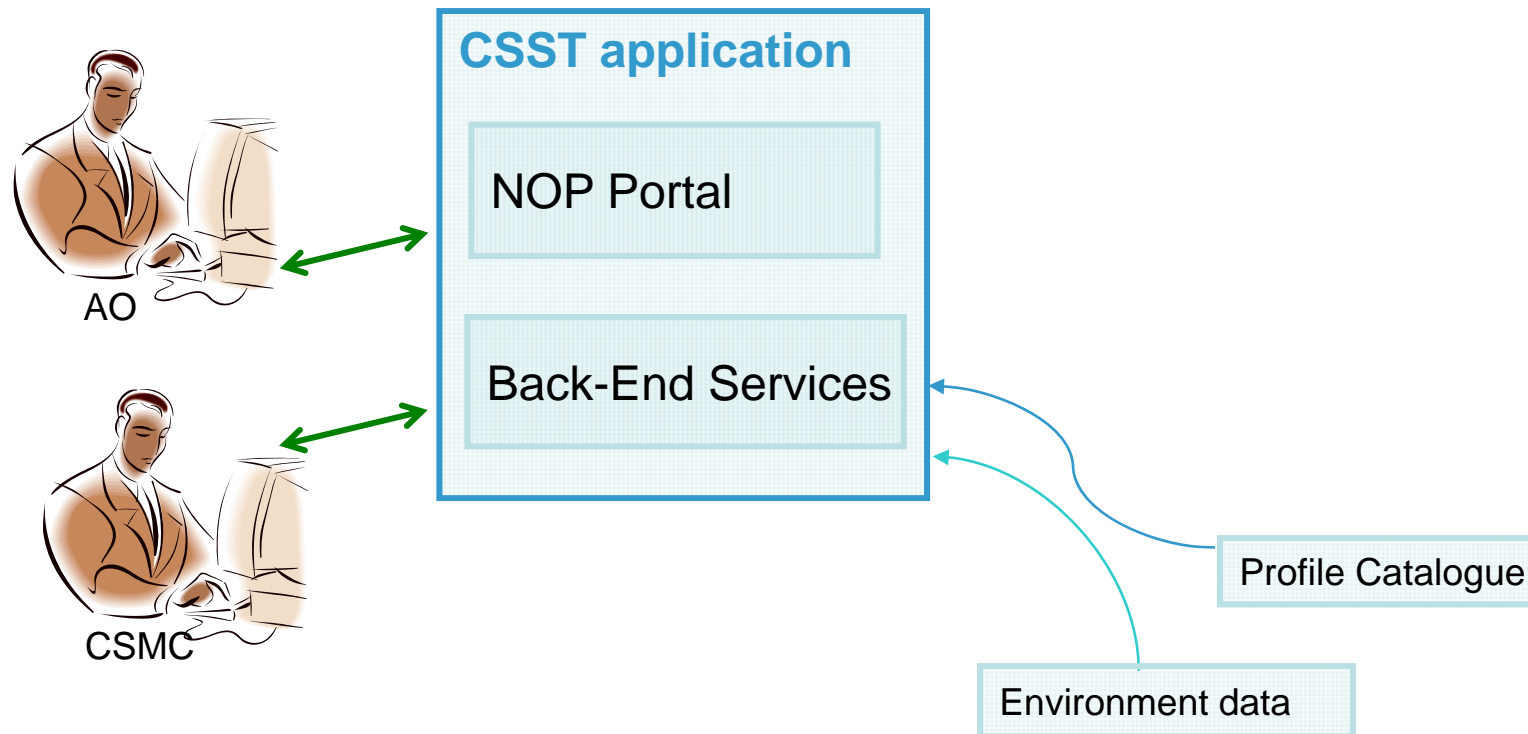
ENV	Profile	ANSP/State	Similarity	Tuning
Data	Catalogue	constraints	Rules	Parameters

System parameters

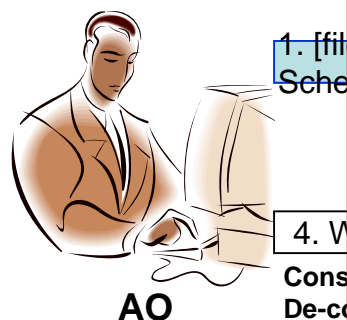
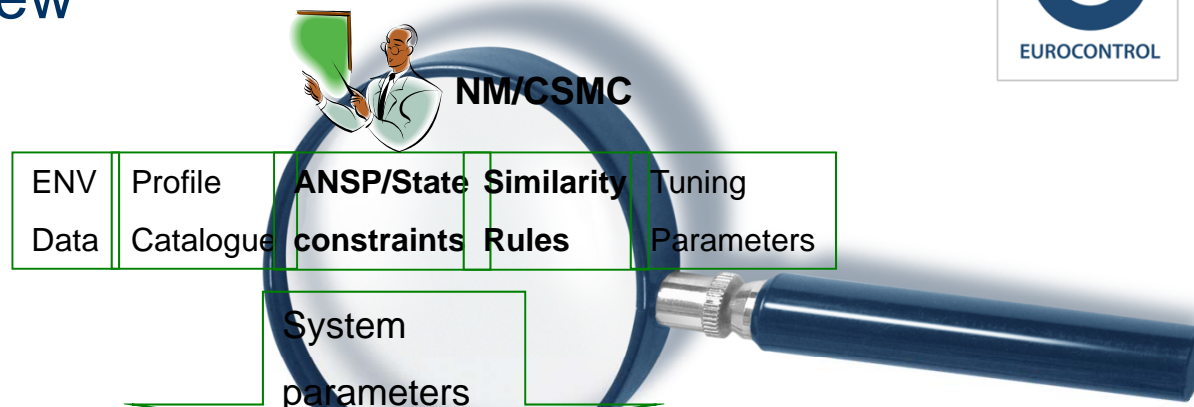


CSS Tool

- CSST is an application hosted in the Network Manager (NM) NOP Portal.



CSS Tool Overview



Similarity rules

- Conflicts between flights
- Conflict within one flight
e.g. use of letters 1& I, runway designator, flight levels
- **All** rules considered for Detection;

ANSPs' constraints

- Constraints on Flight Id (Call Sign) Composition
e.g. no use of alphanumeric, use of Bigrams in France, use of final letters in NATS

CSS Tool Overview



ENV	Profile	ANSP/State	Similarity	Tuning
Data	Catalogue	constraints	Rules	Parameters

System parameters



AO

Environmental Data

- Timings
- Overlaps
- Buffers – for delays etc

Profile Catalogue

- CFMU Information Reporting catalogue covering ECAC area: default = ATC Unit Airspace (AUA)
- Routeing information – ‘city pairs’





EN
Da

AO preferences

- De-selection of individual rules

Provide some flexibility in the de-confliction;

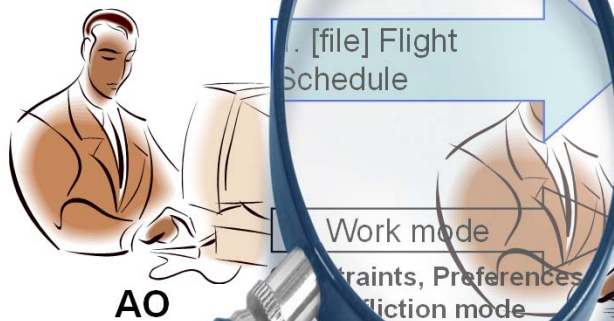
- Related conflicts are not considered for de-confliction

- Preferences in format and data content

De-confliction modes:

- Full Automatic, Semi-Automatic, Manual

- Flight Selection Criteria – determines which call sign to change



NOP Portal Access



CFMU NOP Network Operations Portal - Windows Internet Explorer

https://pwbsprc.cfm.eurocontrol.int/CPA_CSC_PORTAL/gateway/spec/index.html

File Edit View Favorites Tools Help Favorites Customize Links Windows Marketplace

CFMU NOP Network Operations Portal

13:11 11/01/2011 47 UTC TARGET DATE: 11/01/2011

Username: tstrpls1 SEARCH LOGOUT

D (Resources)

Resources Post-Operations Tactical PreTactical Strategic

SAFA
You are not authorised to access to SAFA

Call Sign Similarity Tool
Disconnect
Setup Management View Management

Contingency
CFMU Contingency Plan
This document addresses the contingency procedure to be carried out in the event of a long term ETFMS failure during the aeronautical winter 2007/8. Minimum Departure Intervals The procedure is based on the use of Minimum Departure Intervals (MDIs) by primary airports within the CFMU Area. The contingency plan has been made for the whole day, taking into consideration the demand variations on major airports. The application of MDIs will be announced by an appropriate AIM.

TRAINING Title (RES)

CFMU Developments
CFMU Systems Overview
CFMU Systems Evolutions
The CFMU 12 Release Notes describes the new or modified functions that are planned for implementation in 2007

ETFMS
SAFA Launch
CFMU contribution to CCAMS

CFMU Operations Overview
This is an overview of the CFMU Operations, describing the performed activities and the teams interactions with ATFM partners and Airspace Users.
Flow and Capacity Management
Flight Planning
Airspace Information
EAD

e-Conferences
Test text introduction: An introduction into the mystery of E-Conferences held at our premises whenever the need emerges to discuss issues that could not be dealt with via e-mail.
body link mainWithDP.linkArea link 0
Test text body link mainWithDP.linkArea: The aim of this briefing is to give an overview of the current ATFCM situation in Europe at 0800 UTC (Summer time) or 0900 UTC (winter time) and to give a prediction of future developments for today. The aviation community has the possibility to participate in this briefing live or listen to the recording.
body link bottomWithDP.linkArea link 0
Test text body link bottomWithDP.linkArea: The aim of this briefing is to give an overview of the current ATFCM situation in Europe at 0800 UTC (Summer time) or 0900 UTC (winter time) and to give a prediction of future developments for today. The aviation community has the possibility to participate in this briefing live or listen to the recording.
body link mainWithDP.linkArea link 1
Test text body link mainWithDP.linkArea: The aim of this briefing is to give an overview of the current ATFCM situation in Europe at 0800 UTC (Summer time) or 0900 UTC (winter time) and to give a prediction of future developments for today. The aviation community has the possibility to participate in this briefing live or listen to the recording.
body link mainWithDP.linkArea link 2
Test text body link mainWithDP.linkArea: The aim of this briefing is to give an overview of the current ATFCM situation in Europe at 0800 UTC (Summer time) or 0900 UTC (winter time) and to give a prediction of future developments for today. The aviation community has the possibility to participate in this briefing live or listen to the recording.
body link bottomWithDP.linkArea link 2
Test text body link bottomWithDP.linkArea: The aim of this briefing is to give an overview of the current ATFCM situation in Europe at 0800 UTC (Summer time) or 0900 UTC (winter time) and to give a prediction of future developments for today. The aviation community has the possibility to participate in this briefing live or listen to the recording.
Test text conclusion: The unavoidable yet satisfying conclusion to the matter of the mystery of E-Conferences that were held at our premises whenever the need emerged to discuss issues that could not be dealt with via e-mail.

Portal Release Information

- 02/12/2010 PRI Example 7
- 02/12/2010 PRI Example 8
- 02/12/2010 The PRI has developed a new service - Aerodrome Monitoring (AMON)
- 02/12/2010 PRI Example 9
- 02/12/2010 PRI Example 4
- 02/12/2010 PRI Example 6
- 02/12/2010 New Peak Traffic Day - Friday 27 June 2008
- 02/12/2010 PRIletter
- 02/12/2010 PRI Example 5

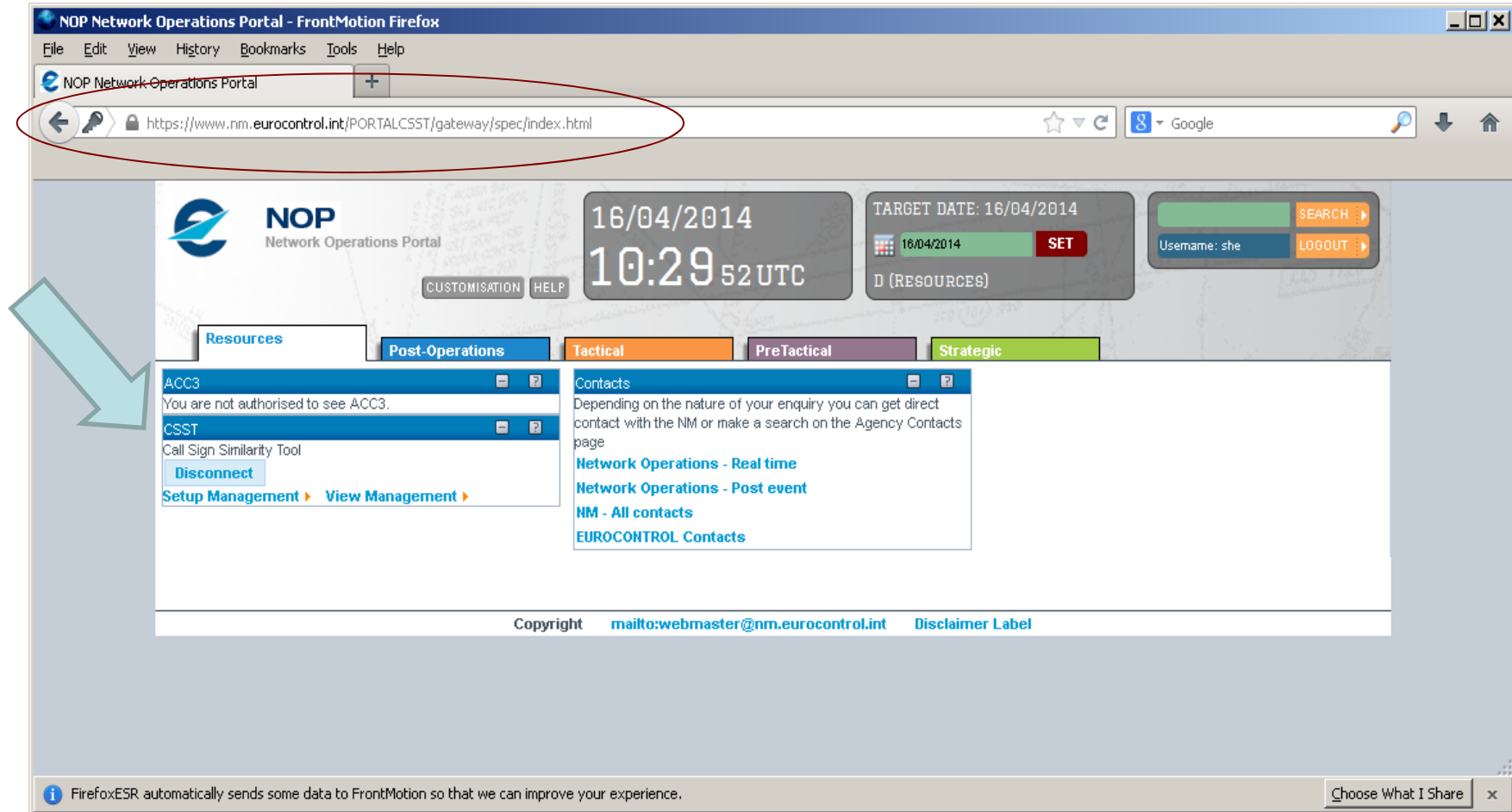
CFMU News (RES)

- 02/12/2010 CFMU News Example 7
Summary of CFMU News Example 7
more
- 02/12/2010 CFMU News Example 8
Summary of CFMU News Example 8
more
- 02/12/2010 The CFMU has developed a new service - Aerodrome Monitoring (AMON)
After the Monaco Grand prix, The EURO football cup 2008, CFMU carries out Airport Slot Monitoring.
more
- 02/12/2010 CFMU News Example 9
Summary of CFMU News Example 9
more
- 02/12/2010 CFMU News Example 4
Summary of CFMU News Example 4
more

Events and Meetings

Occurrence	Events	Last Update
15/07/2008 00:00 - 08/08/2008 00:00	A general event, Chinese Olympic games departures	23/04/2008
01/07/2008 00:00 - 01/08/2008 00:00	A general event, Charles de Gaulles Airport in maintenance	23/04/2008
28/07/2008 00:00 - 01/08/2008	A general event, German are on strike	23/05/2008

NOP Portal Access



NOP Network Operations Portal - FrontMotion Firefox

File Edit View History Bookmarks Tools Help

NOP Network Operations Portal

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/index.html

Google

NOP
Network Operations Portal

16/04/2014
10:29:52 UTC

TARGET DATE: 16/04/2014
16/04/2014 SET

SEARCH

Username: she LOGOUT

CUSTOMISATION HELP

Resources Post-Operations Tactical Pre Tactical Strategic

Resources

ACC3
You are not authorised to see ACC3.

CSST
Call Sign Similarity Tool
Disconnect
Setup Management View Management

Contacts

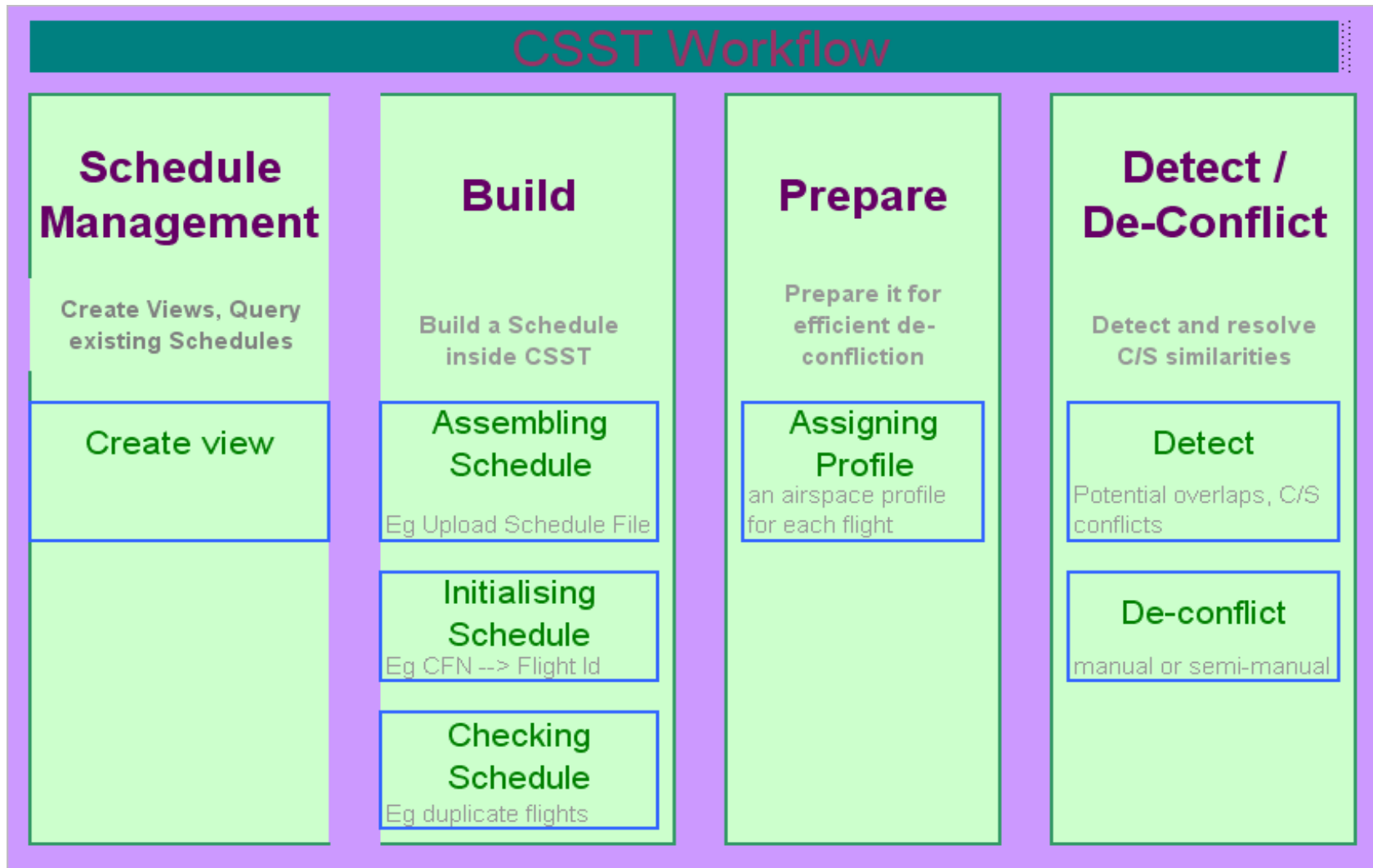
Depending on the nature of your enquiry you can get direct contact with the NM or make a search on the Agency Contacts page

Network Operations - Real time
Network Operations - Post event
NM - All contacts
EUROCONTROL Contacts

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FirefoxESR automatically sends some data to FrontMotion so that we can improve your experience. Choose What I Share x

CSS Tool Workflow




- Schedule Management
 1. Create view.
- Build
 1. Upload schedule into the view.
 2. Initialise.
 3. Quality Check.
- Prepare
 1. The tool associates an airspace profile, to each flight in the schedule. Profiles are obtained from profile catalogue.

View Management



View List - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66/PORTALCSST/gateway/

CSSTool 

View List

Operation Mode Season Current State

View Name ANU Id Creator

Creation Time View User

Name	Operation Mode	Season	Reference Date	State	ANU	Locked By	Description	Creator	Creation Time	Last Updated By	Last Update Time
✖ S15 Pre	PRESEASONAL	S15	10/02/2015 00:00	PREPARED	FINAOCC	p19fin	Preliminary Analysis	p19fin	10/02/2015 13:09	p19fin	10/02/2015 13:09
✖ SUN_SUM15	PRESEASONAL	S15		PREPARED	SXDAOCC	p1sxd		p1sxd	10/02/2015 09:02	p1sxd	10/02/2015 10:28
✖ SU15 V3	PRESEASONAL	S15	08/02/2015 00:00	PREPARED	SWRAOCC	p11swr	SU15 WTT2 TRIAL WITH LESS ATC	p11swr	08/02/2015 11:21	p11swr	08/02/2015 11:21
✖ SU15V2.1	PRESEASONAL	S15	07/02/2015 00:00	PREPARED	SWRAOCC	p11swr	SU15,WTT2, NEW TRIAL 1	p11swr	07/02/2015 20:44	p11swr	07/02/2015 20:44
✖ SU15_01	PRESEASONAL	S15	07/02/2015 00:00	PREPARED	SWRAOCC	p11swr	SU15 WTT2	p11swr	07/02/2015 13:56	p11swr	07/02/2015 13:56



Create a Flight Schedule



View List - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66:/PORTALCSST/gateway/

CSSTool

View List

Operation Mode Season Current State

View Name ANU Id Creator

Creation Time View User

Name	Operation Mode	Season	Reference Date	State	ANU	Locked By	Description	Creator	Creation Time	Last Updated By	Last Update Time
S15ver14	PRESEASONAL	S15	30/01/2015 00:00	PREPARED	SASAOC	p1e4839	ej charter	p1e4839	30/01/2015 10:22	p1e4839	30/01/2015 10:22
S15 ALP	PRESEASONAL	S15		PREPARED	KKKAOC	p1og1		p1og1	28/01/2015 13:09	p1og1	28/01/2015 13:09
S15 prep	PRESEASONAL	S15	28/01/2015 00:00	INITIAL	LGLAOC	p7lg504	preparation with first raw data	p7lg504	28/01/2015 10:02	p7lg504	28/01/2015 10:02




Checking a Schedule



CSST Workflow (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66:/PORTALCSST/gateway/

CSSTool 

Workflow for View: test

State:PREPARED Substate:CONFLICTS_DETECTED [Setups](#) [Schedule](#) [Download](#)

[Go to CONFLICTS](#)

[BUILD](#) [PREPARE](#) [DETECT/DECONFLICT](#)

[Assembling Schedule](#) [Initialising Schedule](#) [Checking Schedule](#)

Quality check results

- Sets of flight duplicates**
 - ▶ Sets of flights with the same commercial flight designator and overlapping periods of operation
 - ▶ Flights with the same Call sign (potential duplicates)
- Incomplete flights**
 - ▶ Flights not flying in the season
- Flight using French exception but not allowed**




Assign Flight Profile to a schedule



CSST Workflow (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66:/PORTALCSST/gateway/

CSSTool 

Workflow for View: test

State:PREPARED Substate:CONFLICTS_DETECTED [Setups](#) [Schedule](#) [Download](#)

[Go to CONFLICTS](#)

[BUILD](#) [PREPARE](#) [DETECT/DECONFLICT](#)

[Assigning Profile](#)

Your schedule is missing 21 profiles out of 1503:

	Part Name	Airline	CFN	Next CFN	AO	Flight id	ADEP	ADES	From	To	Period of Operation: Start	Period of Operation: End	Days	EOBT	ETA
[VIEW]	2378	TP	1527		TAP	1527	DGAA	FPST	ACC	TMS	25/12/2014	28/03/2015	2 4 6	06:05	07:55
[VIEW]	2378	TP	1527		TAP	1527	DGAA	FPST	ACC	TMS	30/10/2014	27/11/2014	4	08:05	09:55
[VIEW]	2378	TP	1527		TAP	1527	DGAA	FPST	ACC	TMS	28/10/2014	23/12/2014		06:15	08:05
[VIEW]	2378	TP	773		TAP	59M	ESGG	LPPT	GOT	LIS	27/10/2014	28/03/2015		14:20	18:15
[VIEW]	2378	TP	1528		TAP	1528	FPST	DGAA	TMS	ACC	30/10/2014	27/11/2014	4	10:55	12:45
[VIEW]	2378	TP	1528		TAP	1528	FPST	DGAA	TMS	ACC	25/12/2014	28/03/2015	2 4 6	08:55	10:45
[VIEW]	2378	TP	1528		TAP	1528	FPST	DGAA	TMS	ACC	28/10/2014	23/12/2014		09:05	10:55

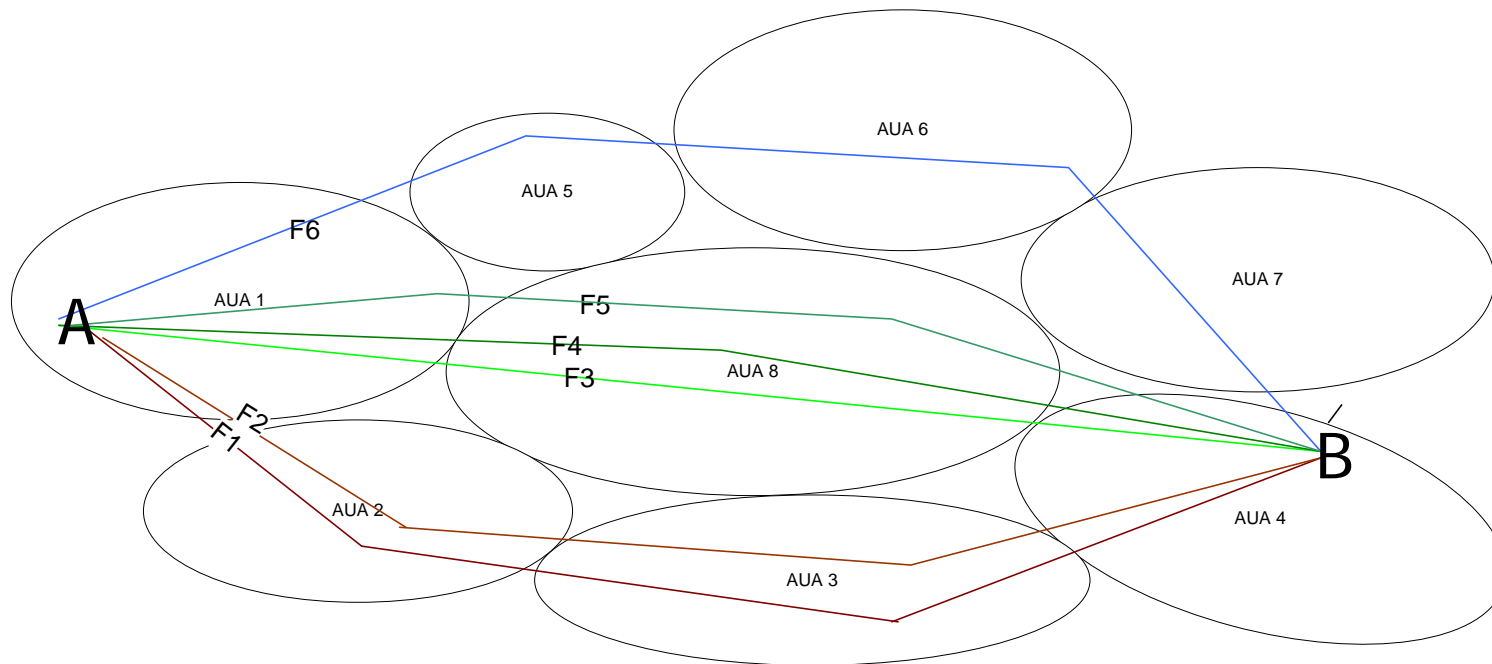


CSST - Prepare: Assigning a profile

- NM Profile Catalogue: flown profiles of previous season. Approx 180.000 profiles.
- For a city pair and an aircraft type (turbo or jet) associate an airspace profile.
 - This is the most flown profile.
 - Flying duration in the airspace is an average of all flights using the given profile.
 - The airspace profile consists only of airspaces type AUA (TMA, CTA). But can be customised for example for London AUA.



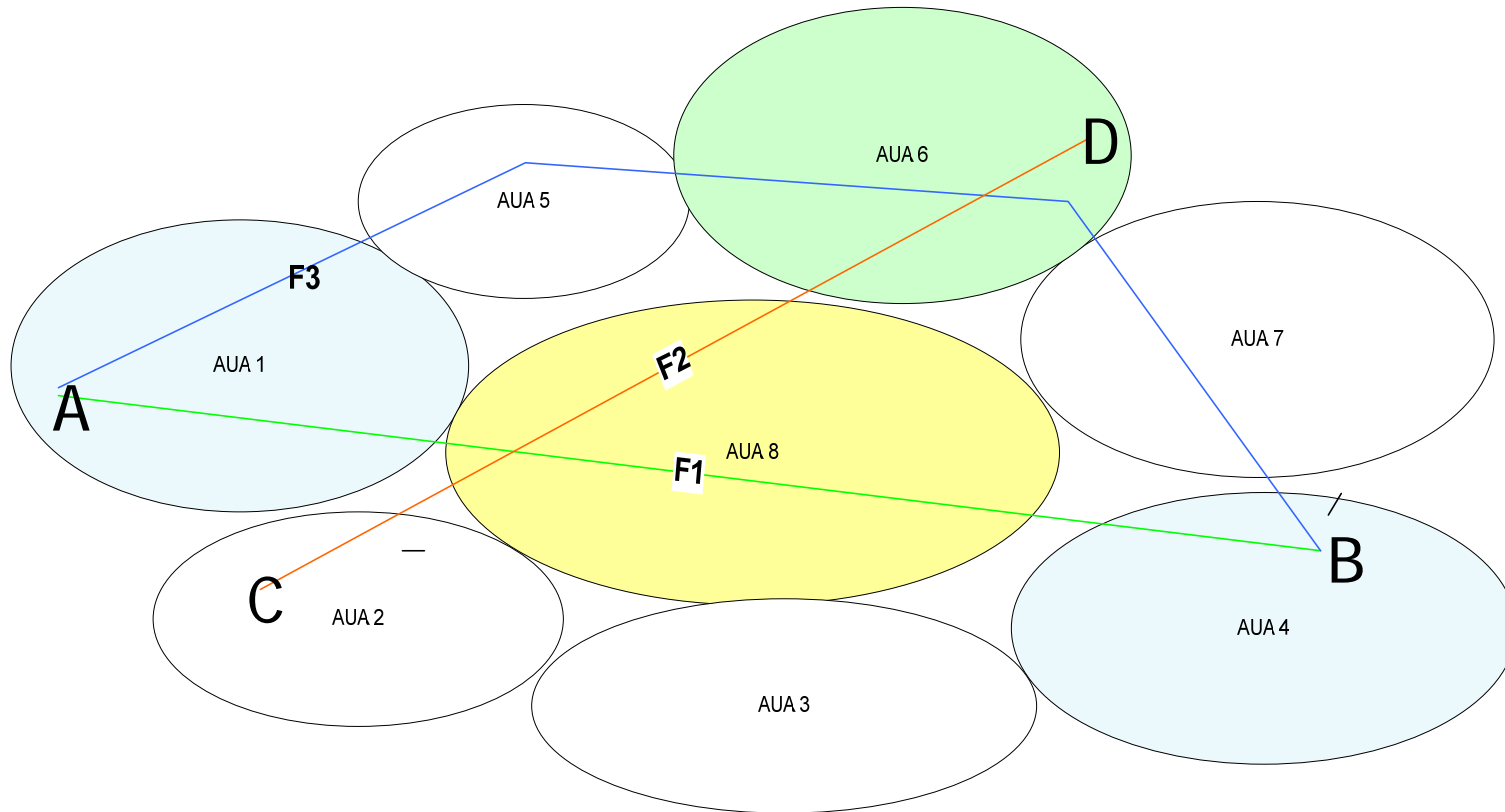
CSST - Assigning a profile



- Profile most flown for city pair A-B : AUA1, AUA8, AUA4
- Airspace profile is a list of airspaces and its flying time
- Flying time i.e. in AUA8 = [duration (F3) + duration (F4) + duration (F5)] /3

- DETECT
 1. **The tool computes the potential overlaps.**
 - Result: Flights that overlap in space (aerodromes and airspaces) and time.
 2. **For the overlapping profiles, it computes Callsign conflicts by applying the Similarity Rules.**
 - Results: Lists of 'flight' and 'entity' conflicts.
 - Two kinds of conflicts are detected.
 - Reference conflicts : conflicts with regard to the CSMC reference detection setups.
 - AO conflicts: conflicts with regards to user-relaxed or hardened setups.

CSST - Detect



Overlap in space

F1 and F2 in airspace AUA 8,
F1 and F3 in aerodromes A, B
F2 and F3 in airspace AUA 6

Overlap in time

F1 06:00 EOBT
F2 06:30 EOBT
F3 22:00 EOBT

Potential conflict F1-F2

C/S conflicts

AF 123 (F1)
AF 213 (F2)

Conflict F1-F2 identified

Customising CSS Tool Set-ups



CSST Edit Setup (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66/gwt-detached-view.jsp?portal_context=/gateway/spec/PORTAL18.5.1.1.66/PORTALCSST/gateway/

CSS Setup: S15 for View: test

SEASONS BUILD PREPARE DECONFLICT

Global Setups

Environment Data *last updated: 08/01/2015 13:41:51 by: hoj*

Aerodrome Map
Active since: 26/10/2014 11:22:25 Till: until superseded by new upload

AO Map
Active since: 08/01/2015 13:41:51 Till: until superseded by new upload

Aircraft type Map
Active since: 05/09/2013 08:36:21 Till: until superseded by new upload

French Exception Information *last updated: 19/07/2014 10:08:21 by: sh*

AO Setups

ATC AO designator *default*

AO Allow override

Leading zeroes policy *default*

Leading zeros policy Allow override

CFN Suffix policy *default*

Call Sign Maps *default*

View Setups

ATC AO Designator *default*

Leading zeroes policy *default*

CFN suffix policy *default*


Call Sign Maps *default*



More Set-ups

CSST Edit Setup (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL18.5.1.1.66:/PORTALCSST/gateway/

CSS Setup: S15 for View: test 

SEASONS BUILD PREPARE **DECONFLICT**

▶ **Global Setups**

▼ **AO Setups**

▼ **Buffer times (in minutes)** *default*

Buffer times (in minutes)

Location	Minimum	Default	Maximum
Aerodrome early departure	GLOBAL <input type="checkbox"/> 0	GLOBAL <input type="checkbox"/> 10	GLOBAL <input type="checkbox"/> 30
Aerodrome late departure	GLOBAL <input type="checkbox"/> 0	GLOBAL <input type="checkbox"/> 40	GLOBAL <input type="checkbox"/> 90
Airspace early departure	GLOBAL <input type="checkbox"/> 0	GLOBAL <input type="checkbox"/> 10	GLOBAL <input type="checkbox"/> 30
Airspace late departure	GLOBAL <input type="checkbox"/> 0	GLOBAL <input type="checkbox"/> 40	GLOBAL <input type="checkbox"/> 90

▶ **AO Similarity Rules** *default*

▶ **View Setups**

Similarity Rules Set-up



CSST Edit Setup (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66:/PORTALCSST/gateway/

CSS Setup: S15 for View: test

SEASONS BUILD PREPARE DECONFLICT

Global Setups

Similarity rule implementations *last updated: 19/07/2014 10:08:21 by: she*

Number	Id	Description	Level	AO	View
2700	TWO_CMN_DIGIT_IN_THREE_AND_LETTER	enter description	LEVEL2_OVERLAPPING	✓	✓
3000	PARA_TWO_VS_THREE_FIRST_AND_LAST_SYMBOL_IN_CMN	Length2 v 3 first and last symbol in common	LEVEL2_OVERLAPPING	✓	✓
1100	COMBINATIONS_TO_AVOID	Combinations to avoid	LEVEL1	✓	✓
500	RUNWAY_VALUES	Runway values nn and L, C, R	LEVEL1	✓	✓
900	VHF	enter description	LEVEL1	✓	✓
2800	THREE_VS_THREE_A_DIGIT_IN_CMN_AND_LETTER	Length3 v 3 1 digit 1 letter in common	LEVEL2_OVERLAPPING	✓	✓
2500	UNIQUE_NUMERIC_FLIGHT_ID	Unique numeric Flight ID	LEVEL2_ALL_PAIRS	✓	✓
1600	ANAGRAMS	Anagrams	LEVEL2_OVERLAPPING	✓	✓
300	FLIGHT_LEVEL_VALUES	Flight Level values	LEVEL1	✓	✓
1200	LAST_DIGIT_0_OR_5	enter description	LEVEL1	✓	✓
200	CFN_FORMATS	enter description	LEVEL1	✓	✓
600	QNH_QFE_LOW	QNH-QFE Low	LEVEL1	✓	✓
800	SQUAWK	enter description	LEVEL1	✓	✓
100	ATC_FLIGHT_ID_FORMATS	ATC Flight ID Format	LEVEL1	✓	✓
2200	PARTIAL_ANAGRAMS	Partial anagrams	LEVEL2_OVERLAPPING	✓	✓
1900	IDENTICAL_DIGIT_ROOTS	enter description	LEVEL2_OVERLAPPING	✓	✓
400	FLIGHT_HEADING_VALUES	enter description	LEVEL1	✓	✓
2000	IDENTICAL_BIGRAMS	Identical Bigrams	LEVEL2_OVERLAPPING	✓	✓
1300	EQUALS_CFN	enter description	LEVEL1	✓	✓
2100	IDENTICAL_FINAL_LETTER	Identical Final Letter	LEVEL2_OVERLAPPING	✓	✓
1400	IDENTICAL_FLIGHT_ID	Identical Flight ID	LEVEL2_OVERLAPPING	✓	✓
3100	TWO_LETTERS_ANAGRAM	Two letter Anagram	LEVEL2_OVERLAPPING	✓	✓
2300	IDENTICAL_EXCEPT_LEADING_ZEROS	enter description	LEVEL2_OVERLAPPING	✓	✓
1700	IDENTICAL_BLOCK_DIGITS	enter description	LEVEL2_OVERLAPPING	✓	✓
1000	TRIPLE_REPETITION	Triple Repetition	LEVEL1	✓	✓
2900	LENGTH_FOUR_A_DIGIT_AND_LETTER_IN_CMN	Length 4 v 4 1 digit 1 letter in common	LEVEL2_OVERLAPPING	✓	✓
1500	IDENTICAL_FINAL_DIGITS	Identical Final digits	LEVEL2_OVERLAPPING	✓	✓
2600	ONE_CMN_DIGIT_IN_THREE_AND_LETTER	enter description	LEVEL2_OVERLAPPING	✓	✓
1800	PARALLEL_CHARACTERS	Parallel Characters	LEVEL2_OVERLAPPING	✓	✓
700	QNH_QFE_HIGH	QNH-QFE High	LEVEL1	✓	✓
2400	IDENTICAL_FLIGHT_IDS	Identical Flight ID's	LEVEL2_ALL_PAIRS	✓	✓

▶ CSMC Similarity Rules *last updated: 20/07/2014 11:47:49 by: noe*
 ▶ Reference buffer times (in minutes) *last updated: 19/07/2014 10:08:21 by: she*
 ▶ Buffer times (in minutes) *last updated: 19/07/2014 10:08:21 by: she*

▶ AO Setups
 ▶ View Setups



Schedule Query



CSST Query Schedule (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?portal_context=/gateway/spec/PORTAL.18.5.1.1.66/PORTALCSST/gateway/

CSSTool

CSST Query Schedule for View: test

Schedule Chunks: ALL

Commercial AO: CFN and Suffix: 117 Next CFN and Suffix: ATC AO Designator: ATC Flight Id:

Designator: Period of Operation: Days of Operation: 1 2 3 4 5 6 7 EOBT between: ETA between:

ICAO ADEP: IATA ADEP: ICAO ADES: IATA ADES:

IATA AircraftType: ICAO AircraftType:

	Part Name	Airline	CFN	Next CFN	AO	Flight id	ADEP	ADES	From	To	Period of Operation: Start	Period of Operation: End	Days	EOBT	ETA
<input type="checkbox"/> [UPDATE]	2378	TP	117		TAP 64H	LPPT	SBPA	LIS	POA		27/10/2014	28/03/2015		11:30	22:50
<input type="checkbox"/> [UPDATE]	2378	TP	117		TAP 64H	LPPT	SBPA	LIS	POA		27/10/2014	28/03/2015		11:30	22:50
<input type="checkbox"/> [UPDATE]	2378	TP	117		TAP 64H	LPPT	SBPA	LIS	POA		27/10/2014	28/03/2015		11:30	22:50
<input type="checkbox"/> [UPDATE]	2378	TP	117		TAP 64H	LPPT	SBPA	LIS	POA		27/10/2014	28/03/2015		11:30	22:50



Conflict List



CSS Deconflict (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL18.5.1.1.66/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66:RES:14236128C

Query Conflicts [Go](#)

Conflicts Overview

List Area 1383/1383 unresolved flight references 1383/1383 unresolved flights 1383/1383 unprocessed flights

Reference Detection conflicts | Detection conflicts

Flights | Conflict Pairs

Flight List

Filter out Related Flights

Select All Clear All Multiple Selection Mode [Modify ATC flight id](#) [Modify ATC flight id format](#) [Change actions](#) [No Change](#) [Same id set](#) [Overlaps](#) [Undo CFN/ATC flight id changes](#)

	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	CH	ARCT	From	To	#Days	Days	SID	Nb C	HCP	Prio	Refprio	DC	PR
<input checked="" type="checkbox"/>	TAP	761	761	ENGM	LPPT	17:40	21:50		A320	26/10/14	26/03/15	62		1	4	1	4	4	143	✓
<input type="checkbox"/>	TAP	837	837	LIRF	LPPT	05:20	08:30		A320	26/10/14	28/03/15	49		2	4	1	4	4	27	✓
<input type="checkbox"/>	TAP	1322	1322	LHBP	LPPT	14:40	18:35		A320	29/10/14	18/03/15	10	3	2	5	1	5	5	44	✓
<input type="checkbox"/>	TAP	3538	3538	LPPT	LSGG	06:50	09:15		A319	22/12/14	22/12/14	1	1	3	5	1	5	5	5	✓
<input type="checkbox"/>	TAP	1902	1902	LPFR	LPPT	16:50	17:35		A319	26/10/14	28/03/15	118		5	5	1	5	5	154	✓
<input type="checkbox"/>	TAP	1315	1315	LHBP	LPPT	18:35	22:30		A320	27/10/14	23/03/15	16	1	2	5	1	5	5	44	✓
<input type="checkbox"/>	TAP	453	453	LFPO	LPPR	13:35	15:45		BER4	26/10/14	28/03/15	151		1	5	1	5	5	324	✓
<input type="checkbox"/>	TAP	3524	3524	LPPR	LSZH	11:10	13:45		A319	03/01/15	03/01/15	1	6	1	5	1	5	5	5	✓
<input type="checkbox"/>	TAP	3859	3859	LPPR	LPMA	21:55	23:55		A319	19/12/14	13/02/15	11		1	5	1	5	5	14	✓
<input type="checkbox"/>	TAP	1481	1481	LPPT	GOOY	20:50	01:00		A321	26/10/14	28/03/15	150		2	5	1	5	5	24	✓

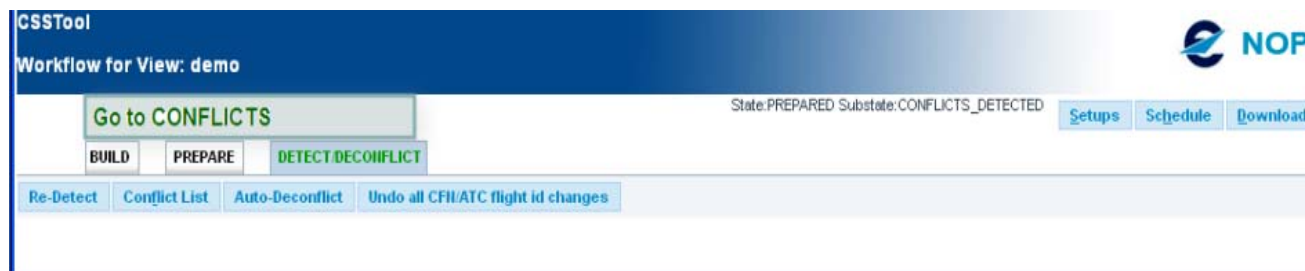
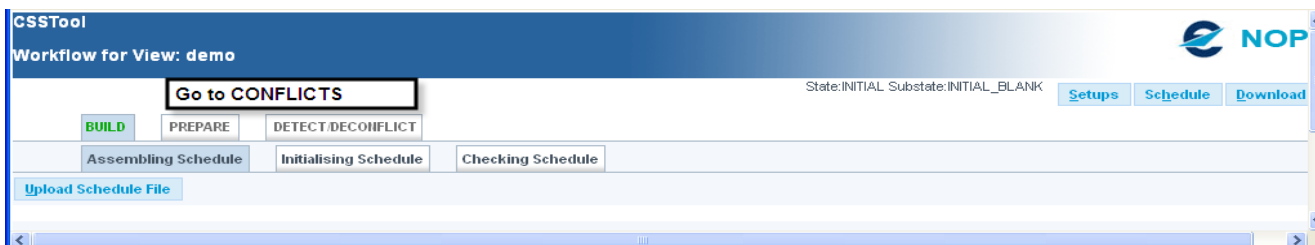
Conflicts for Selected Flight

Select All	Clear All	Conflict Subset	Same aircraft	Low risk	No sector in common	No Solution Manual	Change Restricted Manual	No Solution Auto	Change Restricted Auto	Conflict Details
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Target Flight Flight 1 Flight 2 [Modify ATC flight id](#) [Modify ATC flight id format](#) [Change actions](#) [No Change](#) [Same id set](#) [Flight Overlaps](#) [Undo CFN/ATC flight id changes](#)

	CI	S	Prio	Qual	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	Ch	ARCT	From	To	#Days	Days	SID	Nb C	Prio	RefPrio	DC
<input type="checkbox"/>	S	U	1	U	TAP	761	761	ENGM	LPPT	17:40	21:50	TAP	766	766	LPPT	ENGM	12:50	16:55	A320	26/10/14	26/03/15	62		1	1	1	1	62	
<input type="checkbox"/>	S	U	1	U	TAP	761	761	ENGM	LPPT	17:40	21:50	TAP	764	764	LPPT	ENGM	19:05	23:10	A320	26/10/14	27/03/15	62		3	4	4	4	103	
<input type="checkbox"/>	S	U	1	U	TAP	761	761	ENGM	LPPT	17:40	21:50	TAP	751	751	EKCH	LPPT	17:20	21:10	A321	08/02/15	08/02/15	1		3	10	10	10	210	
<input type="checkbox"/>	S	U	1	U	TAP	761	761	ENGM	LPPT	17:40	21:50	TAP	751	751	EKCH	LPPT	17:20	21:10	A320	26/10/14	27/03/15	61		3	10	10	10	210	

New button 'Go To Conflicts' will fast track to conflicts list.



New button 'Go To Conflicts' will fast track to conflicts list.

CSSTool
Conflict List for View: demo (GLOBAL)

► Query Conflicts [Go](#)

▼ Conflicts Overview

Reporting: Flights with conflicts		
Conflict class	Reference Detection	Detection (unresolved/total)
FLIGHT_CONFLICT_OVERLAPPING_FLIGHTS_CROSS_AO	0 / 0	0 / 0
FLIGHT_CONFLICT_OVERLAPPING_FLIGHTS_SINGLE_AO	0 / 465	0 / 465
ENTITY_CONFLICT	0 / 30	0 / 30

Reporting: Conflicts	
Conflict Qualification	# conflicts
UNPROCESSED	381
SAME_AIRCRAFT	14
NO_SECTOR_IN_COMMON	0
DESELECTED	0
RESOLVED	0
LOW_RISK	0
NO_SOLUTION_MANUAL	0
CHANGE_RESTRICTED_MANUAL	0
NO_SOLUTION_AUTO	0
CHANGE_RESTRICTED_AUTO	0

▼ List Area 481/481 unresolved flight references 481/481 unresolved flights 465/465 unprocessed flights

Reference Detection conflicts | **Detection conflicts**

Flights | Conflict Pairs

Flight List

Filter out Related Flights

Select All | Clear All | Multiple Selection Mode | Modify ATC flight id | Modify ATC flight id format | Change actions | No Change | Same id set | Overlaps | Undo CFI/ATC flight id changes

AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	CH	ARCT	From	To	Days	Week Days	SID	Ib C	HCP	!	R!	DC	PR	
<input type="checkbox"/>	CFG	5548	5548	EDDL	LTAI	13:10	16:45	A	B753	03/06/13	28/10/13	14	5	3	9	1	9	9	54	✓
<input type="checkbox"/>	CFG	1904	1904	EDDF	LTAI	04:05	07:25	A	B753	06/06/13	24/10/13	20	1	1	8	1	8	8	143	✓
<input type="checkbox"/>	CFG	2903	2903	LTAI	EDDM	17:20	20:35	A	B753	07/06/13	25/10/13	14	2	2	6	1	6	6	46	✓
<input type="checkbox"/>	CFG	2973	2973	GCFV	EDDM	16:55	21:20	A	B753	07/06/13	25/10/13	20	2	1	5	1	5	5	65	✓
<input type="checkbox"/>	CFG	2693	2693	LTAI	EDDF	17:10	20:50	A	B753	07/06/13	25/10/13	19	2	1	5	1	5	5	53	✓
<input type="checkbox"/>	CFG	4843	4843	LTAI	EDDL	07:10	11:05	A	B753	02/06/13	27/10/13	21	4	1	5	1	5	5	40	✓
<input type="checkbox"/>	CFG	5096	5096	EDDM	LEPA	04:00	06:20	A	B753	03/06/13	28/10/13	16	5	2	5	1	5	5	31	✓
<input type="checkbox"/>	CFG	5706	5706	EDDH	LEPA	04:15	06:55	A	B753	03/06/13	28/10/13	14	5	3	5	1	5	5	31	✓
<input type="checkbox"/>	CFG	5248	5248	EDDF	MDPP	13:30	23:30	A	B764	03/06/13	28/10/13	21	5	1	5	1	5	5	22	✓
<input type="checkbox"/>	CFG	1907	1907	LTAI	EDDK	07:30	11:10	A	A320	06/06/13	24/10/13	20	1	1	5	1	5	5	90	✓

Conflicts for Selected Flight

- DE-CONFLICT
 1. **The Flight Ids are modified to resolve/improve the conflict.**
 - Manually or
 - Semi-manually: The Tool proposes some ATC Flight Ids and lets the user select.
 - Automatic: The tool automatically de-conflicts the schedule.

De-conflict Solution Area



CSS Deconflict (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL.18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL.18.5.1.1.66:/PORT

CSSTool

Conflict List for View: test (TENTATIVE_MANUAL)

▼ Solution Area

Manual Solution: Solution

Semi-Manual solution: CFN 761 ATC Flight Id 761

▼ Semi-Manual and automatic deconfliction: solution settings

ATC format and range preferences

Priority	ATC Format	Range Start	Range End	Retain from CFN or ATC flight Id (use "=" in range)	Apply to CFN/ATC flight id with length
※ 1	nnA			Retain from ATC Flight Id	

Transformation Rule

No leading zeroes

► List Area

No solutions found

- Possible actions when no solution is found
 - Try to change the other flight
 - If possible, and not done yet
 - Extend search space for C/S
 - Try other C/S ranges
 - Allow more C/S format
 - (Remove link with CFN) if any
 - Reduce “conflicts” with other flights
 - Dropping / De-selecting some “minor” similarity rules
 - Reducing buffer time parameters
 - (Note: A priori De-confliction uses the same rules/parameters as for Conflict Detection)
 - Accept the situation
 - Disregard the conflict



De-confliction – which flight

- Processing a Level A conflict: which flight to change
 - Not the one with No_change indicator set
 - Not the one subject to ANSP constraint « C/S = CFN »
 - Not the one with over flight permission (preferably)
 - Not the one with airport restrictions (preferably)
- Heuristics
 - The one with the most conflicts (as will eliminate more conflicts)
 - The one with the least frequency in the schedule (operating days)
 - → Least impact on the schedule
 - The most recent one (the newest city pair in schedule)
 - The second one in FIR (First come First served)
 - Medium-Haul, then Long-Haul, then Domestic
 - Some indicates L-H as last to be changed
 - What when both same type? E.g. M-H, M-H?

De-confliction Results



CSS Deconflict (View: test) - Mozilla Firefox

https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66/gwt-detached-view.jsp?_portal_context=/gateway/spec/PORTAL18.5.1.1.66:/PORTALCSST/gateway/spec/PORTAL18.5.1.1.66:RES:142361280

Reference Detection conflicts | Detection conflicts

Flights | Conflict Pairs

Flight List

Filter out Related Flights

Select All | Clear All | Multiple Selection Mode | Modify ATC flight id | Modify ATC flight id format | Change actions | No Change | Same id set | Overlaps | Undo CFN/ATC flight id changes

	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	CH	ARCT	From	To	#Days	Days	SID	Nb C	HCP	Prio	Refprio	DC	PR
<input checked="" type="checkbox"/>	TAP	761	18K	ENGM	LPPT	17:40	21:50		A320	26/10/14	26/03/15	62		1	0	0	0	0	0	0
<input type="checkbox"/>	TAP	766	766	LPPT	ENGM	12:50	16:55		A320	26/10/14	26/03/15	62		1	0	0	0	0	0	0
<input type="checkbox"/>	TAP	9318	9318	ELLX	LPPT	20:25	23:10		B100	03/01/15	03/01/15	1	6	1	1	1	1	1	1	1
<input type="checkbox"/>	TAP	2357	2357	LPPT	LPMA	22:30	00:15		A319	03/01/15	03/01/15	1	6	2	1	1	1	1	1	1
<input type="checkbox"/>	TAP	2506	2506	SBRF	LPPT	01:40	09:15		A310	26/10/14	26/10/14	1	7	1	1	1	1	1	1	1
<input type="checkbox"/>	TAP	1265	1265	EPWA	LPPT	18:45	23:05		A319	04/11/14	04/11/14	1	2	1	1	1	1	1	1	1
<input type="checkbox"/>	TAP	2926	2926	ESSA	LPPT	15:20	19:50		A320	25/12/14	01/01/15	2	4	1	1	1	1	1	2	2
<input type="checkbox"/>	TAP	773	773	ESGG	LPPT	14:20	18:15		A320	27/10/14	28/03/15	86		1	1	1	1	1	86	86
<input type="checkbox"/>	TAP	289	289	LPPT	FNLU	23:25	07:05		A343	26/10/14	28/03/15	154	1234567	1	1	1	1	1	44	44
<input type="checkbox"/>	TAP	2951	2951	LIRF	LPPT	20:55	00:05		A319	08/11/14	08/11/14	1	6	1	1	1	1	1	1	1

Conflicts for Selected Flight

Select All | Clear All | Conflict Subset | Same aircraft | Low risk | No sector in common | No Solution Manual | Change Restricted Manual | No Solution Auto | Change Restricted Auto | Conflict Details

Target Flight | Flight 1 | Flight 2 | Modify ATC flight id | Modify ATC flight id format | Change actions | No Change | Same id set | Flight Overlaps | Undo CFN/ATC flight id changes

	CI	S	Prio	Qual	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	AO	CFN	Flight Id	ADEP	ADES	EOBT	ETA	Ch	ARCT	From	To	#Days	Days	SID	Nb C	Prio	RefPrio	DC
<input type="checkbox"/>	S	R	0	R	TAP	761	18K	ENGM	LPPT	17:40	21:50	TAP	751	35H	EKCH	LPPT	17:20	21:10	A321	08/02/15	08/02/15	1		3	0	0	0	0	0
<input type="checkbox"/>	S	R	0	R	TAP	761	18K	ENGM	LPPT	17:40	21:50	TAP	751	35H	EKCH	LPPT	17:20	21:10	A320	26/10/14	27/03/15	61		3	0	0	0	0	0
<input type="checkbox"/>	S	R	0	R	TAP	761	18K	ENGM	LPPT	17:40	21:50	TAP	766	766	LPPT	ENGM	12:50	16:55	A320	26/10/14	26/03/15	62		1	0	0	0	0	0
<input type="checkbox"/>	S	R	0	R	TAP	761	18K	ENGM	LPPT	17:40	21:50	TAP	764	76N	LPPT	ENGM	19:05	23:10	A320	26/10/14	27/03/15	62		3	0	0	0	0	0



CSS Tool - Wrap-Up

- Easily accessible via NOP Portal.
- Rich 'city pair' profile catalogue - full ECAC coverage.
- Worldwide aerodrome detection.
- Full automatic ; semi-manual or manual .
- Highly configurable.

CSS Tool/Service - Benefits to Users



- Centralised service, managed and maintained by CSMC (EUROCONTROL).
- Uses CSS UG agreed set of call sign similarity rules.
- Cross AO 'Sanity Check' performed by CSMC
- Economies of scale.
- Implements the safety objective – anticipated 75% reduction in similarities.



CSST Access

- Access using NM token id enabled for CSST (free for existing tokens)
- NM Service Request Form at:
<http://www.eurocontrol.int/network-operations/access-service-request-form>
- Stand alone url at:
<https://www.nm.eurocontrol.int/PORTALCSST/gateway/spec/index.html>

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CSST

[See Also](#) [Send Feedback](#)

Portlets from A to Z > CSST

Typical Scope: RES

CSST is all about de-conflicting flight schedules. A flight schedule describes the flights that an aircraft operator intends to implement in a season.

Access to the CSST Portlet is restricted by security profile. This section may therefore not concern you.

Accessing the CSST

The URL to the CSST is

<https://www.cfm.europa.eu/PORTALCSST/gateway/spec/index.html>

Enter your Username and Passcode, then select the **csmc_role** in the **SATI** domain.

Go next to the **Resource Tab**.

This is how the CSST Portlet looks like:



Lastly, click on the **Connect** button to access the CSST.

You may be prompted to **Reconnect** or **Cancel** - in case there is a session was active.

When successfully (re)connected, this is what the Portlet looks like, allowing you to:

- Disconnect
- [Setup Management](#)
- [View Management](#)



See Also

NOP - On Line Help

NETWORK OPERATIONS CSST USER GUIDE



EUROCONTROL

Edition validity date: 23 September 2014

Edition N°: 3.0

User Guide

CSST User Manual /Web based help

- User Manual updated and online at the public website:

<http://www.eurocontrol.int/lists/publications/network-operations-library?type=3320&keyword>

- Web based help at:

<https://www.public.nm.eurocontrol.int/PU/BPORTAL/gateway/spec/index.html>

(Workflow description Portlets and animated case studies)

