

Name and date of the exercise: “CROSS-BORDER COLLABORATIVE ADVANCED PLANNING (CAP): A FRENCH-SPANISH SESAR DEMONSTRATION SUCCESS STORY”. Three iterations were performed: Q3&Q4 2017 and Q2 2018

Location: French ACCs + Madrid ACC

Point of Contact: Charlotte Chambelin (charlotte.chambelin@aviation-civile.gouv.fr), Amalia García (amgalonso@e-crida.enaire.es)

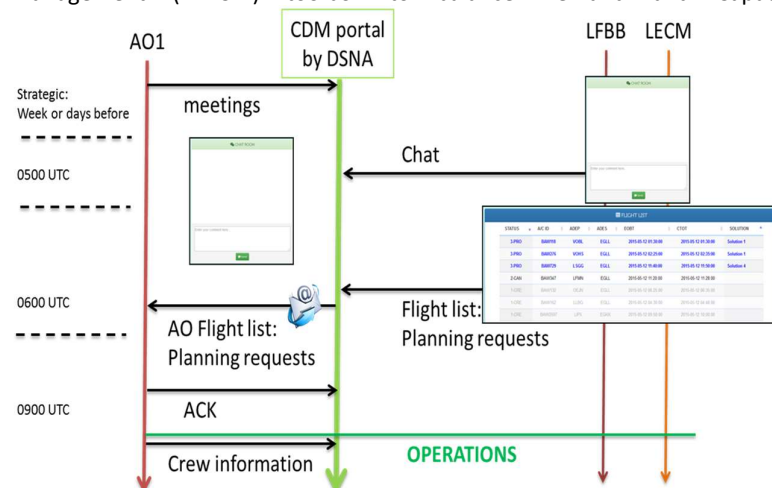


The validation Platform

The ‘Extended CAP’ Demonstration, under the auspices of the Single European Sky ATM Research Programme (SESAR) and Network Collaborative Management (NCM) Project, has successfully involved French and Spanish Flow Managers and various airlines, over three iterations in 2017 and 2018. The objective was to further extend the use of the Collaborative Advanced Planning tool across borders, and measure the improvement in local Demand and Capacity Balancing and flight planning efficiency for Airspace Users thanks to more collaborative and transparent processes. Based on a web Portal interface, allowing direct live communication, CAP not only builds trust between the Flow Management Position (FMPs) and the Airspace Users (AUs), but also facilitates decision-making based on shared situation awareness amongst ATM stakeholders.

The process

Extended CAP Demonstration aims at consolidating CAP cross-border process, based on the proposal of alternative trajectory solutions. These solutions are agreed and prepared in the strategic planning phase and then coordinated in the short-term planning phase between FMPs and the AUs. The objective is to off-load a sector, by acting only on a few flights during the short-term planning phase, and thus diminishing the impact, or even the need, of applying a regulation. It is an additional measure in the Air Traffic Flow and Capacity Management (ATFCM) toolbox to balance Demand and Capacity.



Significance & Relevance

Real Time use of the tool and process, by operational actors in Madrid and Bordeaux, and Flight Dispatchers, based on the principles of:

- Collaborative ATFCM
- AUs & FMPs Real Time link
- Local Coordination

Use Cases successfully covered:

UC2.4: ACC-ACC Coordination of Flight Level Capping STAMs. NM network impact assessment and data distribution

UC2.5: ACC-AO Coordination of Flight Level Capping STAMs. NM network impact assessment and data distribution

Operational Involvement

The CAP tool has been successfully used within DSN since 2015, to support fine-tuned DCB through flight planning modifications, collaboratively designed and coordinated between French FMPs and volunteering AUs. The SESAR 2020 live demonstration now offers the opportunity to take a step further and extend CAP across borders, with ENAIRES and its Madrid FMPs joining the CAP team together with four new Spanish airlines, Iberia, Air Nostrum, Iberia Express and Air Europa.

Since 2015: 6328 FPL modifications have been accepted via CAP website, which means a 80% acceptance rate.

Operational Actors

FMPs from Bordeaux ACC (LFBB) and Madrid ACC (LECM).

Flight Operations Centre Personnel from Iberia, Air Nostrum, Air Europa, Iberia Express + AUs already involved in CAP.

DSNA & ENAIRES Engineering teams.

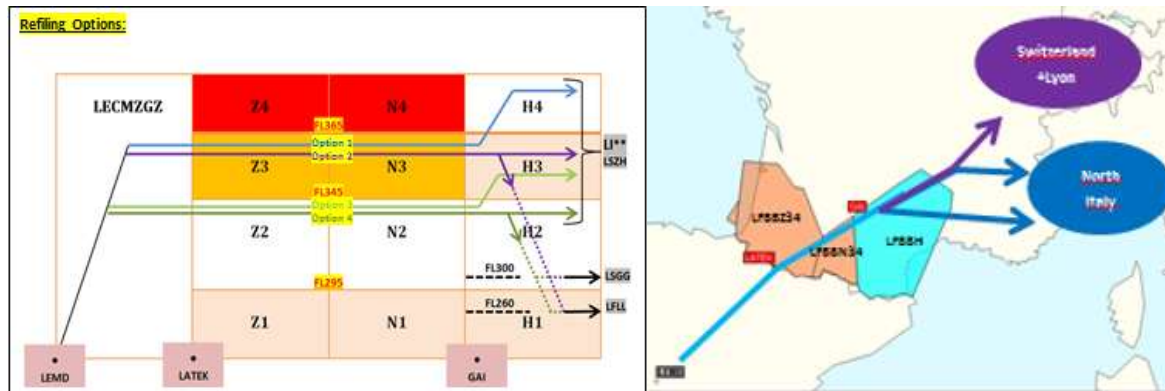
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Validation Scope (Use Case example)



Validation Objectives / Validation results

The main objectives were to:

1. Demonstrate the added value of using local tools to support the analysis, preparation and coordination of vertical re-routing on ground-flights.
2. Demonstrate that the processes & procedures and the roles & responsibilities of human actors related to the integration of local and network Demand and Capacity Balancing (DCB) processes are clear and consistent.
3. Demonstrate an improvement in Predictability thanks to the use of local network performance tools.
4. Demonstrate an improvement in Cost-efficiency for Airspace Navigation Service Providers (ANSPs) thanks to the reduction in time for FMP staff to monitor, analyze, coordinate and implement measures to DCB.
5. Demonstrate that the CAP process contributes to the reduction of ATFM delays in the network.

After analyzing the results of the different demonstration iterations, we can conclude that results are in line with the expected benefits:

- It improves the situational awareness beyond the ACC boundaries
- It encourages communication and team working between ACCs and airlines that leads to an increase of the transparency and trust between Flight Management Positions and AU Flight Dispatchers.
- The tool is considered easy to use and flexible, a factor that contributes to the efficiency of local Demand and Capacity Balancing.
- It has a positive impact on the reduction of regulations and ATFM delays of the network
- It has an acceptable impact on fuel efficiency regarding the benefits perceived by the AUs.
- In Summer 2017, CAP has avoided potential regulations on 12 out of 15 days, corresponding to estimated 4111 min of delay on a single traffic flow.

In short, PJ24 joint DSNA/ENAIRES CAP iterations have brought interesting clues to improve the tool and process, paving the way for a more standardized and wider cross-border collaborative process, where route proposals could be supported by NM B2B services.