International Civil Aviation Organization

Sixteenth Meeting of the Asia/Pacific Air Traffic Flow Management and Airport Collaborative Decision-Making Steering Group (ATFM & A-CDM/SG/16)

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Agenda Item 6a: Regional ATFM Framework, Regional ATFM Concept of Operations, A-CDM Plan and related Guidance Material

NEED FOR A-CDM PERFORMANCE REPORTING

(Presented by CANSO)

SUMMARY

This paper presents the initiative by the CANSO ATFM & A-CDM working group for validation of the A-CDM Performance Framework. Publication of A-CDM performance reports is expected to provide benefits for ATFM units, Airspace Users, ANSP's and their airport stakeholders. FF-ICE, TBO and ATFM benefit from improved pushback and take-off predictions, as a result of enhanced performance steering on efficiency.

An A-CDM Performance Task Force is the next step towards organization of structural assessment of performance.

1. INTRODUCTION

1.1 The rapid expansion of aviation in the Asia-Pacific region has prompted numerous Air Navigation Service Providers (ANSP) and airport operators (AO) to implement enhanced traffic management processes. These processes, such as Airport CDM (A-CDM) and ATFM, are designed to address the increasing demand on airspace and airports through the optimization of capacity utilization at various resources. The effectiveness of these processes is significantly influenced by the adherence to the established procedures and compliance to time restrictions.

1.2 In many A-CDM implementations to date, accuracy of flight pushback and take-off predictions have been shown to be improving. However, the A-CDM process could be enhanced further with more monitoring of A-CDM performance, especially considering its impact on ATFM operations. For example, inaccurate prediction and provision of the Target-Off Block Time (TOBT) and frequent non-compliance to the Target Start-up Approval Time (TSAT) can lead to non-compliance of ATFM requirements such as Calculated Take-Off Time (CTOT), causing major impact on network operations.

1.3 These inaccuracies and non-compliances can lead ANSPs to use less-than-optimal capacity numbers in their ATFM measure implementation to buffer for the inaccuracies in the process. Airspace Users (AU) may also include extended block times in their flight schedules, while Airport Operators (AO) reserve buffer time for their stand and gate planning. These planning buffers can potentially be reduced through increased attention and monitoring of A-CDM milestones which can result in higher accuracies and compliance rates.

1.4 Despite the importance of continuous monitoring, airports that have completed A-CDM

implementation are often not yet reporting their performance, and demonstrate benefits in terms of capacity and efficiency enhancements. This paper introduces the A-CDM Performance Framework being developed by CANSO and puts forward a case for the APAC States/Administrations to support A-CDM performance-based steering, reporting, and publication.

2. DISCUSSION

The Need for A-CDM Performance Framework

2.1 With A-CDM implementations expanding over the continents, enhanced operational efficiency and predictability results in better utilization of resources and capacity at airports and airspace. Since 2007, when Munich became the first A-CDM airport, Europe has demonstrated that A-CDM is an enabler for ATFM to become more efficient and effective through predictability. Using departure planning information exchange, Eurocontrol Network Manager (NM) receives data from thirty-four (34) connected A-CDM airports, representing over 40% of the departing traffic, to feed its network demand calculation and determine need for ATFM measures. Eurocontrol with its Impact Assessment in 2016[1] and DFS with annual performance reports from its eight (8) A-CDM airports[2] demonstrated concrete statistical change, as well as operational and economic benefits.

2.2 In both APAC and Europe, several aspects of ATM reporting - such as ATFM - have been improving. Reporting on A-CDM performance, however, is still scarce and limited in contents. Global shortcoming in A-CDM performance reporting undercut regional benchmarking, hinder academic research, frustrate local performance improvements, and slow industry innovations.

2.3 A-CDM implementations are globally stimulated through mandates and recommendations, initiated and/or supported by institutions such as ICAO, ACI, IATA, CANSO, and Eurocontrol. These institutions are well positioned to lead and guide members and States to overcome performance monitoring and reporting gaps by creating a common A-CDM performance framework and stimulate international reporting and collect publications.

2.4 A-CDM performance reporting would complement existing industry performance frameworks that apply to airport operational efficiency, including CANSO Guidelines on A-CDM Key Performance Measures (2019)[3], SESAR Performance Framework (PJ19.04)[4], v1.00, Eurocontrol 2019, Network Performance Plan, Eurocontrol September 2025[5].

2.5 The A-CDM Performance Framework drafted by CANSO ATFM/A-CDM Workgroup provides the model for assessment of performance indicators consistent with business drivers and strategic objectives. It offers a representative organisation that would be mandated to provide Level Status reflecting their ANSP and airport efficiency performance. On the longer term this organisation could also certify airports and ANSP's when adhering to the highest performance criteria. The draft CANSO A-CDM Performance Framework can be reviewed in annex to this paper.

2.6 Benefits of this A-CDM Performance Framework are furthermore an expected increase in in ATFM ground delay program compliance as well as higher adherence to flight plan, all leading to more efficient ATM operations. A significant increase of performance publications founded on statistics and operational experience will furthermore enable new discussions in conferences and seminars,

[1] Eurocontrol A-CDM Impact Assessment 2016
[2] Downloads Airport CDM - Airport CDM – Harmonisation Group Germany
[3] Guidelines on (A-CDM) Key Performance Measures - CANSO (2019)
[4] SESAR Performance Framework (2019)
[5] Eurocontrol Network Performance Plan 2025 – 2029

inspiring innovations and improvements. They could contribute to new working groups aimed at harmonization of procedures, benefiting all stakeholders.

2.7 The A-CDM Performance Framework can become a major enabler for the transition to FF-ICE, Trajectory Based Operations (TBO) and new ATFM developments. These processes all benefit from accurate predictions pushback and take-off adjusting the fourth time dimension of each flight trajectory. Without enhanced predictability inefficient utilization of en-route airspace and costly buffering of airspace capacity and flight schedule will likely remain non-optimal.

Next Steps for the A-CDM Performance Framework Development

2.8 CANSO has proposed to ACI and IATA to initiate a Joint Task Force where the A-CDM Performance Framework will be finalized and steps towards setting up an organization for assessment of ANSP and airport A-CDM performance reports.

2.9 In the meantime, the draft A-CDM Performance Framework is available for early validation by ANSPs and their A-CDM airport stakeholders. States/Administrations are encouraged to have their ANSPs and airport stakeholders support this initiative by participating in the early validation of the Framework with CANSO. ANSPs of States/Administrations interested in participating can contact CANSO for further discussion.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) consider the use of the A-CDM Performance Framework document in support of regional A-CDM implementation and performance monitoring,

b) encourage States/Administrations to support the early validation of the draft A-CDM Performance Framework, and

c) discuss any relevant matters as appropriate

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