



Agenda Item 4: Assessment of operational requirements to determine the implementation of improvements in communications, navigation and surveillance (CNS) capabilities for operations in route and terminal area

INTEROPERABILITY OF AERONAUTICAL SYSTEMS

(Presented by the Secretariat)

SUMMARY

This working paper presents a proposal to create an Interoperability Task Force (GT Interop) to address the issue in the SAM Region, providing States with guidance on the processes for interconnecting systems already implemented or to be acquired.

References:

- Global Air Navigation Plan;
- Annex 10.

ICAO strategic objectives:

- A – Safety*
- C – Air navigation capacity and efficiency*

1. Introduction

1.1 Interoperability is the capacity of a system to communicate in a seamless manner with another system. For a system to be considered as interoperable, it should use open (not proprietary) protocols and standards developed by internationally recognised organisations.

1.2 The systems used in the aeronautical context are also developed based on the open systems concept, pursuing the highest possible level of interoperability, allowing the various implemented systems to exchange information in a seamless, secure and efficient manner.

2. Discussion

2.1 Background

2.1.1 Although many providers of systems used in the aeronautical context claim compatibility with current open standards, in practical terms, full interconnection between systems of different makes is rarely achieved easily.

2.1.2 Experience obtained in the region with the implementation of the Aeronautical Message Handling System (AMHS) and ATS interfacility data communication (AIDC) shows that the interconnection of systems from different manufacturers is not immediate, nor simple. Even products of the same provider sometimes have interoperability problems due to different versions, functionalities not acquired, and the configuration chosen.

2.1.3 Likewise, experience obtained from the implementation of common equipment and systems, such as the SAM Digital Network (REDDIG), resulted in savings for the States, easy

integration of services and systems, seamlessness and security for users, and faster and more effective technical maintenance.

2.2 Complexity of aeronautical systems

2.2.1 Likewise, systems in the aeronautical context are highly complex and highly expensive, serving a variety of professionals, such as air traffic, meteorology, aeronautical information, and information technology operators and administrative personnel.

2.2.2 The system interoperability concept must be addressed in a multi-disciplinary manner, with the participation of all system stakeholders, seeking to obtain as much information as possible, and establish effective action plans for a homogeneous, stable and permanent systems interconnection.

2.3 INTEROPERABILITY TASK FORCE (GT Interop)

2.3.1 Taking into account the number of new systems required for the automation of aeronautical information management (AIM) services and the SWIM concept (system-wide information management), air traffic management (ATM), air traffic flow management (ATFM), communication, navigation and surveillance (CNS) and meteorology (MET), a task force should be established, with the necessary subgroups, within the structure of the SAM Implementation Group (SAM/IG), with a view to ensuring the interoperability of the implemented systems.

2.3.2 The proposal is to create the Interoperability Task Force, made up by specific subgroups in the areas of AIM, ATM/ATFM, CNS, and MET initially, charged with mapping the systems already implemented (or to be implemented), coordinate with the stakeholders (users, providers, consultants, specialised organisations, etc.), and establish interoperability and interconnection plans.

2.3.3 In this regard, ICAO agreements with organisations such as EASA (European Aviation Safety Agency) could be used for conducting assessment, specification, testing, training, and other activities in support of the work to be carried out by the GT Interop.

3 Suggested action

3.1 The Meeting is invited to:

- take note of the information presented herein;
- discuss the proposal to create the Interoperability Task Force; and
- propose the composition of the GT Interop and its subgroups, in case the proposal is approved.
