International Civil Aviation Organization

The Eighth Meeting of System Wide Information Management Task Force (SWIM TF/8)

Bangkok, Thailand, 08 – 10 November 2023

Agenda Item 3: Progress of SWIM Implementation Pioneer Ad-Hoc Group

IMPLEMENTATION STATUS OF SURVEILLANCE MESSAGING SERVICE FOR S3TIG DEMONSTRATION

(Presented by Korea Airports Corporation, Republic of Korea)

SUMMARY

This paper presents ROK's implementation status of surveillance messaging service for S3TIG demonstration.

1. INTRODUCTION

1.1 Republic of Korea participates in the S3TIG demonstration as information provider. As the part of the service provider roles, ROK will provide real-time surveillance (scenario #1) and MET information (scenario #2) during the demonstration.

1.2 This paper provides ROK's implementation status of surveillance messaging service for S3TIG demonstration.

2. DISCUSSION

2.1 Multi Sensor Data Processor (MSDP), Surveillance Data Processing System (SDPS) of Air Traffic Control and Airports System (ARTS) deployed in Jeju international airport sends ADS-B (Cat.21) data to KAC SWIM in legacy method.

2.2 Mediation service for ASTERIX formatted surveillance data in KAC SWIM conducts interfacing and conversion processing. Processed surveillance data is published to other participants through AMQP-based messaging service as shown in Figure 1.

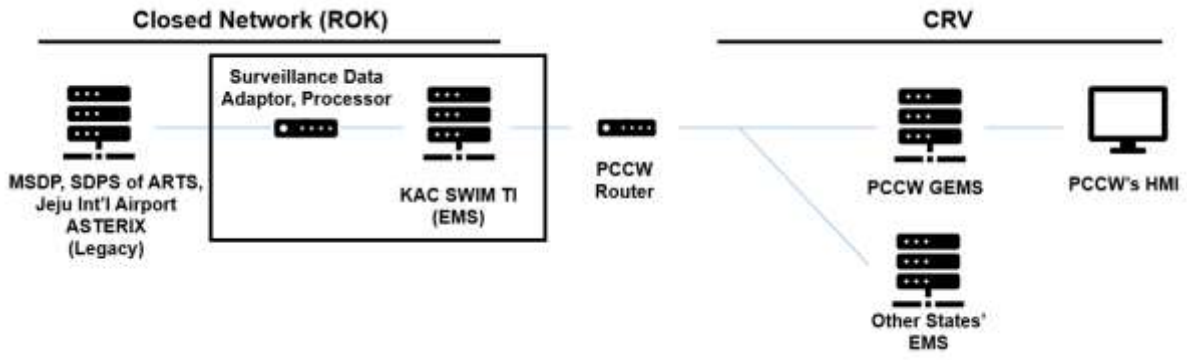

Figure 1. Surveillance Scenario Topology

2.3 Geographical boundary of surveillance data published for demonstration is limited to within 20NM from Jeju international airport. And ground handing vehicles are also excluded.

2.4 Implementation statues to support scenarios for S3TIG demonstration are as follows:

JSON Structure for Surveillance Data with Flight Plan Information

Figure 2 Surveillance Data with FPL (JSON)

JSON Structure for Surveillance Data Only

Figure 3 Surveillance Data Only (JSON)

ASTERIX Structure for Surveillance Data

Figure 4 Surveillance Data Only (ASTERIX)

2.5 Graphical representations of surveillance data published are shown in Figure 5.

Figure 5 Graphical Representation of Surveillance Data

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss any relevant matter as appropriate

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