International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Ninth Meeting (CNS SG/9)
(Cairo, Egypt, 19 – 21 March 2019)

Agenda Item 4: **CNS Planning and Implementation in the MID Region**

ATM DATA AND SECURITY ENHANCEMENTS

(Presented by UAE)

SUMMARY

This paper presents the updates done on the security initiatives related to ATM data security and the proposed portal developed for the reporting of cyber events.

Action by the meeting is at paragraph 3.

REFERENCES

- ADSAG – ATM Data Security Action Group

- ICAO Doc 8973 Edition 10 – Aviation Security Manual

- ADCSPortal – ATM Data and Cyber Security Portal

- MSB – Minimum Security Baseline
  - *Web Application security baseline – V1.2*
  - *Linux security baseline – V1.2*
  - *Switch security baseline – V1.1*
  - *Web Application Firewall baseline – V1.1*
  - *Firewall security baseline – V1.1*
  - *Router security baseline – V1.1*
  - *Third Party Data Sharing And Vendor Access_V1.1*

1.   INTRODUCTION

1.1   The meeting may recall the MIDANPIRG 16/26 decision to establish the ATM Data Security Action Group (ADSAG) to establish a baseline security plan for ATM data services within the MID Region. At the CNS SG8 meeting the UAE presented the minimum security baseline documents and the portal that was being developed to form the foundations for the ADSAG.

2.   DISCUSSION

2.1   The ICAO ASBU developments (SWIM, FF-ICE etc.) have been designed to improve efficiency and enable global harmonization throughout the aviation industry however the network requirements for these are exposing our ATM systems to the ever increasing threat of cyber-attacks.

2.2   These developments will no doubt be of great benefit to the aviation industry in the years to come however we need to ensure our resilience is in place to safeguard our systems as best as possible.

2.3   ICAO Doc 8973 ed. 10 – *Aviation Security Manual* - chapter 18.1.3 mentions that "states, governments, industry and relevant entities should work collaboratively towards the development of an effective and coordinated global framework for civil aviation stakeholders to address the challenges of cyber threats, and increase the resilience of the global aviation system to cyber threats"

2.4   As discussed at the CNS SG8 meeting, the MSB's were developed to provide clear and specific requirements for all components of the ATM system, as recommended by ICAO Doc 8973 ed.10, whether the system is connected to the internet or not.

2.5   This will also ensure that all ANSP's have a harmonized security plan in place that could be used as a baseline on current and future systems.

2.6   Currently ATM systems have very little, if any, security features incorporated into their builds and there are numerous vulnerabilities faced by these systems. Issues such as OS updates/patches that are not maintained by suppliers or the difficulties of enforcing firewall rules for multicast traffic etc. all pose a big risk to the ATM system's security and stability.

2.7   We are currently involved in an ATM system replacement project and have made the MSB compliance as a testable requirement with our supplier. The supplier is now, for the first time, implementing specific security measures into its system build and we have been working with them to ensure that our system specific security requirements are met.

2.8   As additional security verifications, as we conducted last year, ANSP's can request authorized companies/ authorities etc. to do penetration testing on their ATM systems to determine where their systems biggest threats are and what remedial actions can be taken to better safeguard their systems.

2.9   While ANSP's are responsible for safeguarding their systems as best as possible, the simple fact is that no system in the world is 100% safe and secure. Continuous improvement is imperative and one of the ways to enhance security is by sharing knowledge and reporting incidents.

2.10   At the CNS SG8 meeting we presented the prototype ATM Data and Cyber Security Portal, www.adcsportal.ae, and urged users to start registering and providing feedback on enhancements.

2.11   We have now made significant changes to the site and included a new forum which is far more user friendly and allows users to share knowledge and interact with one another online.

2.12   Currently, we have users registered on the site from Eurocontrol and other non MID Region states, so the more users that register and use the site, the more we can improve our knowledge and resilience towards cyber security.

3.   **ACTION BY THE MEETING**

3.1   The meeting is invited to:

      a)   urge States to review, the updated MSB documents and content on the ADCS Portal and provide any feedback before the end of March as the ADSAG group needs to provide an update at the MIDANPIRG 17 meeting;

b)   urge states to provide focal points who can get involved in the ADSAG and assist
     in developing a consolidated cyber security plan for the Region; and

c)   urge states to actively participate in the security initiatives within the Region and
     to attend the Cybersecurity & Resilience Symposium in October this year.

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