



# SWIM and security: CANSO perspective

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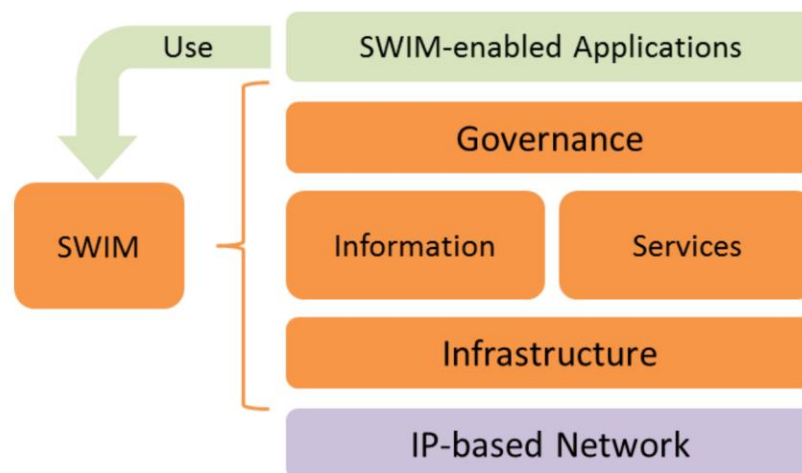


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Panel 2 – “How to SWIM securely?” 9<sup>th</sup> Nov. 2017

# FOREWORDS

*"SWIM consists of standards, infrastructure and governance enabling the management of ATM-related information and its exchange between qualified parties via interoperable services"*  
**(ICAO DOC 10039 SWIM Manual)**



## INTEROPERABILITY

# A KEY ROLE FOR SECURITY



- Security will become a critical factor, therefore the global SWIM concept encompasses aspects such as authentication, authorization, encryption, intrusion detection, security policies, etc. **(ICAO Doc 10039)**;
- Information Security pillars: → confidentiality, Integrity and Availability must be addressed in the whole lifecycle;
- “Security by design”, in the light of Annex 17 Amd 16 standard 4.9.1 and RP 4.9.2



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- Security plays a transversal roles in any part of the SWIM concept, mainly in the “infrastructure” and “governance” layers;
- is not a vaccine; it must be permanently addressed through the entire lifecycle:
  - to ensure the security of SWIM components (data and systems) so that they are protected from interference and access to them is restricted only to those authorized;
  - to ensure that the security management measures for SWIM are risk based, sustainable, appropriate and referred to existing yet standards/best practices in order to meet regulatory compliance, due diligence and to safeguard the continuity of service from acts of unlawful interference;

# CANSO POSITION – HOW TO?



- KEYWORD: → standardization: using the existing standards/best practices and do not reinvent the wheel. Security is a “globalized factor”
- Making common experiences profitable;
- “best practices” and “standards” are terms of reference for measuring **diligence, prudence and duty of care**;
- Harmonization;
- common evaluation metrics;
- meeting fair competition needs;
- common language;



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# ESTABLISHING A COMMON «SECURITY POLICY»



- In the SWIM environment the “security policy” is a bit more than “what shall we do to protect the information stored on computers”.
- In a multilayered scenario, with huge complexity and criticalities, an effort is required in order to:
  - declare the commitment and make it effective;
  - define rules, responsibilities, and the main constituents of the architecture, encompassing human factor, procedures, technologies;
  - set the appropriate objectives of the overall strategy fitted for SWIM purposes;

# URGING FOR A RISK BASED APPROACH



- Reflecting on the needs for a risk based approach, to avoid useless effort, to determine what is the risk to manage and to orient the investment, the activities and the operations;
- provide a rationale for determining the actions of the security management system to be implemented;
- common agreed metrics;
- suitable for accountability;



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## REQUIRING THE LEGAL FRAMEWORK ADAPTION



- Focusing on the **trans-boundary nature of SWIM**;
- Considering the need to involve non-aviation actors (third parties such as TELCO services providers, outsourcers, etc.);
- Defining roles, responsibilities and accountability;
- Coordinate with cybersecurity initiatives at Regional and Member States level;
- Avoid duplications



# KEEPING IT SHORT AND SIMPLE



- Defining the need for a “SWIM Security Management System”, with a methodological and measurable approach (e.g. ISO 27001);
- Security is not only matter of IT tech but involves the whole organization;
- Select the appropriate measures aimed at protecting the relevant/critical assets (including information, systems and personnel);
- Means of managing risk, including policies, procedures, guidelines, practices or organizational structures, which can be administrative, technical, management, or legal in nature;
- Focus on HUMAN FACTOR.

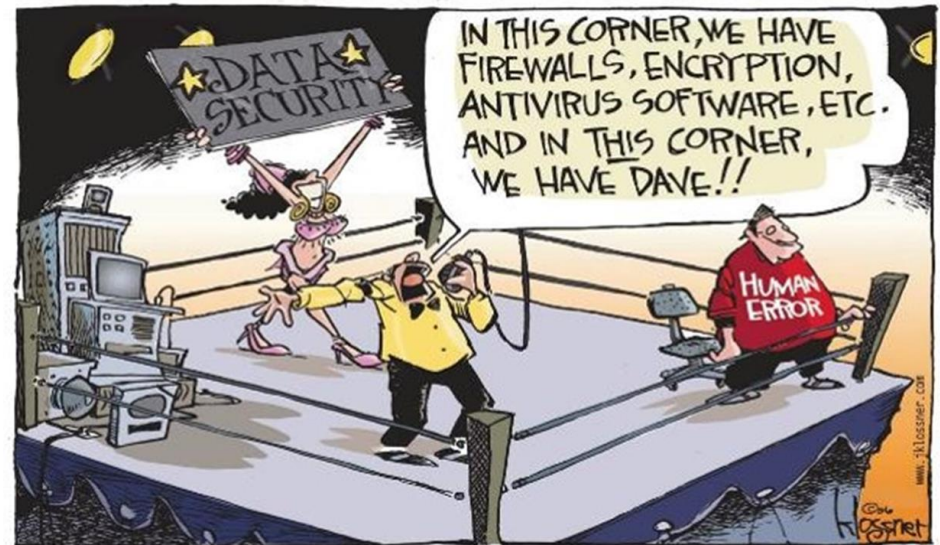


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# CONCLUSIONS

CANSO believes that:

- security must be addressed in any phase of SWIM development and in operations;
- SWIM is the future for aviation efficiency. A security Management System is mandatory;
- Security is not only matter of technological improvements, but implies a holistic approach including procedures and human factor;
- COMMITMENT REQUIRED + FUNDING.



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# Thank you!



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