

Aeronautical Telecommunication Network Panel
Working Group 2

Report of CISEC Activities

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Summary

This paper reports the activities of the CNS/ATM-1 Package Internet SARPs Editorial Committee (CISEC) since its creation by the ATNP Working Group 2 during its meeting in Toulouse in March 1995.

It describes the decisions taken by the group, its current work status and the outstanding actions and unresolved issues. It is associated with a flimsy reporting the status of the CISEC discussions about the possible technical solutions to support the CNS/ATM-1 Package Routing Policy requirements.

1. Introduction

1.1. Background

The CNS/ATM-1 Internet SARPs Editorial Committee (CISEC) was created by the ATNP Working Group 2 during its last plenary meeting in Toulouse in March 95. The CISEC was created based on a proposal contained in WG/2-WP/74 to expedite the development of the CNS/ATM-1 Package SARPs in order to have a stable version of these specifications by the next WG2 meeting in July 95 from which the validation work can start.

Since its creation, the CISEC held two meetings :

1. 10-11 April 95 in Issy-les-Moulineaux (near Paris) at Sofreavia premises,
2. 10-11-12 May 95 in McLean (near Washington D.C.) at Mitre premises.

1.2. Scope and structure of this report

This report presents the description of the activities, the results and the unresolved issues of the CISEC.

The report is structured in three main sections :

Section 2 : brief report of the first CISEC meeting,

Section 3 : brief report of the second CISEC meeting,

Section 4 : status report on the main outstanding CISEC issues,

1.3. General overview of the CISEC activities

CISEC was tasked by WG2 to complete the edition of the CNS/ATM-1 Package Internet SARPs by the end of June 1995, so that these SARPs can be approved by WG2 during its meeting in July 95, and that the related validation work can start.

In order to be able to edit the CNS/ATM-1 Internet SARPs, CISEC had first to resolve a technical outstanding issue related to the support of the Routing Policy requirements expressed in the Toulouse WG1 Flimsy #3, i.e. the requirement for Traffic Typing.

From a technical point of view, the support of this requirement requires two distinct mechanisms :

1. a mechanism to convey the required Traffic Type in the CLNP PDU Header,
2. a mechanism in IDRP to qualify a route with the Traffic Type it can support.

Several solutions were proposed within CISEC to resolve these two technical requirements. All these solutions were technically valid and, after one month of analysis and discussions, three of them were retained and supported by at least one the different parties involved. CISEC was not able to decide which of these solutions should be retained for CNS/ATM-1 Package because of the difficulty to quantify the risks each of the solutions put on validation and because of the different levels of priority given by the parties involved in the discussion to the adaptability of each solution to a future full-scale "symmetric" ATN.

As it was impossible to agree within CISEC on one of these proposed solutions, it has been decided to present the three possible alternatives to WG2, together with their technical differences in terms of software implementation and systems architecture with the recommendation that a decision be taken by WG2 during its May meeting. The detailed report on CISEC on this issue is contained in CISEC/2-flimsy/1.

Because of the importance of this issue, and the impact the selected solution will have on several parts of the CNS/ATM-1 internet SARPs, the editorial work hardly progressed up to now: a set of CISEC deliverables with their associated editor has been defined, some editorial change proposals were received (but not yet reviewed and accepted), and a planning has been proposed allowing the SARPs to be available by the end of June 95 if the CCB Process is skipped and if new resources are made available to work on the edition of some deliverables.

2. Report of the First CISEC meeting

2.1. Introduction

The objectives of this first meeting were to agree on the outstanding technical issues related to the CNS/ATM-1 internet SARPs, i.e. mainly as regards the support of the routing policy requirements, and then to define a work program so that the actual edition could be started early enough to allow completion of the work by the end of June.

Representatives from SITA, Eurocontrol, Germany, US, Canada and France participated to the meeting.

2.2. Records of discussions about the support of Routing Policy requirements

This discussion occupied most of the meeting. Three technical solutions were retained at that time, all based on the use of the so-called NSAP addressing convention to convey the routing policy information in CLNP PDUs.

The three solutions proposed different mechanisms to support the distribution of the routing policy information by IDRP.

The first solution, known as Option #1 was based on the definition of Virtual Routing Domains to identify the various air-ground subnetworks, and the use of the RD_PATH and NLRI attributes to convey the routing policy information.

The second solution, known as Option #2, used the IDRP Security Attribute,

The third solution, known as Option #3 was similar to Option #2 (i.e. it used the IDRP Security Attribute), but used a different encoding mechanism.

After more than one day of debates around these solutions, the group agreed that more time was required to analyse each of the proposed solutions and decided to delay the final decision until the May meeting.

2.3. Support of QoS based Routing

It was decided that the dynamic selection of a route based on QoS criteria (i.e. Transit Delay versus Cost) was not feasible in CNS/ATM-1 timeframe, as it even seems unlikely to be implementable in a meaningful fashion in a connectionless internet.

2.4. Definition of the CISEC Deliverables

In order to organize the edition work to be achieved within CISEC, several deliverables were defined together with associated editors.

The CISEC Deliverables are directly mapped onto the current structure of the SARP's so that the edition work can be minimized.

During the definition of the CISEC Deliverables, it became clear that the risk that the edition work could not be completed on time due to a lack of resources was high.

Deliverable	Description	Editor
CISEC-D1	current Chapters 1-4, (introductory material on CNS/ATM-1 Internet SARP's)	A. Sharma
CISEC-D2	current Chapter/Appendix 5	<i>Nobody</i>
CISEC-D3	current Chapter/Appendix 6	F. Colliver
CISEC-D4	current Chapter/Appendix 7	<i>Nobody (K.P. Graf submitted inputs based on WG2 WPs)</i>
CISEC-D5	current Chapter/Appendix 8	J.M. Crenais

CISEC-D6	current Chapter/Appendix 9	K. Crocker
CISEC-D7	cuurent Chapter/Appendix 10	H. Thulin
CISEC-D8	current Chapter/Appendix 11	<i>Nobody</i>
CISEC-D9	current Chapter/Appendix 12	H. Thulin

Remarks about the listed Deliverables:

1. The edition work will be focused on Appendices. Chapters (i.e. guidance text) will only be reviewed so that incorrect text be deleted, but no additional or modified text should be proposed unless it is technically justified (e.g. guidance about optional non-use of IDRP in Chapter 6).
2. Chapter/Appendix 12 will not contain any requirement to support OSI Systems Management functions, but only recommendations based on the Melbourne WG2 flimsy on Systems Management.

2.5. Other decisions from the first CISEC meeting

A generic format for all CNS/ATM-1 PRLs was agreed. These PRLs will not contain any specific column describing an "End State ATN Support" (as such End State is not clearly defined yet), but additional columns will be added for each type of system supporting the related protocol. These PRLs will not be grouped in a dedicated section in the version of the SARPs which will be presented by the CISEC to the July WG2 meeting.

All outstanding WG2 actions related to CISEC work have been reviewed and mapped to the new CISEC deliverables. Their detailed list is contained in the report of the first CISEC meeting.

3. Report of the second CISEC meeting

3.1. Introduction

The main objective of this second meeting was to decide on the solution to support the Routing Policy requirements, based on a detailed analysis of the solutions proposed and discussed one month earlier during the first CISEC meeting. Then, based on the selected solution, the CISEC was supposed to review its work plan in order to achieve its task by the end of June 95.

Representatives from SITA, US, Canada and France participated to the meeting.

3.2. Records of discussions about the support of Routing Policy requirements

No consensus could be reached on the solution to be selected for the support of the Routing Policy requirements. All proposed solutions were recognized as being technically feasible, and the decision is mainly a matter of evaluation of risks as regards the validation work, and priority given to the extensibility of the solution as regards the future ATN capabilities.

Three solutions were still considered by the group:

- Option #1 is similar to the one proposed in Paris during the first CISEC meeting,
- Options #2 and #3 respectively evolved towards Options #4 and #5 by replacing the NSAP Addressing Convention with the use of the CLNP Security option which is considered by the parties supporting these solutions as being as feasible as the addressing convention with COTS routers, and less constraining for future evolution of the ATN.

In order to make the decision between these three solutions possible, the group decided to draft a flimsy which analyses the differences between the solutions and recommends that WG2 takes the decision based on the technical descriptions of the three proposed options and strategic considerations related to the validation effort and the transition to the future ATN.

This flimsy should be discussed during the WG2 May meeting. All CISEC members present to the second CISEC meeting recognized that it was more important to take a decision than to delay it again to allow more discussions, as sufficient analysis of the issue has been performed.

3.3. Congestion Management in CNS/ATM-1 Package

It is proposed that no sophisticated Congestion Management strategy be supported in CNS/ATM-1 Package as such techniques need detailed analysis via simulation and/or tests.

3.4. Review of the CISEC work program

Despite the absence of any draft document directly mapped to the defined CISEC Deliverables, the following inputs were considered during the meeting. Unfortunately, no detailed review was possible and the group simply listed these inputs and proposed a set of dates to complete their review within CISEC.

The results of the review should be sent by e-mail to ALL CISEC members. These results should contain either a global approval of the input document, or a detailed list of comments associated with actual proposed changes to the input.

List of documents to be reviewed by CISEC :

Document title	Author	Related WG2 action	related CISEC Deliverable	Review date
DR and CP material related to ATN Priority Provisions	K.P. Graf	3/19	CISEC-D2	31/05/95
DR and CP material related to additional addressing guidance	K.P. Graf	3/15	CISEC-D4	31/05/95
DR and CP material related to ATN addressing	K.P. Graf	3/17	CISEC-D2 and CISEC-D4	31/05/95
DR and CP material related to Reference Publication format	K.P. Graf	3/17	CISEC-D4	31/05/95
CP material related to ATN TSAP handling	J.P. Briand	3/16	CISEC-D4 and CISEC-D5	31/05/95
DR and CP material related to ES-IS requirements	J.P. Briand	3/18	CISEC-D8	31/05/95
Transport PRLs	J.M. Crenais		CISEC-D5	31/05/95

In addition to the review of these input documents, the following planning has been proposed as regards the delivery of the CISEC deliverables. First draft of the deliverables should be delivered not later than the "1st draft submission date" so that comments be sent not later than 2 weeks after, in order to complete the edition of the proposed SARPs by the end of June 95. Such a planning implies that the formal CCB procedure is skipped.

No dates were proposed for the deliverables which do not have yet any editor.

Deliverable	Description	1st draft submission	1st draft review	Editor
CISEC-D1	Chapters 1-4	09/06	23/06	A. Sharma
CISEC-D2	Chp/App 5	?	?	<i>Nobody</i>
CISEC-D3	Chp/App 6	15/06	23/06	F. Colliver
CISEC-D4	Chp/App 7	?	?	<i>Nobody</i>

CISEC-D5	Chp/App 8	09/06	23/06	J.M. Crenais
CISEC-D6	Chp/App 9	09/06	23/06	K. Crocker
CISEC-D7	Chp/App 10	27/05	09/06	H. Thulin
CISEC-D8	Chp/App 11	?	?	<i>Nobody</i>
CISEC-D9	Chp/App 12	09/06	23/06	H. Thulin

4. CISEC Outstanding Issues

Several major issues have to be decided by WG2 during its May meeting if we want to have a chance to complete the edition of the CNS/ATM-1 Package Internet SARPs by the end of June 1995. These issues are listed hereafter :

1. Decide upon a technical solution to support the Routing Policy requirements,
2. Find an editor to the following CISEC deliverables: D2 (Ch/App 5), D4 (Ch/App 7), D8 (Ch/App 11),
3. Based on the choice made for the support of the routing policy requirements, review or not the use of the ACA compression algorithm,
4. Review the two main CISEC Decisions: non-support of QoS based dynamic routing, and non-support of Congestion Management techniques,
5. Review the overall CISEC work program, namely the proposal to skip the CCB,
6. Review the change proposed originally in WG/2-WP/78 (Germany) as regards the encoding of the NSAP VER field to support NSAP prefixes for all mobiles.

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