

**AERONAUTICAL TELECOMMUNICATION NETWORK PANEL**

**Working Group 2**

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**ACTION 7/15 - Review of CIDIN SNDCF  
Requirements in ATNP Internet SARPS**

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**SUMMARY**

This document contains an evaluation of the adequacy of the CIDIN SNDCF requirements as stated in the ATN Internet SARPS (Sub-Volume V) taking into account applicable ASPP material and WP/230 dealing with CIDIN/ATN compatibility. The conclusion of this review is that CIDIN SNDCF Convergence requirements as presented in Section 7.7 of the SARPS adequately cover the mapping of ATN Service Primitives to CIDIN. No additional Defect Reports or Change Proposals are necessary to support such conversion requirements.

## **REVISION HISTORY**

<b>Section</b>	<b>Date</b>	<b>Issue</b>	<b>Reason for Change</b>
	16 April 1996	Issue 1.0	Document Creation

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# ACTION 7/15 - Review of CIDIN SNCDF Requirements in ATNP Internet SARPS

## 1.0 BACKGROUND

At the WG/7 ATNP meeting in South Brisbane, Action 7/15 was assigned to review CIDIN SNDCF SARPs in Sub-Vol V & , if appropriate, submit DR's & CP's taking into account WP/230 & applicable ASPP material.

WP/230 provided a high level description of the CIDIN architecture, compared the CIDIN architecture with the ATN architecture, and discussed possible areas of incompatibility between these two differing architectures. The conclusion of WP/230 indicated that identified architecture incompatibilities be taken into account before a WG1 recommendation for integration of CIDIN into the ATN architecture.

Based upon this paper, Task 7/15 was assigned to review the technical issues present and evaluate whether the CIDIN SNDCF requirements currently in the SARPS adequately provided for convergence of CIDIN with the ATN.

## 2.0 DISCUSSION

In sub-volume V of the ATNP SARPS, Chapter 7, *Specification of Subnetwork Dependent convergence Functions*, deals with ATN service coordination with differing types of subnetworks. Section 7.7, *Convergence Provisions for Common ICAO Data Interchange Network (CIDIN)*, presents detailed convergence provisions for the CIDIN/ATN networks.

It is noted in 7.7.1, *General Considerations*, that CIDIN provides a connectionless transmission service so that the functionality provided by CIDIN at level 4 is already very close to what is required by the ATN network protocol.

## 3.0 SARPS CONVERGENCE PROVISIONS

WP/230 describes the CIDIN architecture at the link, frame and transport layers. The Link Layer protocol is LAP-B as specified in CCITT Recommendation X.25-1980. The Frame Layer protocol is CIDIN-unique and provides for frames to be sent to multiple exit addresses and also to indicate priority at four levels. The Transport Layer protocol is also CIDIN-unique and supports messages of unlimited lengths, message acknowledgments, recovery of lost messages and error procedures.

In Section 7.7.2, *Mapping of the ATN Service Primitives to CIDIN*, the required relationships between the ATN subnetwork primitives, their parameters, and the CIDIN protocol parameters are specifically outlined.

These specified convergence requirements include the following:

- SN-UNITDATA Request and Indication Primitives (shall correspond to *request to send* and *reception* messages at CIDIN entry/exit centers)

- SN Source Address (shall correspond to the CIDIN entry address)
- SN Destination Address (shall correspond to the CIDIN exit address)
- SN Quality of Service (values shall be entered a management data in the router)
- SN Priority (priority mapping shall be entered as management data in the router)
- SNS-Userdata (shall be conveyed as the contents of a CIDIN message)

It is recognized in this section that the coding of the CIDIN message is code and byte independent and may therefore transparently transport required SNS user data through the CIDIN network.

## 4.0 CONCLUSION

WP/230 correctly points out that the CIDIN protocol suite is different from the ATN specified protocols. However, it is recognized in Section 7 of the SARPS that CIDIN provides a connectionless transmission service at the Transport layer (Layer 4) which is very close to what is required by the ATN protocol.

In any event, based upon careful review of Sub-Volume V of the ATN SARPS, the ATN SNDCF convergence provisions specified for CIDIN adequately cover all required areas for the mapping of the ATN service primitives to CIDIN. Potential areas of subnetwork protocol primitives which could cause operational problems or requirements dealing with addressing, QOS, or priority have been recognized and mapped adequately. No additional specifications or requirements are deemed necessary to adequately support such an SNDCF convergence.

No additional Defect Reports or Change Proposals are therefore necessary to support such convergence requirements