ATNP WG2/8 Brussels 22-26 April 1996 Sub-Drafting Group Final Report

At their 5-9 February meeting in Brisbane, the ICAO ATNP WG2/7 agreed to form a sub-Drafting Group, specifically to accomplish recommendations from WP215 "ATN Systems Inc RFP PICS" namely:

- that a team of experts from Working Group 2 urgently undertake an analysis of the areas in which the ATN Systems RRI specification and its PICS (WP215) may differ from requirements expressed in the current draft ATN SARPs, and

- that these experts prepare change proposal(s) to correct identified defects in these draft ATN SARPs.

The following volunteered to staff the proposed sub-Drafting Group:

Paul Hennig/IATA (chairman)	paulhennig@aol.com
Steve Van Trees/STel	vantrees@sed.stel.com
PICS for ES Session, Presentation and ACSE Protocols	
Francis Brangier/Thomson-CSF	brangier@ozemail.com.au
PICS for ES Transport Protocol	
Forrest Colliver/Sofreavia/STNA	colliver@cenatls.cena.dgac.fr
PICS for IS Inter-Domain Routing Protocol	
Jean-Michel Crenais/STNA	crenais_jean-michel@ccmail.dgac.fr
PICS for ES/IS ES-IS Routing Exchange Protocol	
Pat Feighery/MITRE	feighery@mitre.org
PICS for ES/IS Connectionless Network Protocol	
Aloke Roy/ARINC	ar@arinc.com
PICS for ES/IS VDL SubNetwork Dependent Convergence Function	
Helene Thulin/SITA	thulin@eg.par.sita.int
PICS for ES/IS Satellite SubNetwork Dependent Convergence Function	

The following schedule of deliverables was agreed to:

- Individual experts to submit analysis results to SDG chairman by COB Wednesday 6 March via email;

- Chairman to submit a consolidated change proposal, indicating rationale (e.g., implementation timing versus interoperability risk, etc.) to the atn-internet-technical@cenatls.cena.dgac.fr mailing list by close of business Wednesday 13 March 1996 (version 3.0 is fallback, 3.1/4.0 is preferred);

- Sub-Drafting Group will report to the Working Group 2/8 meeting in Brussels.

As of 7 March, analyses of Upper Layers, IDRP, ES-IS Routing, and ES Transport were complete.

Note. - Subsequent to the 7 March deadline, the satellite SNDCF analysis was received, and is attached to this report. The author indicated it would be carried separately to the CCB.

No analyses of CLNP or VDL SNDCF were received.

The remainder of this final report attempts to extract and consolidate only such material from the individual anaylses as was suggested for possible defects to draft SARPs. The SDG chairman wishes to sincerely thank the expert volunteers for not only identifying potential SARPs interoperability defects, but also for identifying several problems with the ATN Systems PICS which will yield a better industry product overall.

Mistakes, errors and/or ommissions in the following material are the sole responsibility of the chairman.

Per Steve Van Trees on Sub-Volume IV (Upper Layer SARPs) draft version 2.0 dated 9 FEB 96:

> After analysis of the ATN Systems PICS for a router reference implementation (RRI), no SARPs defects were identified.

Per Francis Brangier on Sub-Volume V (Internet Communications SARPs) draft version 4.0 dated 26 February 1996; ES Transport Protocol:

> The RRI PICSs do not mandate implementation of the Request of Acknowledgment and of the Selective Acknowlegment. Sub-Volume V version 4.0 draft SARPs are unclear on this point (ref. ATN6, ATN7, T4F31, T4F32). It is believed that they do not mandate implementation of Request of Acknowledgment and of the Selective Acknowlegment either, but it is also believed that a different interpretation of the draft SARPs could be possible. Advice from the CCB on this matter may be required. No other defects in draft version 4.0 of Sub-Volume V (Internet Communications SARPs) were identified.

Per Forrest Colliver/Jerome Rozenblum/Stephane Tamalet on Sub-Volume V (Internet Communications SARPs) draft version 4.0 dated 26 February 1996; IDRP Protocol:

The only item of possible impact to draft SARPs appears to be:

ITEM	PROTOCOL FUNCTION	CLAUSES	ISO STATUS	CNS/ATM-1 SUPPORT	ATNSI G/G	ATNSI G/A	ATNSI A/G
PSRCRT	Does this BIS correctly handle 8473 NPDUs that contain a partial source route	8	M	O	N	N	N

The source routeing function, allows a Network entity to specify the path that a generated PDU shall take. If an NPDU contains an ISO 8473 partial source route parameter, the NPDU shall be forwarded on a path to the next system listed in the partial source route parameter. The PDU may take any path necessary to arrive at the next intermediate system in the list, which may include visiting intermediate systems that are not identified in the list. The PDU shall only be discarded if one of the systems specified cannot be reached by any available route.

CNS/ATM-1 SARPs states that partial source routing is optional for support by ATN Airborne router (8.3.2.1 Table 8-5 Note 7) and excluded for support by ATN Air/Ground Router (8.3.2.1.2).

The APRLs should be changed. The entry should be set to `O' for an GG and Airborne routers and to `OX' for AG routers.

The optional use of partial source routeing wihin a CNS/ATM-1 ground router will not cause any interoperability problems.

Per Jean-Michel Crenais/Stephane Tamalet on Sub-Volume V (Internet Communications SARPs) draft version 4.0 dated 26 February 1996; ES-IS Routing Exchange Protocol:

CTGn and ESCT-s items:

ITEM	PROTOCOL FUNCTION	CLAUSES	ISO STATUS	CNS/ATM-1 SUPPORT	ATNSI G/G	ATNSI G/A	ATNSI A/G
CTGn	ESCT Generation	6.3.2	CI:O	O	Y	Y	Y
ESCT-s <s>	Suggested ES Configuration Timer	7.4.7	CI:O	O	Y	Y	N

ESCT is the suggested ES Configuration Timer. It allows an IS to suggest a Configuration Timer value to neighbour ESs. On a mobile subnetwork, through which A/G and Airborne ISs can only have ISs as neighbours, the ESCT generation serves nothing .

Since the ESCT generation is not precluded by the SARPs and it is required that ISs recognise and ignore this field on receipt, ATN Systems PICS can choose to implement it.

However, since the ESCT parameter serves nothing over mobile subnetworks and is 4 bytes long, it is believed preferable to avoid generating the ESCT parameters in an ISH when transmitted over a mobile subnetwork.

It is therefore proposed to issue a defect report on the Internet SARPs for having the ESCT parameter not precluded for use over mobile subnetworks and subsequently to ask ATN Systems to modify their PICS so that the CTGn and ESCT-s items be set to NO in the columns related to the operation of ESIS over mobile subnetworks.

***** END OF SUB-DRAFTING GROUP FINAL REPORT *****

Date: 96-03-28 09:13:29 EST
From: thulin@Zeus.eg.par.sita.int (Helene THULIN)
To: paulhennig@aol.com (Paul Hennig)

This is the review of the ATNSI PICS against SARPs 4.0 . Only minor problems were detected, and corresponding DRs have been submitted, late, I recognize, to the CCB.

From thulin Tue Mar 26 18:33:16 1996
Subject: Review of ATNSI SNDCF PICS for use over the Satellite SN
To: atn-internet-technical@cenatls.cena.dgac.fr (technical atn-internet)
Date: Tue, 26 Mar 1996 18:33:16 +0100 (MET)

At the Brisbane meeting, I was asked to review the ATNSI SNDCF PICS against the CNS-ATM-1 package SARPs and check the suitability for use over the Satellite subnetwork- I apologize for this late answer - There is no major problem found in the ATN internet SARPs, to the exception of some clarifications which would help the understanding of call negotiation procedure. If the CCB can still consider them , I can issue 2 defect reports and CPs on this subject.

The following is a summary of some difficulties which should be identified:

1) V42bis compression:

ATNSI has selected to mandate the V42bis compression over A/G link, (in PICs this is described in the mcV42 entry), which is a reasonable and recommended feature over the Satellite Subnetwork.

However this may preclude airborne router with ATNSI software to communicate with A/G routers not implementing V42bis compression.

Currently the
ATN SARPS are ambiguous on the procedure which must be applied when the responder router do not support the compression procedure proposed by the initiator router :

Section 7.5.4.3.5 of ATN SARPs 4.0 describes how the compression can be negociated, ie the responder router can accept a call from the airborne indicating in the call user Data that compression is not supported.

However there is no description of the procedure which must be applied by the initiator in this case.

I suppose that the intent is, that when the responder can not support

compression, this BIS shall accept the call indicating in the call accept user DATA (compression options) that the proposed compression is not supported, and that in this case the initiator shall then exchange DATA without compression.

In the case
where the initiator still forward V42BIS or ACA compressed PDUs to the responder, then the responder should clear the connection with the diagnostics identified in table 7-6,(no V42BIS supported or no ACA supported) if there is a mean to identify such compressed PDUs.

If the responding router can not use fast select, then compression can not be negociated, and the responder should immediately clear the incoming call.

This procedure should be clarified in the ATN SARPs.

2) Use of priorities:

The ATNSI PICS mandate the use of priority. This means normally that the airborne router can only be interconnected via a GES connected to a ground subnetwork which uses the priority. (Some X.25 PSDN do not have yet X.25 priority capabilities).

Some solutions exist to make the GES relay the call
even if the ground X.25 subnetwork does not support priority, but in this case DATA from ground to air will be forwarded without any AMSS priority .

In the case where the GES is only interconnected with ground X.25 subnetworks which support priority , and that the airborne need to communicate, via this GES, with one A/G router which
uses AMSS priorites ,then the GES need to be configured in such way that the ATNSI airborne system can only communicate via this GES and via the subnetwork which the A/G is attached to,
with A/G routers supporting satellite SNDCF priorities.

There is no defect to be reported regarding SNDCF priority in the ATN SARPs.

3) Use of fast select

The ATNSI PICS mandate the use of fast select .(page 12, csFast) .
This means that the airborne router can only be interconnected via a GES connected to a ground X.25 subnetwork which uses fast select.
(Some X.25 PSDN do not have yet fast select capabilities).
This also means that the ATNSI airborne router can only communicate

with A/G router with fast select capabilities.

There is no defect to be reported regarding fast select facility
in the ATN SARPs.

2) The ATNSI SNDCF PICS present the following inconsistency :

a) page 9 of W2WP215a:

- LI-s , the 8473 length indicator is not supported . In the
ATN SARPs this parameter is mandatory to indicate the length of the
compression header,including the directory size. In page 13, caMaxd ,
which is the indication ofthe maximum directories entries in the
Call User Data,is set to yes, which means that ATNSI will use the
compression header , and therefore should use as well LI-s.

This also mean that there is a small defect in the ATN SARPs :
LI-s should be indicated as mcNego:M instead of XMCI:M
This also shows the problem of keeping tables relating to
the ISO 8208 SNDCF in the 8473 section. (The tables I am referring
to are derived from 8473 ISO PICs , as these PICS include some requirements
regarding a general ISO-8208 SNDCF).

b)page 12 of W2WP215c :

csOther is not supported .This is the use of other optional User
facilities and CCITT specified DTE facilities ,(in this case other
than fast select) is not supported .
In fact , as the ATNSI SNDCF uses priority (page 8, XPRI set to yes) ,
csOther
should be set to yes, as priority is carried in an ISO 8208 facilities.

Best Regards
H. Thulin