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Working Group 2

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SME 5 (Internet Communications Service) Status Report

Working Paper

Presented by Klaus-Peter Graf (Sub-Volume 5 SME)

Summary

This paper provides a summary on the status of the PDRs which have been submitted against the ATN ICS SARPs (Sub-Volume 5). It presents those PDRs in detail which have been submitted since the last WG 2 meeting.

Furthermore, it reports about the status of ICAO Doc 9705.

WG 2 members are invited to note the current status and to review the attached PDRs.

Introduction

This paper provides a summary on the status of Proposed Defect Reports (PDRs) raised against the ATN Internet Communications Service (ICS) SARPs for information of the WG 2 members.

Furthermore, in the attachment, it presents those PDRs which have been accepted by the CCB since the end of the Naples meeting, i.e. the cut-off date for Edition 2 of ICAO Doc 9705. The agreed resolutions for those PDRs are scheduled for inclusion into Edition 3 of Sub-Volume 5 which is currently under preparation for ATNP/3.

PDR Status

Table 1 presents the list of those PDRs which have been submitted to the ATNP Configuration Control Board (CCB) since its establishment in spring 1997 and which apply to the Internet Communications Service (ICS) SARPs. Column 3 of Table 1 lists the status of these PDRs in the ATNP CCB process as of 21st September 1999. Column 4 indicates the version/edition of the ATN ICS SARPs in which the agreed technical solution of the resolved PDR has been included (marked by "(I)") or is scheduled for inclusion (marked by "(S)") respectively.

PDR Number	PDR Title	CCB Status	Included (I) in ... Scheduled (S) for ..
97060028	Transport Timers Configuration	ADOPTED	ICAO Version 2.2 (I)
97060029	Various Editorial Defects (1)	ADOPTED	ICAO Version 2.2 (I)
97060030	IDRP Timers	ADOPTED	ICAO Version 2.2 (I)
97100001	Incomplete specification for use of V.42bis by Mobile SNDCF	ADOPTED	ICAO Version 2.2 (I)
97100002	SNDCF Call Request/Confirm User Data Length Indicator	ADOPTED	ICAO Version 2.2 (I)
97100003	Various Editorial Defects (2)	ADOPTED	ICAO Version 2.2 (I)
97100048	LREF Directory Management	ADOPTED	ICAO Version 2.2 (I)
98040003	X.25 Address Extension Facility	ADOPTED	Doc 9705 Edition 2 (I)
98050001	IDRP Update Receive Process	ADOPTED	Doc 9705 Edition 2 (I)
98060003	Predicates in ISO/IEC 8473 APRL	ADOPTED	Doc 9705 Edition 2 (I)
98060004	Support of IDRP by Airborne Router implementing optional non-use of IDRP	ADOPTED	Doc 9705 Edition 2 (I)
98060005	Air/Ground Route Initiation APRL	ADOPTED	Doc 9705 Edition 2 (I)
98060006	Correlation of ATSC Class with A/G Subnetwork Type in Airborne Router	ADOPTED	Doc 9705 Edition 2 (I)
98060007	Symmetry of Mobile SNDCF APRL and Route Initiation APRL	ADOPTED	Doc 9705 Edition 2 (I)
98060008	IDRP Traffic Typing	ADOPTED	Doc 9705 Edition 2 (I)
98080001	Segmentation of Error Report PDU	ADOPTED	Doc 9705 Edition 2 (I)
98090002	Incorrect term "24-bit ICAO Aircraft Identifier"	ADOPTED	Doc 9705 Edition 2 (I)
98090003	Downgrading of ATSC Class	ADOPTED	Doc 9705 Edition 2 (I)
98090004	Backbone Hides Optimal Route to Off-Back-bone BISs	REJECTED	----
98090010	Value of SNCR in X.25 Call Request Packets	ADOPTED	Doc 9705 Edition 2 (I)

98100002	Deflate Frame Checksum	ADOPTED	Doc 9705 Edition 2 (I)
98100003	End-of-Block Code in Deflate Data Block	ADOPTED	Doc 9705 Edition 2 (I)
98100004	Deletion of Trailing Zero-Octet	ADOPTED	Doc 9705 Edition 2 (I)
98100005	Deflate Backwards Window Size	ADOPTED	Doc 9705 Edition 2 (I)
98100007	Handoff Event	ADOPTED	Doc 9705 Edition 2 (I)
99010001	Over-specification of SNSDU Requirement	ADOPTED	Doc 9705 Edition 2 (I)
99010005	Loss of IDRP Connection	ADOPTED	Doc 9705 Edition 2 (I)
99010008	References to ISO/IEC 8802-2 Broadcast Subnetworks	ADOPTED	Doc 9705 Edition 2 (I)
99030001	Parameter Setting in CLNP Echo Response PDU	ADOPTED	Doc 9705 Edition 2 (I)
99030002	Emergency Use of a Mobile Subnetwork	ADOPTED	Doc 9705 Edition 2 (I)
99050001	Echo NPDUs Supported By ISs	ADOPTED	Doc 9705 Edition 2 (I)
99070004	Remove Jitter on IDRP Timers for Airborne BIS	RESOLVED	Doc 9705 Edition 3 (S)
99070005	ATSC Class of Locally Originated Routes	ACCEPTED	Doc 9705 Edition 3 (S)
99070006	ATN NSAP Address Compression Algorithm (ACA)	RESOLVED	Doc 9705 Edition 3 (S)
99090001	Over-specification of ARS Address Field Assignment	ACCEPTED	Doc 9705 Edition 3 (S)
99090002	Extension Capability of Mobile SNDCF Header	SUBMITTED	Doc 9705 Edition 3 (S)

Table 1: Status of ICS PDRs in the ATNP CCB Process

As illustrated in Table 1, a total of 36 PDRs have been raised against the ICS SARPs over the past 28 months.

1.1 Resolved PDRs

32 of these PDRs have been resolved by the WG 2 SARPs Development Mechanism (SDM) and the proposed technical solutions approved by the CCB. One PDR has been rejected.

Concerning 7 of these 32 resolved PDRs the relevant technical modifications have been included in the ICAO Version 2.2 of the ATN SARPs and also brought forward to the Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) - ICAO Doc 9705-AN/956 (1st Edition, 1998). The agreed technical solutions of another 23 resolved PDRs have been included in Edition 2 of ICAO Doc 9705 (November 1999). The remaining PDRs are scheduled for inclusion into Edition 3 of ICAO Doc 9705, to be presented to ATNP/3.

1.2 Pending PDRs

There are currently three ICS PDRs which have been submitted to the ATNP CCB but which have not yet progressed to the RESOLVED status. These are PDR 99070005, PDR 99090001 and PDR 99090002. These PDRs are attached to this report for information of and review by WG 2 members.

1.3 Editiorial PDRs

In addition to the PDRs listed in Table 1 a substantial number of editorial defects has been identified during the review of the ATN SARPs ICAO Version 2.0 (distributed at the Langen ATNP meetings), ICAO Version 2.1 (distributed at the Redondo Beach ATNP meetings), ICAO

Version 2.2 (distributed at the Rio ATNP meetings), ICAO Doc 9705 1st Edition (distributed at the Utrecht ATNP meetings) and ICAO Doc 9705 2nd Edition (distributed to the CCB in August 1999). These defects have been documented in five editorial PDRs which apply to all Sub-Volumes of Doc 9705, including Sub-Volume 5. These PDRs are summarised in the following table:

PDR Number	PDR Title	CCB Status	Included (I) in ... Scheduled (S) for ..
97060001	Corrections to ICAO V2.0 produced by ICAO secretariat	ADOPTED	ICAO Version 2.1 (I)
97110001	Corrections to ICAO V2.1 produced by ICAO secretariat	ADOPTED	ICAO Version 2.2 (I)
98040005	Corrections to ICAO V2.2 produced by ICAO secretariat	ADOPTED	Doc 9705 Edition 1 (I)
98070003	ICAO 9705 – Engineering Version Discrepancies and Editorial Errors	ADOPTED	Doc 9705 Edition 2 (I)
99010004	ICAO 9705 Edition 1 Editorial Errors	ADOPTED	Doc 9705 Edition 2 (I)
99070001	ICAO 9705 Edition 2 Editorial Errors	ACCEPTED	Doc 9705 Edition 3 (S)

Table 2: Status of PDRs Documenting Editorial Defects of Sub-Volume 5

Status of ICAO Doc 9705

Based on the resolved PDRs the CCB has prepared change pages for Amendment 1 of Doc 9705 out of the Naples meeting (May 1999). Since then, ICAO has chosen to publish a complete new edition of Doc 9705 (i.e. Edition 2) rather than dealing with an amendment to Edition 1 of Doc 9705.

A pre-publication version of Edition 2 of Doc 9705 has been made available to the CCB in August 1999. The CCB has reviewed this version and has ensured that all modifications originally requested for Amendment 1 of Edition 1 had been correctly included in the Edition 2.

As a consequence of the ICAO decision to publish the proposed Amendment 1 of Doc 9705 as 2nd Edition of Doc 9705, the draft SARPs text being updated by the ICS Drafting Group (IDG) for WG 2 and ATNP/3 is now the Draft Edition 3 of Sub-Volume 5. This Draft Edition 3 uses the 2nd Edition of Sub-Volume 5 as baseline and currently implements all those enhancements which are listed in WP 541. Revision marks have been used in order to clearly highlight and track all changes and amendments from Edition 2 of Doc 9705.

The Draft Edition 3 of Sub-Volume 5 is contained in the accompanying working paper WG2/WP530 for review by WG 2 and is also available in softcopy (WordPerfect 8) on the PC archive of this meeting and on the ATNP archive at Toulouse.

Recommendation

The working group is invited to

- note the above reported status
- note the availability of a pre-publication copy of Edition 2 of Doc 9705
- note the availability of Draft Edition 3 of SV 5
- review the attached PDRs and propose modifications, as appropriate.

Title:	Remove jitter on IDRP timers for Airborne BIS
PDR Reference:	99070004
Originator Reference:	ATNSI SPCR
SARPs Document Reference:	ICS SARPs, Section 5.8.3.5.4
Status:	RESOLVED
Impact:	C (Clarification)
PDR Revision Date:	
PDR Submission Date:	14 July 1999
Submitting State/Organisation:	ACI/ATNSI
Submitting Author Name:	True, Bill / Stokes, S.
Submitting Author E-mail Address:	rri-tech@tlse.sofreavia.fr / Shawn.Stokes@ATNSI.COM
Submitting Author Supplemental Contact Information:	(ACI Contact: Bill True rri-tech@tlse.sofreavia.fr)
SARPs Date:	Doc 9705
SARPs Language:	English

Summary of Defect:

Section 5.8.3.5.4 of the ATN Internet SARPS, the APRL for IDRP Update Send Process, requires the use of jitter on IDRP timers for G-G, A-G and Airborne routers. Because of other restrictions on the characteristics of an airborne router, the jitter algorithm is not needed for the airborne case, and unnecessarily complicates the implementation of an airborne BIS.

Assigned SME: K-P Graf (SME Sub-Volume 5)

Discussion:

In ISO 10747, jitter is introduced on the minRouteAdvertisementInterval and MinRDOriginationInterval timers to prevent peaks in the distribution of routing traffic caused when routing updates are generated fast enough to be limited by these two timers. Jitter is needed to smooth the routing traffic in a large network like the ATN and will be important in the Ground-Ground connections. However, for the reasons described below, jitter is not needed for airborne implementations of IDRP.

Since an airborne routing domain is always an end routing domain, it does not use the minRouteAdvertisementInterval timer, but it does use MinRDOriginationInterval. However, since each aircraft is a separate routing domain, the routing information that it advertises to the ground does not usually change over the lifetime of a BIS-BIS connection, therefore an airborne router will probably never be transmitting BIS UPDATE PDU's at the MinRDOriginationInterval rate. Also, even if the aircraft should end up sending UPDATE BISPDU's at that rate, the events that would cause this are specific to that one aircraft so it is not likely that updates from multiple aircraft could become synchronised, and any synchronisation that did occur would be broken when the aircraft moves from one ground routing domain to another. These considerations imply that jitter should not be required for airborne routers. (Note that JITTER does not reduce total routing traffic, it only smoothes the peaks.)

The reference for the ATN IDRP APRL for "JITTER" is ISO 10747, section 7.17.3.3 and the PICS proforma A.4.4. The ISO specification requires jitter for all conforming implementations, however the ATN SARPs can relax this requirement for Airborne routers with no adverse impact on IDRP performance or stability. Changing the APRL item from mandatory to optional will reduce the complexity and cost for airborne implementations of IDRP.

Proposed SARPs amendment:

A) At the end of Table 5.8-7 include an additional row as follows:

"| 8. | Application of Jitter on Timers | *Note 8.—An aircraft is always an End Routing Domain. Hence it will not use the minRouteAdvertisementInterval timer (see 2. above). Furthermore it is unlikely to report changes in locally originated routes at the MinRDOriginationInterval rate as this routing information does not usually change over the lifetime of a BIS-BIS connection.* |"

B) Change the last row of the table in 5.8.3.5.4 from:

JITTER	Does this BIS provide jitter on its timers?	7.17.3.3	M	M	M	M

to:

JITTER	Does this BIS provide jitter on its timers?	7.17.3.3	M	M	O	

SME Recommendation to CCB: Accept Proposed SARPs Amendment

CCB Decision: ACCEPTED (27 July 1999)
RESOLVED (31 August 1999)

Title:	ATN NSAP Compression Algorithm (ACA)
PDR Reference:	99070006
Originator Reference:	
SARPs Document Reference:	ICS SARPs, Section 5.7.6.4
Status:	RESOLVED
Impact:	C (Clarification)
PDR Revision Date:	
PDR Submission Date:	28 July 1999
Submitting State/Organisation:	DFS/Germany
Submitting Author Name:	Klaus-Peter Graf
Submitting Author E-mail Address:	klaus.graf@unibw-muenchen.de
Submitting Author Supplemental Contact Information:	
SARPs Date:	SV 5 Amendment 1
SARPs Language:	English

Summary of Defect:
The current specification of the ACA is defective as it is not in line with the ATN NSAP address field definition in section 5.4, in particular with respect to the VER field and ADM field.

Assigned SME: Sub-Volume V SME (K.-P. Graf)

Discussion:
A review of current ATN implementation projects indicates that the optional ACA is not implemented by these projects. Furthermore, the benefits of the ACA are only marginal if the Local Reference (LREF) compression option is in use. This option is implemented by current ATN projects and is expected to be offered as data compression procedure by ATN A/G and Airborne BISs. Consequently the deletion of the ACA from SV 5 is proposed.

Proposed SARPs amendment:
1) Remove ACA from Note 2 of 5.7.6.1.1
2) Update Figure 5.7-2 and Table 5.7-2
3) Delete Note of 5.7.6.2.1.5.9, 5.7.6.2.1.5.10, 5.7.6.2.1.7.3.3 and 5.7.6.2.2.2.2
4) Revise Figure 5.7-3, 5.7.6.2.3.2 b), 5.7.6.2.3.3 b) and Table 5.7-3
5) Revise 5.7.6.4 to indicate that this section has been deleted
6) Delete 5.7.6.4.1, 5.7.6.4.1.1, 5.7.6.4.2 incl. all sub-paragraphs,5.7.6.4.3 incl. all sub-paragraphs, 5.7.6.4.4 incl. all sub-paragraphs, 5.7.6.4.5 incl. all sub-paragraphs, 5.7.6.4.6 incl. all sub-paragraphs
7) Revise 5.7.7.8.1
8) Revise 5.7.7.8.6 to indicate that this section has been deleted
9) Delete Table of 5.7.7.8.6

SME Recommendation to CCB: Accept Proposed SARPs Amendment

CCB Decision: PDR ACCEPTED (2 August 1999)
PDR RESOLVED (15 September 1999)

Title:	ATSC Class of Locally Originated Routes
PDR Reference:	99070005
Originator Reference:	
SARPs Document Reference:	ICS SARPs, Section 5.8.3.2.4.2.1 c)
Status:	ACCEPTED
Impact:	C (Clarrification)
PDR Revision Date:	
PDR Submission Date:	2 August 1999
Submitting State/Organisation:	ProATN A/G BIS DevelopmentTeam
Submitting Author Name:	Klaus-Peter Graf
Submitting Author E-mail Address:	klaus.graf@unibw-muenchen.de
Submitting Author Supplemental Contact Information:	
SARPs Date:	SV 5 Edition 1
SARPs Language:	English

Summary of Defect:
The following problem had been encountered when testing the home route concept inside the ProATN BIS:
As indicated in ICAO SARPs section 5.8.3.2.4.2.1 c), any IDRP route originated locally inherits the ATSC class(es) supported by the IDRP adjacency it is advertised on.

This clause seems to conflict with some other clauses specifying how to set up routes to "Home" domain (section 5.3.7.1.2.1 e) for instance):
- On one hand, home routes are specified such that they support all classes of ATSC traffic.
- On the other hand, an home route is considered as a local route for the BIS that initially distributes this route. Thus, applying clause 5.8.3.2.4.2.1 c above to a home route prevents this route from supporting all ATSC classes (since its classes are enforced when advertisement is done).

This clause also conflicts with the clause 5.3.7.1.3.1.c) specifying how backbone routers have to advertise a default route to 'all aircraft' to non-backbone routers:
- On one hand, the default routes to 'all aircraft' is specified such that it supports all classes of ATSC traffic.
- On the other hand, the default route to 'all aircraft' is considered as a local route by the backbone BIS that initially distributes this route. Thus, applying clause 5.8.3.2.4.2.1 c) above to a default route to 'all aircraft' prevents this route from supporting all ATSC classes (since its classes are enforced when advertisement is done).

It should be more appropriate to manage home routes and routes to 'all aircraft' in the same way as routes received from another BIS. But there is no practical criterion to distinguish at creation time between a 'true' local route and a 'home' or 'all aircraft' route.

One could argue that the solution to this problem is a local matter. However, as explained above, it seems that the core of the problem itself resides in the definition of 'routes originated locally' made by the SARPS, which implicitly cover the case of home routes.

Assigned SME: Sub-Volume V SME (K.-P. Graf)

Discussion:
This PDR has been reviewed by IDG/1 and IDG/2. The meeting agreed that the current SARPs on the settings of the ATSC Class Security Tag of 'home routes' and 'routes to all aircraft' (in chapter 5.3.7) are not in line with the definition of the settings of the ATSC Class Security Tag for locally originated routes (in chapter 5.8.3.2.4.2). A clarification has to be added to the SARPs.

Proposed SARPs amendment:

In the paragraphs 5.3.7.1.2.1 e), 5.3.7.1.3.1 c), 5.3.7.1.5.1 c), 5.3.7.3.2.1 d), and 5.3.7.3.3.1 f) replace the existing text
"The Security Path attribute shall contain an ATSC Class Security Tag indicating support for both ATSC and non-ATSC traffic, and for all ATSC classes supported for Air/Ground data interchange, if any"
by
"If the adjacency, over which the route is to be advertised, supports one or more subnetworks approved for ATSC traffic, then the Security Path attribute shall contain an ATSC Class Security Tag indicating support for both ATSC and non-ATSC traffic, and for the ATSC class(es) supported by the adjacency"

SME Recommendation to CCB: Accept Proposed SARPs Amendment

CCB Decision: PDR ACCEPTED (31 August 1999)

Title:	Over-specification of ARS Address Field Assignment
PDR Reference:	99090001
Originator Reference:	AJW/99/1
SARPs Document Reference:	ICS SARPS, Section 5.4.3.8.4.2
Status:	ACCEPTED
Impact:	C (Clarification)
PDR Revision Date:	
PDR Submission Date:	14/09/99
Submitting State/Organization:	Eurocontrol
Submitting Author Name:	Whyman, A
Submitting Author E-mail Address:	tony.whyman@fans-is.com
Submitting Author Supplemental Contact Information:	+44 1962 735580
SARPs Date:	Doc 9705 Edition 1
SARPs Language:	English

Summary of Defect:
The SARPs state that
"5.4.3.8.4.2 In the Fixed AINSC and ATSC Network Addressing Domains, the value of the ARS field shall be a 24-bit unsigned binary number that uniquely identifies the NSAP Addresses and NETs assigned to systems in a single Routing Domain."

However, whilst this is useful guidance, there is no need to be so prescriptive. ATN Routers forward packets by comparing address prefixes and for inter-domain routing do not have any knowledge of the fields specified in the Addressing Plan - they are purely for administrative convenience. A requirement for an fixed 11 octet prefix for a routing domain is only needed for airborne systems (see optional non-use of IDRP). It is not necessary for Ground Systems.

Note that this problem first arose when ARINC were trying to assign unambiguous ATN NETs and VDL Specific Addresses to their routers. VDL uses the ADM/ARS field of an NET to identify Routers and it was not possible to make an unambiguous assignment if all such routers were in the same routing domain.

Assigned SME: SME 5 (Klaus-Peter Graf)

Proposed SARPs amendment:

1) Revise existing Note 1 to read:
“Note 1.—In Fixed Network Addressing Domains, the purpose of the ARS field is to distinguish Routing Domains or Routing Domains and subordinate Routing Areas respectively operated by the same State or Organisation.”

2) Change existing section 5.4.3.8.4.2 to read:
"5.4.3.8.4.2 In the Fixed AINSC and ATSC Network Addressing Domains, the value of the ARS field shall be a 24-bit unsigned binary number which is used to uniquely identify a Routing Domain or a Routing Domain and a subordinate Routing Area respectively.”

3) Add the following note at the end of section 5.4.3.8.4.2:
“Note. – A State or Organisation may choose to use either the most significant 8 bits, the most significant 16 bits or all 24 bits of the ARS field to uniquely distinguish its Routing Domains.”

4) Add the new section 5.4.3.8.4.3 as follows:
“5.4.3.8.4.3 In the case that the body responsible for the assignment of the ARS field chooses to use only the leading bits of the ARS field to distinguish its Routing Domains, the remaining part of the ARS field shall, together with the LOC field (see 5.4.3.8.5), be used to uniquely identify the Routing Areas within those Routing Domains."

5) Renumber the existing sections 5.4.3.8.4.3 and 5.4.3.8.4.4 to become 5.4.3.8.4.4 and 5.4.3.8.4.5

SME Recommendation to CCB: Accept PDR

CCB Decision: PDR ACCEPTED (21 September 1999)

Title:	Extension Capability of Mobile SNDCF Header
PDR Reference:	99090002
Originator Reference:	
SARPs Document Reference:	ICS SARPs, Section 5.7.6.2.1 and 5.7.6.2.2
Status:	SUBMITTED
Impact:	A (Critical)
PDR Revision Date:	
PDR Submission Date:	14 September 1999
Submitting State/Organisation:	Germany/DFS
Submitting Author Name:	Klaus-Peter Graf
Submitting Author E-mail Address:	klaus.graf@unibw-muenchen.de
Submitting Author Supplemental Contact Information:	
SARPs Date:	SV 5 Edition 1
SARPs Language:	English

Summary of Defect:
The current specification of the mobile SNDCF does not allow for octet extensions in the SNDCF header in a backwards compatible way. Such extensions may be required to signal new capabilities (e.g. maintenance of DEFLATE history window) which may be added to future versions of the ATN SARPs. The consequence of this defect would be a version roll of the Mobile SNDCF protocol whenever such a new capability is added to the SARPs.

To accommodate additional mobile SNDCF options in future editions of Sub-Volume 5 in a backwards compatible way, the capability of extending the mobile SNDCF header is proposed in the following SARPs amendment.

Assigned SME: Sub-Volume V SME (K.-P. Graf)

Discussion:
The approach to provide for an extension capability to the Mobile SNDCF header has been agreed by IDG/2. A Category “A” PDR has been chosen as method of promulgating this intended change in order to inform implementors early about the direction in which Sub-Volume 5 is intended to be progressed to provide backwards compatibility in the long term.

Proposed SARPs Amendment:

1) Replace para 5.7.6.2.1.5.3 with the following text:
“ 5.7.6.2.1.5.3 The second octet of the Call User Data is the Length Indicator and shall indicate the number of octets in the subsequent SNDCF parameter block as an unsigned binary number with a maximum value of 254.”

2) Add new para 5.7.6.2.1.5.4 with the following text:
“5.7.6.2.1.5.4 SNDCF Parameter Block
Note.—The SNDCF Parameter Block contains a fixed part and a variable part. The fixed part is 4 octets long and always present; it contains the parameters Version Number, Subnetwork Connection Reference (SNCR), and Compression Techniques. The variable part is used to define the maximum directory length, if the LREF Compression algorithm is selected, and any extended capabilities which may be added to future versions of this specification.

5.7.6.2.1.5.4.1 The first octet of the SNDCF Parameter Block is the SNDCF Version Number and shall be set to [0000 0001] to indicate this version of the SNDCF protocol.

5.7.6.2.1.5.4.2 The second and third octets of the SNDCF Parameter Block shall provide the low order octet and the high order octet respectively of the Subnetwork Connection Reference (SNCR).

5.7.6.2.1.5.4.3 as existing para 5.7.6.2.1.5.6 including the existing Note

5.7.6.2.1.5.4.4 The fourth octet of the SNDCF Parameter Block shall indicate the compression techniques offered by the calling DTE, according to Table 5.7-2.”

3) Update Figure 5.7-2 to reflect the above definitions

4) Modify para 5.7.6.2.1.5.10 to read:
“5.7.6.2.1.5.10 When the LREF Compression algorithm is offered, i.e. if bit 2 in the fourth octet of the SNDCF Parameter Block is set, then the SNDCF Parameter Block shall contain a variable part and the first and second octet of

this variable part shall be present and indicate the maximum number of directory entries supported for the local reference (minimum size 128), as unsigned even number."

5) Modify para 5.7.6.2.1.5.14 to read:
"5.7.6.2.1.5.14 The octet following the SNDCF Parameter Block shall be the first octet of the User Data field, if present."

6) Delete existing para 5.7.6.2.1.5.15

7) Modify para 5.7.6.2.1.6.1.1 to read:
"When an ISO/IEC 8208 Call Confirm packet is received from the Called DTE and the Fast Select Facility is in use, then the Calling DTE shall inspect the second octet of the Call Confirm User Data (see Figure 5.7-3) in order to ..."

8) Modify para 5.7.6.2.1.6.1.6 to read:
"If there is additional user data beyond the SNDCF Parameter Block in the received Call Confirm packet and the first octet of this additional user data is a recognized NPDU SPI, then the received Called User Data field contains an NPDU (see Figure 5.7-3), and the calling SNDCF shall pass the octets following the SNDCF Parameter Block in an SN-UNITDATA indication to the appropriate SN-Service User."

9) Add the following note under item d) in para 5.7.6.2.2.1.4:
"Note.—This condition does not include the cases, where the LREF compression algorithm has been offered and the Length Indicator in the Call User Data (see Figure 5.7-2) is greater than 6, or the LREF compression algorithm has not been offered and the Length Indicator in the Call User Data is greater than 4."

10) Add the following new para 5.7.6.2.2.1.6:
" 5.7.6.2.2.1.6 If the LREF compression algorithm has been offered in the SNDCF Parameter Block and the Length Indicator in the Call User Data (see Figure 5.7-2) is greater than 6, or the LREF compression algorithm has not been offered and the Length Indicator in the Call User Data is greater than 4, then the receiving SNDCF shall ignore the additional octets in the SNDCF Parameter Block but not discard the received packet.

Note.—The above condition may be experienced by implementations compliant with the 1st and 2nd Edition of this specification which have received a call from an implementation compliant with a later Edition of this specification. By ignoring extraneous bits, these early implementations can establish communications with later implementations in a backwards compatible manner."

11) Modify para 5.7.6.2.2.2.1 to read:
".... the appropriate bits in the first octet of the SNDCF Parameter Block contained in the Call Accept User Data as shown in Figure 5.7-3."

12) Add new para 5.7.6.2.2.4.3 with the following text:
" 5.7.6.2.2.4.3 The first octet of the Call Accept User Data shall be the Length Indicator indicating the number of octets in the subsequent SNDCF Parameter Block as an unsigned binary number with a maximum value of 254."

13) Add new para 5.7.6.2.2.4.4 with the following text:
" 5.7.6.2.2.4.4 SNDCF Parameter Block
Note.—The SNDCF Parameter Block contains a fixed part and a variable part. The fixed part is one octet long and is always present; it contains information about the accepted compression techniques. The variable part is used to define any extended capabilities which may be added to future versions of this specification.

5.7.6.2.2.4.4.1 The first octet of the SNDCF Parameter Block shall indicate the compression technique(s) accepted by the called DTE.

Note.—The bit fields of this octet have the same semantics as the ones used for the fourth octet of the SNDCF Parameter Block of the Call Request User Data (see Table 5.7-2).

5.7.6.2.2.4.4.2 If present, the variable part of the SNDCF Parameter Block shall start at the second octet of the SNDCF Parameter Block.

Note.—The structure and semantics of the variable part may be defined by future extensions of this specification."

14) Modify the existing para 5.7.6.2.2.4.4 to read.
".... the first octet following the SNDCF Parameter Block shall be the first octet of this NPDU."

15) Update Figure 5.7-3 to reflect the above definitions

Impact on Interoperability:
The PDR resolution has to be adopted by all implementation projects which aim to be compliant with Doc 9705. Otherwise, implementations which have implemented the defect resolution and those which have not, will not be interoperable. However, the proposed SARPs amendment will provide for the necessary long-term backwards compatibility mechanism onwards which will allow for the introduction of new SNDCF capabilities in future SARPs versions without impacting existing implementations.

SME Recommendation to CCB: Accept PDR

CCB Decision: