REPORT OF THE 2ND MEETING OF THE AERONAUTICAL TELECOMMUNICATIONS NETWORK (ATN) GROUP B – ATN INTERNET COMMUNICATION SERVICE, HONOLULU, USA, 2ND MARCH 2001

1 MEETING ORGANISATIONAL ISSUES

1.1 The second meeting of the ICAO Aeronautical Telecommunications Network Panel Group B was held in the Ilikai Renaissance Hotel, Honolulu, Hawaii, USA, on the 2nd March 2001. The meeting was chaired by the Rapporteur, Brian Cardwell (BC), and was attended by some 21 Members from 6 States and 4 International Organisations. 26 Working Papers (WP) were presented. A copy of the Agenda for the meeting is at Appendix A, the list of Working Papers is attached at Appendix B, and the list of attendees is at Appendix C.

1.2 The chairman thanked the FAA on behalf of WG B for hosting the meeting.

1.3 As there were several new members, the chairman invited the attendees to introduce themselves.

2 REVIEW / APPROVE MEETING AGENDA

2.1 The meeting approved the 13 items on the agenda. BC indicated that agenda items 7, 8, and 9 would be reported verbally in this meeting and that a formal discussion on these items would be undertaken during the Joint Working Group A+B meeting.

3 Review of WG-B/1 Report

3.1 Tasks from WG-B/1 Report

3.1.1 Action 1/1 - BC reported that brief paper had been submitted to OPLINK. He encouraged other members to submit any further comments, if necessary, before the next OPLINK meeting that is due to take place at the end of March. CLOSED

3.1.2 Action 1/2 - BC reported on that PDR (the Frame Mode SNDCF inclusion in Doc 9705 Ed. 3) did not occur but would be addressed in the CCB meeting in the Honolulu series of meetings. OPEN

3.1.3 Action 1/3 - The status of this action was unknown. [It was later reported that preliminary research had been undertaken and that the 32-bit checksum would indeed improve the integrity of the data. Further information in the Approved PDR indicated that 10^{-12} integrity could be achieved. CLOSED

3.1.4 Action 1/4 - CR reported that STNA have implemented the extended Transport Checksum in the ProATN router (see WP125). CLOSED.

3.1.5 Action 1/5 - The status of this action was uncertain. BC believed that Tony Whyman had emailed the owner of zlib, but further checking was required. OPEN

3.1.6 Action 1/6 - Guidance Material will be presented in later sections. CLOSED

3.1.7 Action 1/7 - It was understood from the Berlin meeting that MTSAT would use the standard 8208 Mobile SNDCF. Masami Hatakenaka reported Shigeyoshi Kuzuya may comment further at the next SG-B1 meeting. CLOSED

3.1.8 Action 1/8 - BC reported that the Communiqué had been forwarded to AMCP and a reply received. CLOSED

3.1.9 Action 1/9 - TK reported that Eurocontrol have not implemented but they have costed the work.

3.1.10 Action 1/10 - This item will be covered in WG A+B. CLOSED

3.1.11 Action 1/11 - GM produced and either complete or to be completed at this meeting. CLOSED

3.1.12 Action 1/12 - JM took action to resolve status of the introduction to CAMAL Part V with SVT. OPEN

3.1.13 Action 1/13 - No news to report on action 13. Future Work Item.

3.1.14 Action 1/14 - See later sections. CLOSED

3.1.15 Action 1/15 - BC reported that after discussion with IATA there are no current requirements for multicast SARPs. CLOSED

3.1.16 Action 1/16 - BC reported that this action shall be discussed in WP216. CLOSED

3.1.17 Action 1/17 - BC reported that this action had not been completed and was now superseded. CLOSED

3.2 Verbal Reports of SG Meeting

3.2.1 BC reported on SG-B1. The majority of the actions arising from the Berlin meeting were completed. The meeting had focused on two main points:

1) The production of Guidance Material
2) AMCP co-ordination on the Frame Mode SNDCF

BC informed to the group that the Baseline that had been used for Guidance Material production was the version submitted to ICAO in the Tokyo meeting and not the two-column ICAO Edition 1 file. There were some minor points on SV5 related GM that remained from SG-B1 that would be presented in WP109, WP110, and WP111. BC gave a brief summary of the co-ordination activity that has taken place with AMCP with regard to VDL M3 implementation. Eurocontrol had completed validation work for the Generic Frame Mode SNDCF using the TAR implementation. Technical issues had resulted in the need for ATNP adopt the VDL M3 Specific Frame Mode SNDCF in addition to specifying the Frame Mode SNDCF. STNA had completed some validation work on the Extended Transport Checksum on the ProATN implementation.

SG-B1 future work will only be carried out of there if a definite requirement. BC reported that there is a strong (and urgent) requirement to accommodate IP as, at least, a ground subnetwork. This work will be expedited within the year and BC reported that SG-B1 would meet in approximately 3-4 months to begin this work. Depending on the number of attendees, the meeting will probably be hosted at NATS' Gatwick site.

3.2.2 JM reported on the activities of SG-B2. There were three main activities covered during their meeting.

1 Production of Directory Guidance material
2 Sub Vol. 4 changes have been completed by TK and will need to be reviewed by CCB.
3 SV4 Guidance Material is currently being completed in Word Perfect by GB.

3.2.3 MB reported on SG-B3 main activities. The SG had met in Dec 2000 and again just prior to this WG B meeting. Their main focus had been on Guidance Material production and CONOPS updates and the review of existing material. A further SG meeting would take place at the end of the Honolulu meetings that would begin to look at the future work programme.

4 Input from Other Groups

4.1 Panel Secretary's Report

4.1.1 BC introduced WP204 on behalf of the Panel Secretary. MP further presented the Amendment 76 information and confirmed that there was no effect on WG B material. MP informed the attendees that any validation/implementation activities should be formally presented to their Regional ICAO office. This would aid the annual CNS/ATM report. The final issue related to the ATN network priority-mapping table. The Secretary would attempt to get it included in Amd 76, but this might prove difficult as it was to be approved by the ICAO Council on 9th March.

4.1.2 With regard to the ICAO web site, BC reminded the attendees that the agreed process for updating the web material was through the Rapporteurs only.

4.1.3 Regarding the priority mapping table, RJ asked the secretary if the update to Amd 76 failed, would it be possible to make changes in Doc 9705 Ed. 3 before Amendment 77 was published. The secretary reported that it would be possible to do that but that it may be advisable to add a note in Sub Vol. 1 indicating that the same update was pending for Anx 10 and would be included in Amd 77. RJ inquired what the latest cut-off date for ATNP 4 would be? MP reported that it would be around the 1st Quarter of 2004 to get material into Amd 78.

4.2 Communiqués from AMCP

4.2.1 BC briefly presented WP205 that was the response to the concerns of ATNP regarding development of Security Services within the VDL Mode 3 subnetwork. The AMCP will take into consideration the information passed by ATNP.

4.2.2 WP206 is the response to AMCP with regard to the ATN Generic Frame Mode SNDCF. This had been discussed at length in SG B1 and had resulted in three communiqués back to AMCP WG-M.

- WP223, "Draft response to AMCP comments on the proposed ATN Generic Frame Mode SNDCF"
- WP224, "Draft Liaison to the AMCP on the VDL M3 Specific SNDCF"
- WP225, "Draft Liaison to the AMCP on the future development of VDL M3"

4.2.2.1 These were briefly reviewed and agreed by WG B (WP223 required some updates to referencing and use of security within the SNDCF. The Rapporteur will do this offline). The final communiqués are attached to this report as Appendices D, E and F. These will be passed to the ATNP Panel Secretary for transmittal to AMCP WG-M.

4.2.3 WP207 was the communiqué from AMCP that responded to the ATNP communiqué regarding the ATN Internet Priority Mapping. RJ presented WP226, the SG B1 developed view of how the AMCP communiqué should be progressed by ATNP. It was agreed that WP226 would be forwarded to the Joint WG A + B meeting for final discussion (the table in SV I and thus out of scope for WG B alone).

4.3 OPLINK – RCP

4.3.1 No response had been received from the OPLINKP to ATNP's communiqué on RCP.

5 SV4 – ULCS

5.1 Guidance Material Status

5.1.1 TK reported that SV4 related GM was in two parts. The update to the Doc 9739 Ed 1 material had been completed but the new material on the Secure Dialogue Service and the Security ASE was still being produced. It would be completed during the Honolulu meetings but would need to be reviewed by subgroup B2.

5.2 Doc 9705 Ed. 3 Status

5.2.1 TK briefed the group from WP218, "SME 4 report" and WP219, "Doc 9705 Ed 3 SV4". The only changes to SV4 since Berlin had arisen from a limited number of PDRs. These were all included in WP219 and although there had only been a few PDRs, they had resulted in many change pages. As with all the Draft Ed 3 material, the CCB would be arranging forwarding of change pages to ICAO for publication of the new Doc 9705 Ed 3.

5.3 Further Validation Results

5.3.1 TK presented IP222, "AOC/GACS Demonstration". This IP reported progress of the Eurocontrol GACS simulators, that both airborne and ground simulators had been developed and evaluated, and finally that a flight trial was expected.

5.4 Future Work Programme

5.4.1 JM reported that encryption of user data would feature in the future work programme. Whilst TK commented that there was no expected changes to be made for security, TMcP made the

point that if CM is encrypted, a new session may be needed. PH informed the group that the secure G/ACS was a requirement.

6 SV5 – ICS

6.1 SV5 Guidance Material Status

6.1.1 HB presented WP209 after giving some background on the status of the SV5 related CAMAL material. The update to the Guidance Material had been based on the single column version that had been presented in Berlin (an update to the version released to ICAO in Tokyo). WP209 incorporates the proposed guidance material from 15 working papers. The content is accurate but the formatting (as a red-line update to Doc 9739 Ed1) is still outstanding. There were several issues open from SG-B1 that still needed to be addressed (WP210, WP211, and WP 212).

6.1.2 WP209 was presented to resolve 2 minor editorial points and to present the suppression Join/Leave Event diagram that is not included in the CAMAL file at this stage. These were resolved.

6.1.3 WP210, WP211 and WP212 were reviewed and final material for inclusion in the SV5 related CAMAL was concluded. CR noted the possibility of overlap between some of the Wp212 material and the current text in WP209. CR & PV would undertake a review of the two sections of text and, if necessary edit them down to a single block of text. At the completion of that activity, the SV5 related GM would be complete in content, it would just need editing into a red-line proposed Ed 2. BC agreed to complete this activity, but it would be after the Honolulu meetings.

6.2 Doc 9705 Ed. 3 Status

6.2.1 BC presented WP220 "Doc 9705 Ed. 3 SV5 Draft PDR " which was the PDR agreed in SG B1 to incorporate the Frame Mode SNDCFs into Doc 9705 Ed 3. BC will co-ordinate the progression of this PDR with SVT at the CCB meeting. TMcP raised a question on whether there are any SNDCFs left in the AMCP provisions. BC took an action to progress this question with the AMCP.

6.2.2 BC presented WP221, "Ed. 3 SV5 red-line pages" which highlighted a few updates still required in Doc 9705 Ed 3 from approved PDRs. New text is shown in the electronic format as a double underline. The changes, which had already been agreed through the PDR process, were noted and BC would present the paper again at the CCB meeting for their action.

6.3 Further Validation Results

6.3.1 BC informed the group of two validation initiatives that have taken place. EUROCONTROL had validated the Generic Frame Mode SNDCF using the TAR implementation. STNA had validated the Extended Transport Checksum operation using the ProATN implementation.

6.4 Future Work Programme

6.4.1 BC reported that accommodation of IP as a subnetwork would be undertaken by SG-B1 within relatively short timescales. SG-B1 were planning a meeting, probably at London Gatwick (depending on numbers) to kick off this work item. All interested parties were invited to attend with papers. RJ pointed out the FAA are addressing both IPv4 and IPv6 and that WG-B should investigate both. This was agreed. The meeting arrangements would be coordinated on the sgb1 and wgb e-mail lists.

6.4.2 BC reported that MP had indicated that there was a need to define an SNDCF for Frame Relay as it was being implemented in the CAR/SAM Region. SG B1 would act on this once MP had received a formal statement.

6.4.3 Guidance Material production and editing was an on-going task, albeit of limited duration.

7 SV6 - SM

7.1 SV6 Guidance Material Status

7.1.1 TK stated that there was little to report. Stephane Tamalet had converted the text into Word Perfect format in Nov 2000 and no comments had been received.

7.2 Doc 9705 Ed. 3 Status
7.2.1 No PDRs - a SME6 list had been created.

7.3 Further Validation Results
7.3.1 Nothing to report.

7.4 Future Work Programme
7.4.1 TK mentioned that MIB definition may need modification to reflect implementation feedback, but the group input. PH enquired on the Accounting Institutional Issues but TK commented that this had been passed to WG-A and input was awaited.

8 SV7 - DIR
8.1 SV7 Guidance Material Status
8.1.1 JM reported that WP214, "Directory CONOPS" and WP215, "SV7 related GM" will be presented to the joint WG A/B session as both WGs were equally interested in this subject.

8.2 Doc 9705 Ed. 3 Status
8.2.1 JM reported that Sub Vol. 7 is stable - no changes since Berlin.

8.3 Further Validation Results
8.3.1 Nothing to report.

8.4 Future Work Programme
8.4.1 JM reported that there were no definite future work items, although creation of a version of LDAP may be a worthy exercise. The chairman agreed.

9 SV8 – SEC
9.1 SV8 Guidance Material Status
9.1.1 This subject was discussed at a high level as both WG A and WG B are equally interested. It would be presented in more detail during the Joint WG A+B meeting next week. MB presented WP217, "Security Concept of Operations" - this had been updated with new material, some work remained in Section 5 and with cross-referencing to SV8 and elsewhere. WP216, "Security GM" was almost all in WordPerfect now and would be completed during the Honolulu meetings.

9.2 Doc 9705 Ed. 3 Status
9.2.1 There were 2 PDRs against SV8, one was editorial, the other technical; there was no knock-on impact outside SV8. There was not SME8 e-mail list yet, but these PDRs would be discussed in the CCB.

9.3 Further Validation Results
9.3.1 Further validation of SV8 by analysis occurred during the generation of the SV8 related Guidance material including the interface with the Upper Layers.

9.4 Future Work Programme
9.4.1 MB informed the group of the following future work items, they had been recorded previously in WG B WP107:

1. Secure G/ACS
2. Secure Multicast - deferred until a concrete requirement for multicast arises.
3. Sunset dates
4. Investigation of required PKI & Cross certification
5. Key Management impact on Avionics

10 SV9 – REG
10.1 Nothing to report as the current text is stable, no GM is required and the SV does not require validation.

11 Future meetings of WG-B and its SGs

11.1 BC reported that the next WG-B meeting would be in ~6 months. The meeting will be held in Europe and details would be discussed in the Joint WG A + B meeting.

11.2 The SG B1, B2 and B3 meetings would occur as described above. Details will be published on the relevant SG lists and the WG B list.

12 Output from WG-B to other groups

12.1 All the WG B Guidance Material and CONOPs will be made available to the WG A+B Meeting.

12.2 Appendices D, E & F of this report will be sent to AMCP WG-M via the Panel Secretary

13 A.O.B.

13.1 There was no AOB.

Brian Cardwell,
Rapporteur, ATNP WG B

Appendix A

AERONAUTICAL TELECOMMUNICATION NETWORK PANEL

Working Group B – ATN Communication Services
2nd Meeting
2nd March 2001
Honolulu, USA

Agenda

1. Meeting Organisational Issues
2. Approval of the Agenda
3. Reports of previous meetings
   - 3.1. Review of WG-B/1 Report
   - 3.2. SG Meeting Reports
4. Input from Other Groups
   - 4.1. Panel Secretary's Report
   - 4.2. Communiqués from AMCP
   - 4.3. OPLINKP - RCP
5. SV4 - ULCS
   - 5.1. Guidance Material Status
   - 5.2. Doc 9705 Ed 3 Status
   - 5.3. Further Validation Results
   - 5.4. Future Work Programme
6. SV5 - ICS
   - 6.1. SV5 Guidance Material Status
   - 6.2. Doc 9705 Ed 3 Status
   - 6.3. Further Validation Results
   - 6.4. Future Work Programme
7. SV6 - SM
   - 7.1. SV6 Guidance Material Status
   - 7.2. Doc 9705 Ed 3 Status
   - 7.3. Further Validation Results
   - 7.4. Future Work Programme

8. SV7 - DIR
   - 8.1. SV7 Guidance Material Status
   - 8.2. Doc 9705 Ed 3 Status
   - 8.3. Further Validation Results
   - 8.4. Future Work Programme
9. SV8 - SEC
   - 9.1. SV8 Guidance Material Status
   - 9.2. Doc 9705 Ed 3 Status
   - 9.3. Further Validation Results
   - 9.4. Future Work Programme
10. SV9 - REG
    - 10.1. Update
11. Future meetings of WG-B and its SGs
12. Output of WG-B to other Groups
13. A.O.B.

END

Appendix B

ATNP Working Group B – ATN Communication Service

Working Paper List

Second Meeting
Honolulu, Hawaii
02 March 2001

WP Nº.	Agenda Item	Presenter	WP Title
WP200	1	Rapporteur	Working paper list for 2nd WG-B Meeting
WP201	2	Rapporteur	Agenda
WP202	3.1	Rapporteur	Report of first WG B Meeting
WP203	3.2	B. Cardwell	Report of SG-B1 Meeting 1
WP204	4.1	M. Paydar	Panel Secretary's Report
WP205	4.2	Rapporteur	Communiqué from AMCP WG-M to ATNP WG B regarding use of ATN Security Services Within VDL Mode 3
WP206	4.2	Rapporteur	Response to the Communiqué from ATNP WG B regarding the ATN Frame Mode SNDCF
WP207	4.2	Rapporteur	Liaison statement from AMCP Working Group M to ATNP WG A regarding ATN Internet Priority Mapping Table
WP208	5.1	T. Kerr	Sub-Volume 4 (ULCS) red-lined GM
WP209	6.1	H. Boyce	Sub-Volume 5 (ICS) red-lined GM
WP210	6.1	P. Vabre	SV5 GM additions - Hand-off Guidance
WP211	6.1	T. McParland	Additional SV5 GM - IDRP Authentication GM
WP212	6.1	T. Whyman	Additional GM for PDR M0040002 & PDR 98060006
WP213	--	--	Withdrawn
WP214	8.1	J. Moulton	Directory Concept of Operations
WP215	8.1	J. Moulton	Sub-Volume 7 (DIR) red-lined GM
WP216	9.1	M. Bigelow	Sub-Volume 8 (SEC) red-lined GM
WP217	9.1	M. Bigelow	Security Concept of Operations red-line update
WP218	5.2	T. Kerr	SME 4 Report
WP219	5.2	T. Kerr	Doc 9705 Ed 3 SV4 Red-line
WP220	6.2	B. Cardwell	Doc 9705 Ed 3 SV5 Draft PDR
WP221	6.2	B. Cardwell	Doc 9705 Ed 3 SV5 Red-line pages
WP222	5.3	Tony Kerr	AOC/GACS status and integration with ATSC in BAC 1-11
WP223	12	B. Cardwell	Draft response to AMCP comments on the proposed ATN Frame Mode SNDCF
WP224	12	B. Cardwell	Draft Liaison to the AMCP on the VDL M3 Specific SNDCF
WP225	12	B. Cardwell	Draft Liaison to the AMCP on the future development of VDL Mode 3
WP226	12	R. Jones	WG-B Position on "Liaison statement from AMCP Working Group M to ATNP WG A" on ATN Priority Mapping Table
Flimsy Nº.	**Agenda Item**	**Presenter**	**Flimsy Title**

Appendix C

ATNP WGB SECOND MEETING – Honolulu, USA, 1st March 2001

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AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL
WORKING GROUP B
Hawaii 02.03.01

COMMUNIQUÉ TO AMCP WG-M

Response to AMCP comments on the proposed ATN Frame Mode SNDCF

SUMMARY
AMCP/WG-M/1/WP11bis was prepared at the Malmo meeting (12-19 Dec 2000) and provides AMCP comments on the Frame Mode SNDCF. This paper provides a response to those comments.

1 Introduction

1.1 Background

The Frame Mode SNDCF has been defined by ATNP/WG-B in order to provide for improved handling of second generation ICAO Air/Ground datalinks and where ISO/IEC 8208 is not used as the subnetwork access protocol.

The draft specification was been passed to the AMCP for comment.

Scope

This document comprises the comments received from the AMCP (ref: AMCP/WG-M/1/WP11bis) and itemised responses.

Summary

Analysing the comments suggests that there are two main issues to be resolved in addition to detailed resolution of each comment:

1. The final mapping of the Frame Mode SNDCF onto VDL Mode 3. The Frame Mode SNDCF is intended to be a generic specification applicable to many different types of subnetwork and there needs to be a precise specification of how it is used with each such subnetwork. The draft guidance material contains an outline of how it is can be used with VDL Mode 2 and 3, but this needs to be completed as SARPs.

2. From reading the comments it appears that the AMCP intend there to be an asymmetry between the Airborne and Ground Routers with respect to Handoff, with Handoff often being hidden from the Ground Router. This certainly will cause a problem with the current Frame Mode SNDCF specification and is generally an issue for the ATNP. This could be the most serious point of issue for the panels to resolve.

Response to Summary Comments

AMCP Comment	ATNP Response
The present ATNP SNDCF Frame Mode specification does not meet the requirements of the harmonization agreement referenced above.	
1. The LREF compression protocol was to be modified for reference and use by VDL Mode 3. The ATN standards were to reflect the subsequent modifications as updates to the LREF specification or as a new section (so as to avoiding certification-tracking issues for existing ATN implementations), LREF could then be used in place of present VDL Mode 3 fiame mode compression, as the changes allow the same code to be used within the ATN router or the'VDL Mode 3 equipment Conunonality also decreases any compatibility problems whenever VDL Mode 3 adopts the new ATNP SNDCF. The concern is that LREF still contains references to reset procedures that are not possible within VDL Mode 3 Frame Mode operation. (See Appendix A, Comment for WP 597, section 4.6.1.1.1).	Flimsy #1 from the Washington IDG stated “For the short term, WG2 agreed to develop a variation of the LREF compression algorithm that would be suitable for operation over a Frame Mode service.” That is what was done in section 6 of WP597, and does not contain a reference to a network reset. The LREF algorithm specified in the full Frame Mode SNDCF is more closely related to the original specification and requires the support of the A/GCS which provides the network reset.
2. The Deflate compression standard similarly was to be rewritten so as to be capable of referencing for use by VDL Mode 3. (See Appendix A, Comment for VXT 598, section	In WP597, Deflate is specified for use by VDL Mode 3 as part of the Generic Frame Mode SNDCF. (see Doc 9705 Ed 3 section

AMCP Comment	ATNP Response
Appendix A, Comment for VYT 598, section 2.4.2)	5.7.8.4.3.6)
3. The ability to support a single data link installation without an ATN router is incompatible with the adoption of the ATN Frame Mode SNDCF as the sole 'VDL Mode 3 interface. (See Appendix A, Comment for WP 598, section 2.4.2)	The Generic Frame Mode SNDCF does not itself require an Airborne Router. It can be implemented in an End System, although it is true that the draft SARPs do not include this functionality within their scope. Additional SARPs will be required to specify how it is used in an End System implementation. When a firm requirement for an E-S implementation is available, Technical Provisions will be generated.
The effect of using the ATNP SNDCF within VDL Mode 3 are still not well documented or understood.	
1. The need for deflate compression for the CPDLC message set is probably minimal as the messages are already compressed and are not frequently used (The DLORT estimates indicate a maximum of 18 messages per sector per aircraft). The benefits for AOC traffic have been shown via simulation. A similar study for CPDLC should occur before adoption for use within VDL Mode 3 (assuming a benefit is apparent).	Admittedly it is not known at this stage what level of compression can be achieved for a CPDLC message set in a domestic environment. However, other applications such as D-FIS and AOC applications do need additional compression support and Deflate also improves upon LREF and compresses the transport headers. Use of Deflate should be and is optional. However, our remit is to develop SARPs in support of CNS/ATM applications and not a specific application. If there is sufficient justification for a heavily optimised network in support of CPDLC for GA aircraft than that can be accommodated and the “Direct Frame Mode SNDCF” specified in section 6 of WP597 was intended to satisfy those kind of concerns.
2. If the use of deflate required no overhead, then its inclusion without a clear understanding of its benefits might be justified, as deflate (a.k.a. zip) is a well know industry product. However, the need to add 4 bytes for channel management to every transmittal to support deflate demands more justification than its efficacy in home PCs.	The Frame Mode SNDCF is intended to provide a general and extensible framework for not just Deflate but any other compression algorithm that is deemed appropriate in the future. It is true that such a framework carries an overhead. However, it is believed that compression of the CLNP and transport headers will recover much if not all of that overhead and even where the application data does not prove to be compressible, the impact on network performance is negligible as the probability of extending a transmission frame into an additional slot is likely to be very low.
The mechanics of implementing the ATNP Frame Mode SNDCF are not well documented or understood.	
1. The logistics of utilizing the new ATNP SNDCF must be mapped and agreed upon. Formal, adoption of the new SNDCF will not	Airtel have implemented the Generic Frame Mode SNDCF as an extension to the TAR under contract to Eurocontrol. The software was

AMCP Comment	ATNP Response
occur until late 2001 at the earliest This means that ATN avionics built for CPDLC IA fielding and related trials wll not have the new SNDCF. VDL Mode 3/2 equipment providers would probably build for compatibility with existing ATN routers rather than planned ATN routers. This makes the use of the ATN Frame Mode SNDCF by VDL Mode 3, even if supported within the VDL standards, unlikely.	delivered at the end of Jan 2001 and was used to validate the specification. CPDLC 1A avionics will be developed for VDL Mode 2 and the CMU will interface to the VDR at the VDL Mode 2 MAC layer. It is very unlikely that a CPDLC 1A CMU will by usable for VDL Mode 3 without considerable enhancement regardless of the SNDCF specification chosen. The Airtel implementation does not require any significant modification to the rest of the TAR.
There appear to be serious flaws in the protocol (or the specification of the protocol) which make it unsuitable for VDL Mode 3 data link use.	
1. How can the same channel transmit packets of different priority and yet maintain link level order, which is a requirement for deflate to work? (See Appendix A, Comment for WP5 98, section 2.4. 1)	This issue has been tackled in the Airtel implementation. Packets are queued uncompressed and compressed immediate prior to transmission only. This implies that there is no buffering of more than one transmission frame by the MAC layer. It is recognised that this approach may not be applicable in certain ground network topologies.
The ATN Frame Mode SNDCF protocol introduces inefficiencies in VDL Mode 3 operation, and does not take into account basic features of the VDL Mode 2 and 3 design which would ameliorate such inefficiencies.	
1. VDL Mode 3 has out-of-band communication capability, as do all current mobile subnetworks. This form of signaling is not utilized by the ATN Frame Mode SNDCF. In its stead, logical channel initialization occurs, which requires more bandwidth to operate and maintain. As an example, the VDL Mode 3 Make- before-Break protocol already exchanges as XID transfers information required by the ATN SNDCF. This information is repeated in the channel initialization phase of the ATN Frame Mode SNDCF. (See Appendix A, Comment for WP5 97, section 3.4.2. 1. 10)	The VDL Mode 3 Technical Manual date 21 Jan 2000 that was provided to the ATNP Working Group does not appear to specify a “user data” parameter in the XID parameter set in table 5-59a. Indeed, the point was made informally to VDL Mode 3 experts that it would be efficient to have such a parameter. WP598 section 2.8 discussed the use of the VDL Mode 2 the “Expedited Subnetwork Connection Parameter” in XID frames to optimise datalink establishment and the same technique can and should be applied to VDL Mode 3. Duplication of information transfer should certainly be avoided and it is acceptable to amend the specification to avoid transmission of parameters which are known to have been exchanged by subnetwork specific mechanisms.
2. Deflate compression state maintenance will increase IDRP initialization time due to the need to get compression state from a former "site" before IDRP packets can be sent (See,	Restoration of compression state occurs before any data packet is transferred and not just IDRP.

AMCP Comment	ATNP Response
Appendix A, Comment for WP597, section 3.4.2. 1. 15)	The Deflate compression state is a maximum of 64KB although this can be negotiated lower and analyses of Deflate operation have suggested that a quarter of this amount is more than sufficient. Even with the negotiated parameters permitting the maximum compression state, 64 KB is an upper bound with the actual amount being the total data transmitted in each direction or 32KB, whichever is the lower. At ISDN speeds, this implies an 8 second transfer time for recovery of the maximum size compression state. In practice much less data will be transferred and there is always the option of utilising higher speed Internet connections. Given the time constants for Air/Ground operation and the relatively low cost of ground communications, it is believed that a realistic target for compression state recovery can be set and met.

Response to Comments on WP597

AMCP Comment	ATNP Response
2.2 All current mobile subnetworks have an out-of-band communications capability via XID communications, It is suggested that ATNP consider specifying the interface in a logical manner to allow subnetworks the possibility to communicate the required information in a more efficient manner.	This particular issue has been considered to be part of the mapping of the Frame Mode SNDCF onto a specific data link service and is hence discussed in WP598. We do, however, strongly agree with the principle of making full use of XIDs for the exchange of datalink initialisation information.
2.6 The VDL Mode 3 RTCA DO 224A MASPS and the ICAO draft Manual for Technical Specifications stipulate that a payload field of all zeros (00h is reserved for the ISO 8208 protocol, The ATN Frame Mode SNDCF should choose another value (05h currently proposed value).	This can be done but does seem to result in an extra octet per transmission.
3.2.1 Note 2 - What would these 'local means' be to correlate incoming data frames to the specific A/GCS? We would like to see further definition in this area to determine that there is a means to accomplish this.	This is an issue for the mapping of the Frame Mode SNDCF onto a specific datalink. For example, in VDL Mode 2 the correlation is to the LME and would be through some internal pointer to a table of LMEs.
3.3.7 Can deflate increase the size of a packet? Deflate adds a header and there is a small probably that it will not compress the packet. If so, it might increase the size of the packet, In which case the MTU size at the CLNP layer is impossible to set - resulting in packets being dropped which are too	The Deflate header does allow for data to be sent uncompressed if the compressor deems it to be uncompressible, which certainly allows for a deterministic upper bound to be defined for packet size.

AMCP Comment	ATNP Response
resulting in packets being dropped which are too large for the subnetwork.	In practice, we recommend that the MTU size is determined assuming no compression and that A/GCS concatenation is used to group small packets together into larger transmissions where this gives greater efficiency.
3.4.2 There is confusion whether this method requires that only the air can initiate a connection. If this is the case, why the mention of channel number assignments from the ground? There are subnetworks that allow ground-initiation of the connection. If ground initiation is not possible, the VDL Mode 3 specifications must be altered to remove this possibility to use this, which would seem to violate the generic nature of the interface. If ground initiation is possible it seems that each station would start with the same channel number always resulting in a conflict with the previous station's choice. A solution similar to ISO 8208 with one station starting at the top of the address range and the other starting at the bottom may wish to be considered.	The current Frame Mode SNDCF specification supports only airborne initiation of the datalink service i.e. the "Join" event is handled in the aircraft and the DLS exchange is initiated from the airborne side. On the other hand, channel assignment can be performed by either side. When choosing a logical channel to assign, an aircraft chooses the highest numbered logical channel available for assignment while a ground system chooses the lowest numbered logical channel available. At least one channel must be left unassigned in order to avoid conflicts. See 3.4.2.5.3 of WP597 - Doc 9705 Ed 3 section 5.7.8.4.3.
3.4.2.1.5 What resets T1 back to normal? Or does it keep increasing by 50% ad infinitum? Suspect a means to reset is missing.	The intention is that T1 is set to its initial value for each Data Link Initiation. The point is clarified in Doc 9705 Ed 3 section 5.7.8.4.4.2.1.6.
3.4.2.1.10 The ground station ID and previous ground station ID are already exchanged in support of the MbB protocol In VDL Mode 3. Why must this information be sent twice? Perhaps, if a logical interface is specified, this would provide the flexibility to allow those subnetworks that have another means to pass this information to suppress the repetition from the bandwidth-limited RF.	A valid point. We will consider adding something like "if known by other means the Ground Station ID and previous Ground Station ID shall be omitted".
3.4.2.1.15 The need to receive deflate compression state from a neighboring site will delay the initialization of IDRP. This may have negative impacts on the overall. system performance over the gain in efficiency of retaining the compression state. Furthermore, different subnetworks may perform differently in this aspect. Validation with each subnetwork would appear to be in order	See response to general comments.
3.4.2.1.16.1 Authentication section is not precise enough. Please state format to be used for public key certificates. Also the sending of this information must be optional (not required as stated) to avoid excess bandwidth usage. (For this reason the ATN security service defines this information as optional)	The procedures for the optional authentication framework are derived from those proposed for IDRP. However, it is still not certain as to whether there is a requirement for authentication within the subnetwork and thus it may not be part of the final proposed SARPs.

AMCP Comment	ATNP Response
	The format of the Public Key Certificate is as specified in section 8.4.3 of Subvolume VIII - As with the IDRP approach authentication would be optional.
3.4.2.1.16.3 This appears to be a formatting issue in that this looks to be a continuation of the same requirement of 3.4.2.1.16.2.	As above
3.4.2.5.4 Wording of this requirement is such that the reserved channel cannot actually be used for its intended purpose, as it is always required to be unassigned. Need to specify when this unassigned channel can be used.	The requirement is that there is always at least one unassigned channel in order to avoid a race condition when the last channel is assigned.
Various: It is unclear if each packet type has its own T1 timer, or if there is one global timer.	The T1 timer applies to all DLCP packets for which a confirmation is required. Like the TP4 retransmission timer in principle it applies to each packet transmitted.
4.6.1.1.1 The use of channel reset procedures for LREF make the use and subsequent referencing of the LREF procedures within any VDL Mode 3 specification impossible. Need generic version of LR.EF that does not explicitly utilize ISO 8208 messaging.	Channel Reset is performed by the A/GCS using its own protocol and does not depend on an VDL Mode 3 features. Nor does it reference ISO 8208.
6.5.4.2 Shouldn't that be TYPE UNCOMPRESSED-CLNP? Also, we cannot follow the race condition. If the compressor sends an uncompressed packet and then a compressed packet, while a RESTART is coming from the other direction, the restarting compressor will reset upon reception of the first uncompressed packet and the compressor will just send another uncompressed packet and waste a little bandwidth.	Agreed. It is also accepted that the “race condi will resolve itself after a successive exchange of TYPE_RESTART packets.
6.7 Parameter lDs for CTI, CT2 and CT3 are messed up (as is VDL Mode 3 Technical Manual V4.0) {AP - WG-M/1 WP8} If generic LREF generated, then there should be no need to include our current header compression scheme.	Noted.

Response to Comments on WP598

AMCP Comment	ATNP Response
2.1 Why is ATNP including a description of VDL Mode 3 in its guidance material? Shouldn’t it just reference the VDL documentation? Suggest replacing Sections 2. 1.1 and 2.1.2 with a reference to the Manual on -VDL Mode 3 Implementation Aspects, Sections 1, 2, 1 1.5 and 11.6.	The paper is still being progressed through the ATNP and there was a need for additional tutorial material for many readers. This has been removed from the final submitted Guidance Material.

AMCP Comment	ATNP Response
2.1.2 CSMA is not the same as Slotted ALOHA	Agreed and removed. This has probably been "over precis-ed"
2.1.3 The GNI does not inform the router of which Ground Station is actually communicating with the aircraft. It only informs the router that it can talk with the aircraft and handles the routing to the specific radio internally. The advantage of this is that the router does not have to be perturbed in a handoff between ground stations controlled by the same GNI. The VDL Mode 3 system does not need or support HANDOFF events to the router.	This is an issue as it introduces an asymmetry that is not expected by the Frame Mode SNDCF. It is noted that the Net Entry procedure does identify to any aircraft whether or not the link has been preserved and maybe an appropriate solution is to use this information on the aircraft to avoid the asymmetry.
Inconsistent use of SN-Unitdata.request and L-Unitdata,transfer. The router is not aware of link layer primitives. It should only see SN primitives even if they are identical from a functional perspective.	Noted.
Once a data request has reached the link layer, it is an implementation issue as to whether the DLS queue state is forwarded to the new ground station after a handoff. If the aircraft is in the middle of a handoff when a data packet arrives, it is an implementation issue whether the GNI discards the packet and relies on upper layer protocols to recover or if it buffers it until a connection is established. Either way, the data will eventually get through.	But mis-ordering can thus occur with Deflate implications.
Make-before-Break (MbB) functionality handles data transfer while a new IDRP connection is being established. Uplink packets are sent to the old GNI on the existing route, which forwards to the new GNI for transmission until a new IDRP connection is established and the routing tables are updated. Downlink packets contain a Ground Subnetwork Address which will inform the new GNI to forward to the old GNI for appropriate uncompression and forwarding into the ATN routing domain.	Noted.
2.2.1 VDL Mode 3 does not necessarily require an ATN router to operate. Simplified implementations may have a 'fixed' router if the VDL Mode 3 is the only subnetwork available. There might be multiple GNIs attached to a router for diversity reasons. The VDL Mode 3 Technical Manual calls out the generation of Join and Leave events sufficient for ATN router operation.	Noted.
2.2.3 The XID exchange could be used to negotiate the compression as subparameters to the compressed CLNP/ISO 9542 subnetwork	Agreed – the DLS exchange should be conveyed as XID subparameters.
2.2.4 Handoff between GNIs using the MbB capability can maintain the compression state, as	In the Frame Mode SNDCF, compression state maintenance does not prevent the old

AMCP Comment	ATNP Response
the router still sends data to the old GNI to forward to the new GNI. The GNI handles whether the router needs to be notified of a JOIN event or LEAVE, event. Protocols are already in place to deal with handoffs within. the GNI cluster and handoffs between GNI clusters.	datalink still being used after compression state has been transferred. A “Unix process fork” is perhaps a good analogy to the actual process.
2.2.5 VDL Mode 3 already has a TL4 timer to 'drag its feet’ so to speak before sending the Leave Event to allow maintaining the state information of the connection during a handoff. This should prevent the ATN router from being flooded with rapid changes to connectivity.	Noted.
2.3.1 There is an inaccuracy that VDLs are not capable of Out-of-Band signalling. All VDLs (as well as AMSS, HFDL, and Mode S D/L) have XID frames which can perform this function.	The provided Technical Manual did not appear to specify this capability.
By ADCPM is ADPCM meant? Suggest not referencing any compression standard, as G.728 & G.729 are far more likely, and the sentence is clear enough without an example. The example in this case, may cause issues.	ADPCM was intended as an example, but with no great intent behind this.
2.3.2 VDL Mode 3 already provides a mechanism to signal (OOB) and send non-ATN routing protocols, which is easily extendable to such protocols as lPv4 and lPv6. Providing an alternate (in-band) means only adds to the overhead.	The Frame Mode SNDCF provides a subnetwork independent mechanism to support multi-protocol routing whilst using a common compressor for different routable protocols.
DEFLATE in use with broadcast would have to automatically reinitialize itself whenever an uncompressed packet is sent to reinitialize the header compressor	References to use of Deflate in broadcast mode should have been deleted from the draft.
2.4.1 Multiple priorities on the same channel will mean that the packets must be forwarded out of order (highest priority first). This is in direct conflict with the requirement to maintain frame ordering (section 2.4.2)	This issue has been tackled in the Airtel implementation. Packets are queued uncompressed and compressed immediate prior to transmission only. This implies that there is no buffering of more than one transmission frame by the MAC layer. It is acknowledged that this approach may not be appropriate for all ground network topologies.
2.4.2 Need to maintain link layer frame ordering for SNDCF operation may preclude use by other data links. (VDL Mode 3 and VDL Mode 2 using ISO 8208 do so, but does VDL Mode 2 AVLC (VDL Mode 2 without ISO 8208), as required by the ATN Frame Mode SNDCF?)	See above response
Link reset procedures using DLCP do not allow the referencing and use by VDL Mode 3 independently from that of the ATN Frame Mode SNDCF. This means that both the VDL Mode 3 desire to support	The “Direct Frame Mode SNDCF” is specified as an alternative in order to meet AMCP requirements for limited capability aircraft.

AMCP Comment	ATNP Response
a single data link installation without an ATN router and the ATN Frame Mode SNDCF requirement cannot be In the same standard, as their definitions make them mutually incompatible.	
2.4.3 There is insufficient bandwidth available to be sending signatures of sufficient size to be useful with every frame for existing subnetworks. This returns to the request for optional use of these procedures.	This is an optional procedure.
Currently, there is no mechanism within Mode 2 to allow the signalling to support a direct AVLC service without the ISO 8208 sublayer. AMCP working this issue. Use of ISO TR 9577 bytes could signal the ATN Frame Mode interface.	That is true, although AOA provides a precedent as to how it can be done without extending the specification.
2.7 A/GCS is going to have a payload octet as ALL subnetworks get a payload octet.	We have indicated how this and the associated overhead can be avoided but ultimately this is an AMCP decision.
2.8 AOA has not been recognized by the ICAO Technical Manual. Suggest you word in a more ICAO-acceptable fashion.	AOA may not be desirable but it does exist and apart from referencing the AEEC specification there is not much more that can be said.
Is the proposal to ALWAYS send A/GCS frames using the expedited SN handoff XID? That seems to be extremely bandwidtlh intensive. Current understanding of the proposal is that there will be a 2-byte protocol identifier consistent with ISO TR 9577 that will identify the protocol being used by the user data field, This is allowing determination of ISO 8208 versus non-8208 messages, such as FIS-B application messages sent direct over AVLC.	It is proposed that the DLS exchange is sent as an XID private parameter as has been suggested for VDL Mode 3 and the comment seems surprising given earlier comments. However, if sufficient information is already transferred through subnetwork specific mechanisms then it may be possible to optimise out the DLS exchange on Handoff. A two byte protocol identifier for every packet is not proposed. The proposal simply recognises that the first Frame Mode SNDCF downlink frame will always start with a zero octet (which requires no additional protocol) and to require a Ground Station to use this knowledge to differentiate an AOA or ISO 8208 aircraft from a Frame Mode SNDCF equipped one – a simple extension of the AOA proposal.

Appendix E

ATNP WG B/2 Report - Appendix E

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL
WORKING GROUP B
Hawaii 02.03.01

COMMUNIQUÉ to AMCP WG-M

Liaison to the AMCP on the future development of VDL Mode 3

SUMMARY

The ATNP has incorporated the VDL Mode 3 specific SNDCF in the 3rd edition of ICAO Doc 9705. However, a new generic Frame Mode SNDCF has also been developed and validated by the ATNP for use with all non-ISO 8208 subnetworks. This SNDCF offers improved data compression capabilities compared with other SNDCFs including the VDL Mode 3 specific SNDCF and also optimises data link establishment and handoff procedures. It has also been designed to support other network protocols concurrent with CLNP and to offer an extensible framework for air/ground communications.

However, it has not been possible to specify this SNDCF for use with the current VDL Mode 3 Frame Mode due to a number of technical issues. This liaison has been prepared to record those issues and to request that the AMCP addresses them before completing the VDL Mode 3 SARPs and to optimise the operation of VDL Mode 3 Frame Mode.

1. Background

The ATNP has developed a new Frame Mode SNDCF intended for use with all non-ISO 8208 subnetworks. VDL Mode 3 Frame Mode is one of the intended targets for this development which is believed to offer a number of advantages over the SNDCF and limited compression scheme currently specified for VDL Mode 3.

At a recent ad hoc meeting of ATNP and AMCP experts the technical issues concerning the ATN Frame Mode SNDCF and VDL Mode 3 were discussed and a number of issues were identified that need to be addressed before the two can be integrated. The purpose of this liaison is to document these issues and to request that the AMCP resolve them.

2. Technical Issues

The technical issues are concerned with:

- The generation of the Join Event and use of XID Messages
- The interaction between priority, compression and the intended VDL Mode 3 Ground Architecture
- Handoff to a Ground Station on the same GNI

3. Join Event Generation and use of XID Messages

The AMCP is requested:

1. To define an XID private parameter to convey optional user data during an XID exchange. The purpose of this is to permit datalink initiation messages including ISH PDUs to be exchanged during the initiation phase of the VDL Mode 3 data link and thereby minimising the number of air/ground exchanges required to complete the data link initiation phase.

2. To define the “Join Event” for VDL Mode 3 as being provided to the Airborne System on receipt of the Net Entry Response frame without a “Previous Link Preserved” parameter. This will ensure optimal use of the XID frames during data link initiation and ensure a seamless handoff between Ground Stations on the same GNI.

3. To specify that the XID CTRL_CMD_LE frame sent by the airborne VDL Mode 3 software subsequent to a successful net entry may convey user data provided by the airborne system in consequence of the Join Event having been signalled. The requirement should be phrased so that if such user data has not been made available by the time that the XID frame is to be sent then it is sent without any user data. Such user data may be sent later as an I-frame.

4. To specify that the receipt by the Ground Station of an XID CTRL_CMD_LE frame for a new data link is notified to the Air/Ground Router along with any user data and selected private parameter values. The purpose of this is to avoid having to duplicate information already contained in XID private parameters in a higher layer packet.

5. To specify that the XID CTRL_RSP_LE frame uplinked in response to an XID CTRL_CMD_LE frame may also contain user data if a user data packet has been made available by the Air/Ground Router in time to be included in the uplink. A recommendation should also be made to delay the XID CTRL_RSP_LE frame uplink as long as practicable in order to give the Air/Ground Router to make its response available. If the is uplinked without the Air/Ground Router’s response then this packet will have to be uplinked as a separate I-Frame decreasing link efficiency.

6. To specify that any user data received by an Airborne system as a parameter to an XID CTRL_RSP_LE frame is passed to the higher layer functions.

Implementation of the above will permit an optimised data link initiation without requiring an significant change to VDL Mode 3 air/ground operations. It will be also bring the operational model of VDL Mode 3 data link initiation into line with that for VDL Mode 2 and the emerging model for VDL Mode 4.

4. Priority, Compression and the VDL Mode 3 Frame Mode

The Frame Mode SNDCF aims to compress data at different priorities using the same compression engine. This is firstly because each Deflate compressor requires ~200KB (typical) RAM and there is thus a high memory cost associated with using separate compressors for each priority. Secondly, separate compressors will each work on a smaller data volume (i.e. a subset of the data stream rather than the total data stream) and therefore convergence on optimal compression rates will be slower.

However, sharing a single compressor between multiple priorities requires that compression occurs immediately prior to transmission and after a priority based selection of the packet to transmit has occurred. This is because the compressor is stream mode and once packets have been compressed they must be transmitted in strict order of compression otherwise they cannot be successfully decompressed.

In an airborne implementation this should not be a major issue. However, the current VDL Mode 3 Frame Mode Ground Architecture groups together geographically separate Ground Stations and provides access to them through a common Ground Network Interface (GNI). It is understood that several uplink packets to a given aircraft may be queued for uplink at any one time. As they are compressed in the Air/Ground Router this means that they cannot be uplinked in priority order but only in queue order, and thus the priority requirement may not be fulfilled. The Air/Ground Router will have to hide the actual priority of each packet from VDL Mode 3 in order to avoid mis-ordering of data.

Several alternative solutions to this problem have been identified:

a) All or part of the functions of the Air/Ground Router are more closely integrated with the VDL Ground Network permitting compression to be performed at the Ground Station and in the “just in time” fashion needed to resolve the conflict between priority and compression.

b) Only packets with a priority lower than some threshold are Deflate compressed and all others are transferred uncompressed. In the VDL Mode 3 context this probably means that D-FIS data is compressed but not CPDLC or ADS. This permits the actual priority of the uncompressed packets to be made available to VDL Mode 3.

c) The Air/Ground Router is given a means to determine the current uplink queue length for a given aircraft and can thus determine the priorities of the packets in the queue (from information saved when they were compressed). Packets that have a higher priority than any in the current queue are then sent uncompressed and may hence “jump the queue”.

Option (b) requires the least change: no change to VDL Mode 3 and a minor change to the Frame Mode SNDCF. However, only limited benefits from compression are realised. Option (a) should give the greatest compression benefit but requires a significant re-think of the VDL Mode 3 Ground Architecture. Option (c) requires a change to both VDL Mode 3 and the Frame Mode SNDCF but may yield near optimal results in practice.

The AMCP is invited to propose which alternative is preferred.

5. Handoff to a Ground Station on the same GNI

This Handoff is currently hidden as far as the Air/Ground Router is concerned but is visible to the airborne user. Such an asymmetry is not recognised by the Frame Mode SNDCF. Furthermore, the old Ground Station may silently discard queued uplink frames on such a Handoff resulting in a decompression error on subsequent uplinks which, in turn, causes a reset of the Deflate compressor.

Implementing the Join event semantic proposed above will avoid the first problem. There appears to be two strategies for dealing with the issue of silent discards:

a) The VDL Mode 3 Ground System forwards the message queue to the new Ground Station on Handoff ensuring that queue order is maintained with respect to the existing queue and subsequent uplinks received from the Air/Ground Router. This should avoid the problem altogether.

b) A “network reset” is indicated to both Airborne and Air/Ground Routers when Handoff takes place and data is discarded. The data compressors may then be reset without having to incur the inefficiency of first detecting an error and then having to recover from it.

The AMCP is invited to propose which alternative is preferred.

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL
WORKING GROUP B
Hawaii 02.03.01

COMMUNIQUÉ TO AMCP WG-M

Liaison to the AMCP on the VDL3 Specific SNDCF

SUMMARY

The AMCP currently includes an SNDCF in the draft VDL Mode 3 SARPs for ATN communications over VDL Mode 3. This is undesirable because it means that CLNP changes that affect the compression scheme in this SNDCF will have to co-ordinated with the AMCP. However, the AMCP does not have a formal change control process similar to that adopted by the ATNP. Instead, it is proposed to include this SNDCF in the ATN SARPs from where it may be referenced by the VDL Mode 3 SARPs. This will avoid the dependency between the two panels. This draft liaison is to inform the AMCP that this SNDCF will be included in the ATN SARPs.

It would have been preferred for the VDL Mode 3 SARPs to reference the Frame Mode SNDCF. However, there are outstanding issues that do not make this possible within the current publication timeframe.

1. Background

In the draft SARPs for the VDL Mode 3 Frame Mode Communications Service, an SNDCF and compression algorithm has been specified for providing the ATN required SN-Service over VDL Mode 3 Frame Mode. However, in doing so, the AMCP has introduced an ATN SARPs dependency on AMCP SARPs. This is because the compression scheme makes explicit reference to the ATN's CLNP communications protocol and will be affected by any changes made to this protocol by the ATNP.

Such changes are possible as the future work programme includes changes to reflect forwarding policies over new types of subnetwork.

The ATNP wishes to avoid this complexity and has thus offered to incorporate the VDL 3 Frame Mode SNDCF in its own SARPs thus placing it under the change control exercised by the ATNP CCB.

2. ATNP Action

The ATNP has prepared a version of the VDL Mode 3 specific SNDCF and incorporated it as section 5.7.9 of ICAO Doc 9705 3rd edition. A copy of this specification has been passed informally for checking to AMCP VDL Mode 3 experts who have indicated that it meets AMCP requirements.

A copy of section 5.7.9 of ICAO Doc 9705 3rd edition is attached to this liaison (ATNP SG B1 WP121) and is thereby formally provided to the AMCP.

3. AMCP Requested Action

It is requested that the AMCP deletes the SNDCF for use with VDL Mode 3 Frame Mode data communications from the VDL Mode 3 SARPs and replaces this text with a reference to ICAO Doc 9705 3rd edition section 5.7.9.