**********************April 25 Updated DRAFT *******************

AERONAUTICAL TELECOMMUNICATION NETWORK PANEL (ATNP)
Working Group 3 -- Applications and Upper Layers
Ninth Meeting
4-6 March 1997
Phuket, Thailand

I. Administrative Items

Mr. JAMPATHOM, Bhumisathit, the panel member from Thailand and host for the working group meeting, welcomed the group and discussed arrangements for meeting support. He indicated that they had provided a support room with PC and photocopy services.

Mr. Jones reviewed working papers for the meeting. An index of working papers is contained in Attachment 2.

II. Meeting Report

1. Approval of the Agenda

Mr. Jones introduced the agenda contained in WP9-1 and also included with these minutes as Attachment 1. The agenda was approved. Mr. Asbury suggested an item to discuss the arrangements for the next working group meeting. Mr. Jones stated that that the arrangements for the June 1997 WG3 meeting was to be discussed at the Working Group of the Whole meeting the following week.
Rapporteur'Note: The WGW subsequently agreed on the following schedule for the upcoming WG meetings:

Location: Langen, Germany

WG2 and WG3:	23-26 June 1997
JWG:	27 June
WG1:	30 June – 4 July

(note a CCB may be scheduled during the week of 30 June – 4 July)

Location: United States (specific location TBD)

WG1:	23-24 October 1997
WG2 and WG3:	27-30 October
WGW:	4-6 November
CCB:	within timeframe if necessary
Breakout groups;	31 October – 3 November, as necessary

2. Review and Approve Report of the Eighth WG3 Meeting (Alexandria)

Mr. Jones introduced WP9-2, the report of the eighth meeting of WG3. A few minor corrections were noted and the meeting approved the report with the indicated changes.

3. Review status/outcome of ADSP, ATN CCB and ANC actions

Mr. Asbury provided an overview of the ADSP work group meetings in Atlanta GA (USA) that was held the week of 20 Jan. 1997. WG-B dealt with CPDLC and the new item required communication performance (RCP). WG-A dealt with operational aspects and ADS-B. WG-B reviewed the outcome of ADSP/4 held in September. In particular, some members of the the ANC expressed concerns with the need for ADS altitude conversion to feet and meters. This directly impacts the ADS SARPs prepared by ATNP WG3. The ANC took an action item to look into this issue further. WG-B also discussed the strategy for the integration of FANS systems, FANS-1 and FANS A, and recognized the need to develop operational guidelines. The FANS/ATN transition strategy proposal to WG-A resulted in the scheduling of a joint working group A/B meeting in Toulouse for May 5-9, 1997 to look at transition issues.

One additional issue discussed by the ADSP WG-B was related to the CPDLC and the closure of services with clearance messages outstanding. It was generally concluded that it was acceptable for the CPDLC to close the service with messages still open.

Other future applications being considered by the ADSP are MET and FIS applications, such as automated RVR, automated wind velocity. Relative to RCP, performance criteria will be developed for data link communications; however, unlike RNP, the RCP can not be explained as a single figure. One of the points being considered is does the controller really need near instantaneous communications as in a voice communications. Depending on the concept of operations, it may not be necessary. However, the ADSP tends to want to replace voice with data of equivalent performance

Mr. Asbury commented that while the ADSP met in Atlanta, the members visited the Delta operations center, which deals with 10,000 plus ACARS messages a day and found it an interesting experience. Mr. Asbury noted that it was extremely useful to have ICAO representation at the ADSP working group meetings. Also, there was benefit having Chris Dalton from ADSP at the ATNP/2 meeting and the increase in emphasis in addressing the compatibility of existing data link systems and the changing operational requirements.

The ADSP is expected to have an output from it's May JWG meeting that will be available in time for the consideration at the next WG3 meeting. Mr. Asbury anticipates changes to the concept of operations indicated in chapter 3 and chapter 5 of each of perhaps the CPDLC and ADS application SARPs and minor changes to things like ranges and resolutions of the data, as specified within the ASN.1, and the user requirements in chapter 7. Mr. Jones recapped a conversation with Mr. Paydar that comments regarding the ATN SARPs changes to support FANS-1 transition would be better received by ICAO if the changes were proposed by the States (i.e., in response to the forthcoming State letter for the ATN SARPs). Next full ADSP working group meeting will be in Brisbane in July.

Mr. Calow provided an overview of the ATNP CCB meeting held in Phuket on 2 March 1997. The CCB meeting finalized the procedures document that was to be used at the first formal meeting of the CCB on 5 March 1997. Subject matter experts (SMEs) will be the keepers of the baseline SARPs documents on behalf of the CCB. The CCB discussed the role of the working and their relationship with the CCB. The CCB has requested that WG3 submit nominees to act as CCB SMEs for the Sub-Volumes 2-3&4. The SMEs will represent the interests of the WG with the CCB and will coordinate with the WG as needed. The procedures document was provided in WP9-56. Mr. Calow indicated that Steve Van Trees has accepted the nomination as CCB chairman.

Mr. Jones presented Flimsy 1, which proposes an additional paragraph to the CCB procedures to further explain the relationship of the working groups and the CCB through the SMEs and to nominate SMEs for the CCB to cover the functional areas of WG3. The WG3 agreed to the following SME nominations: Mr. Picard (SV-2, A-G), Mr. Vacher (SV-3, G-G), and Mr. Kerr (SV-4, ULCS).

Mr. Picard presented WP9-60, CCB Procedures Applied to SARPs Sub-Volume 2. The working paper proposes procedures for a SV2 SME team to support the CCB SME in managing defect reports related to the air-ground applications SARPs (Sub-Volume 2). These procedures would be followed for by the SME and are consistent with the CCB procedures defined in WP9-56. The involvement of WG3 in these procedures is also described. Mr Kraft suggested that the Engineering versions should be under the control of the CCB. Paragraph 2.1.6 and the two paragraphs under 3.3 of WP9-60 implies that there will be an Engineering version for the SV-2 SME team. It is recognized that the SME will maintain the portion of the Engineering version on behalf of the CCB, however, these guidelines should be discussed as part of the CCB procedures. Mr. Jones deferred this discussion to the CCB that was to meet on 10 March 1997. It was further suggested that 2.1.6 and all of 3.3 be suppressed in this working paper. Mr. Burgemeister commented on paragraph 3.2.4, which requires that SV2 SME members who have a 'no opinion' vote must still reply to the SME. Mr. Burgemeister suggested that it be reworded to give a certain amount of time so as to not hold up finalizing the recommendation. Generally, WG3 agreed that the SME would use judgment, including the type of defects that were being considered, and the number of responses received from the SME team members, to determine whether or not a recommendation is submitted to the CCB from the SV2 SME Team.

WP9-60A, and subsequently WP9-60B (Attachment 4 to this meeting report) were presented as revisions to the earlier version based on the discussions by WG3. The revised paper provided a general definition of the role of the SMEs and the relationship to WG3. Discussions revolved around paragraph 3.2.5. and whether the SME is responsible for the engineering versions or the editors. There was concern that the editors of the document should be focusing on the package 2 definition; however, it was also noted that the package 2 definition will need to be based on the ICAO version 1.x and it will be difficult to coordinate defects to package 1 with the definition of package 2 without involving the editors.

Mr. Goberson provided an overview of the ICAO activities with regard to the ATNP/2 report and the adoption of the ATN SARPs into the Annex 10. Under the ANC, there is a working group on panels that has started the review of the ATNP/2 meeting report. The working group needed feedback from the ATNP WGW prior to its submittal to the ANC as a whole. The working group meets weekly so they will continue their work and plan to submit to the ANC at the 145th session scheduled from April to June 1997. Following the ANC session, ICAO will submit a letter to the States with the core SARPs and invite them to request the detail in the Appendix, if desired. States will have until October 1997 to provide any responses which will be addressed by ICAO with the assistance of the ATNP working group of the whole scheduled for November 1997. Final ANC review is scheduled for December 1997. The ICAO Air Navigation Council will meet 1st QTR 98 to approve the circulation of Amendment 73, which will incorporate the core ATN SARPs into Chapter 3, Part I, of Volume III of Annex 10 and will be accompanied by the appendix containing ATN detailed requirements. Amendment 73 together with the appendix will be distributed to States in April/May 98 with an applicability date of 5 Nov 98.

4. Validation of Sub-Volume 2

4.1 Subgroup 2 report

Mr. Asbury provided an overview of the two meetings of Subgroup 2 held since the Alexandria joint working group. The meeting report is presented in working paper WP9-18. He reported that the development of guidance material has begun. Much of the work was dedicated to looking at the differences between FANS-1 and ATN. Mr. Asbury noted that this effort had proven useful to the Subgroup particularly with Boeing and Airbus participation to helping the subgroup better understand FANS-1 as well as Boeing and Airbus's contributions to finding defects with the draft ATN SARPs.

4.2 Review Validation Results/Report

Mr. Asbury introduced the following papers for this agenda item: 9-10, 9-23, 9-42 thru 9-45.

Mr. Asbury introduced WP9-10, Air-Ground Applications Validation Report. There may be States that after initial implementation will not be able to readily subsequent support changes, so we need to be careful in how we institute changes to the SARPs. Detailed reports that highlight functional deficiencies are extremely rare. Most of the reports are related to inconsistencies or missing conditions that were not addressed or things that we missed because we were too close to the SARPs, such as the degree of resolution for the position reports that was discovered by Boeing because they were comparing the SARPs to their FANS-1 implementation. He reported that at the time of ATNP/2 and the subsequent Subgroup 2 meeting, the subgroup was disappointed because not much work hand been done, validate the FIS application. However, since the Subgroup 2 meeting, Mr. Picard has reported some defects against the FIS and the FAA has reported they have completed coding and successfully conducted initial validation testing of the FIS application..

Mr. Asbury introduced WP9-10A, the air-ground application validation report, which had been updated from the previous version produced at the Subgroup 2 meeting, mainly to include the recent results of the work performed by Mr. Moulton on behalf of the FAA. The working group agreed that the one defect reported as 'open' will be changed to 'closed'. This defect related to FANS-1 accommodation. It was agreed that for the time being this should be listed as 'closed' since WG3 cannot know what, or if, accommodation of FANS-1 is required until the ADSP makes such a determination. Mr. Burgemeister indicated he was looking forward to seeing final version of working paper 9-10 and he indicated that he intended to distribute this widely within Boeing. Mr. Camus stated that we should make it clear that we are specifying differences at the application level of the SARPs, because if we really want to accommodate FANS aircraft in an ATN environment we will also need to address differences at the communications service level as well. Mr. Jones noted that these issues will be discussed when we introduce papers 9-55 and 9-57.

The WG3 agreed that the validation report WP9-10A (A-G) provides an acceptable level of confidence that the air-ground application SARPS are complete and correct to the extent that interoperability has been demonstrated and that this working paper, with the agreed to corrections, be submitted to the WGW for approval.

WP 9-42 through WP 9-45. Jim Moulton provided a summary of these papers described the FAA sponsored air-ground SARPs validation activities. Open Network Solutions (ONS) under contract to the FAA built all for air-ground applications. Both the airborne and the ground versions were included. Only the context management (CM) application had been subjected to interoperability testing with an independently developed implementation. Not many errors with the protocols were encountered. Most of the problems encountered related to the PER encoding. Jim gave the SARPs to software developers who were not familiar with the ATN. Many comments received from the software developers on the SARPs themselves involved and their readability. The three weeks prior to the WG3 meeting resulted in doing interoperability testing with EUROCONTROL. WP9-45 discussed the testing of the CM application. Error conditions were thoroughly tested because the initial tests produced a lot of errors in trying to get get the ONS and Eurocontrol applications to interoperate. Also, a lot of time-outs were tested. These error conditions results from the two implementations using inconsistent versions of the draft ATN SARPs (i.e., June 1996 versus November 1996) as well as inconsistent PER compiler results. This latter item is the same issue that was pointed out at the Alexandria meeting. There were minor changes in the ISO PER Standard and the ATN SARPs validation experience points out a clear requirement for all implementations of PER compilers to be using the current version of the PER standard. Also PER compilers are extremely sensitive to the syntax of the ASN.1. The validation testing revealed that an application PDU from

EUROCONTROL could be incorrectly decoded as a result of inconsistent ASN.1 definitions and differences in the PER compilers. It was concluded there is clearly a need for guidance material on this subject such as including GM that describes exactly what the AARQ PDU should look like.

The baseline used in the FAA implementation is the ATNP/2 approved SARPs (November 1996), while Eurocontrol had developed the software according to the Munich (June 1996) version. This has led to a number of interoperability problems. The use of different versions of the ASN.1 and ACSE ISO standards, and different versions the draft ATN SARPs were the cause of problems encountered during the validation testing. However these problems do not in themselves indicate any problem with the ATN SARPs itself. Mr. Asbury noted that many organizations are under intense pressure to use commercial off the self (COTS) products and we should recognize that COTS has its own set of problems and COTS may not in the end provide cost-effective solutions. Guidance is needed to ensure that ATN implementators have enough information to understand what the issues are and how you go about certifying ATN implementations. It was noted that perhaps administrations would have to certify ASN.1/PER compilers to ensure that the compiler produces the required output.

Some of the problems resulted from different versions of air-ground application SARPs. There was no attempt to ensure compatibility between interim versions of the draft ATN SARPs (e.g., the June 1996 version vs. the November 1996 version). However there is clearly a requirement for future ICAO approved versions of the ATN SARPs to be backward compatible with the previous approved version(s).

Mr. Van Roosbroek introduced WP9-23, Results from Eurocontrol Application SARPs Validation. This working paper reported on the validation results to date of the Eurocontrol Trials End System (TES) prototyping project. This working paper contributed to the overall validation effort to demonstrate that the Air-Ground application SARPs are sufficiently complete and unambiguous to allow implementations to be produced that are interoperable. The TES prototyping project has demonstrated that the selected Air-Ground application SARPs are sufficiently complete and unambiguous to allow implementations to be produced. A partial version of the TES software was delivered to Eurocontrol in January 1997. This included full CM functionality (Configuration XXVIII for the ground and Configuration I for the air), together with upper layers. This Beta version is now being used for Interoperability testing with other, independent CM / Upper Layer implementations. The Beta software has also been integrated with the Eurocontrol TAR/TTS (Trials ATN Router / Trails Transport Service) system, to give a complete 7-layer CNS/ATM-1 Package protocol stack. Currently, the TES implementors are performing final system tests of the ADS and CPDLC applications. Final delivery to Eurocontrol is expected early in April 1997. Throughout the implementation and testing activities, validation of the SARPs has been a key objective. A number of SARPs defects have been identified during the lifetime of the project, and have mostly been rectified in the ICAO Version 1.0 SARPs. The defect reports are summarised in section 4 of this paper.

Mr. Asbury presented IP9-52, A summary of the ADS Europe Final Trials Report. This information paper summarizes the ADS Europe Final Trials Report and its contribution to the ATN SARPs validation.

Mr. Van Roosbroek introduced IP9-24, Implementation of Eurocontrol CNS/ATM-1 Trials End System (TES). This information paper describes the approach which has been adopted for the implementation of ATN applications conforming to the CNS/ATM-1 Package SARPs. The objective is the share the experience gained in this work, and to demonstrate that the SARPs presented at ATNP/2 form a sound basis for implementation.

Mr. Van Roosbroek introduced IP9-26, An Overview of the Eurocontrol extension to the EOLIA Project. The EOLIA project has objectives to develop and evaluate a set of user oriented ATN

compliant, pre-operational ATC data link services in the European environment to enable the improvement of Air Traffic Management, taking into account the interests of the users and the European industry. This information paper outlines some of the major aspects of the Eurocontrol extensions to the EOLIA project.

Mr. Snively introduced WP9-55, FANS-1 CNS/ATM Accommodation. ICAO has recognized the need to investigate issues regarding the mixed operation of FANS-1 and CNS/ATM-1 equipped aircraft operating in both FANS-1 and CNS/ATM-1 airspace. This working paper investigates a couple of issues which must be considered when looking at alternative solutions. One solution is to change either or both of the CPDLC message sets in order to make them compatible, thus eliminating human interface differences. The other is to define an application gateway which would make the necessary conversions to the data in order to eliminate human interface differences (note this would also require them to be operationally compatible) . It is noted that in any case, the issues associated with meeting the integrity requirements and associated certification activities needs to be considered. The FANS-1 uses a CRC in the 622 protocol whereas the Transport services of the ATN uses a Fletcher's checksum, which is also a difference that will defeat the intent of an end-to-end integrity algorithm. Therefore, it is preferred that the message sets are compatible to avoid the need for an application gateway.

Mr. Asbury noted that there is more to this solution than making the message sets compatible. He was doubtful that SARPs could support an application gateway or any other solution by end of 1997. Mr. Snively stressed that we will not carry dual message sets, that are operationally incompatible, in the aircraft. He believes that there is a safety issue involved and that safety is above all costs. In order to equip an aircraft there is a 2 to 3 year lead time. He is concerned that the longer it takes and the more it costs, the less likely ATN will become a reality. Mr. Jones indicated that if we have a communication service provider provide the gateway, then SARPs would not be necessary. However, it may be necessary for the application gateway to meet certain development assurance requirements to address the integrity issue. Mr. Burgemeister reminds us that there is more than dual stacks and gateways that we need to consider, for example, how the user software uses these communications services and the pilot interface.

Mr. Camus introduced IP9-57, Transition to ATN Aerospatiale Strategy. The information paper states that it is imperative that we clearly understand what we are doing when we are talking about FANS-1 accommodation. Aerospatiale believes that the definition of the SARPs should neither be constrained by the current FANS-1 definition nor by any aircraft system architecture. The paper introduces the AIM-FANS concept, which allows a smooth transition to an ATN environment, however, any solution to accommodate ATN and FANS aircraft in common airspace should consider both the application user level and the communication level.

Mr. Jones noted that the ADSP has scheduled a working group meeting the week of 5 May in Toulouse specifically to address the FANS-1/ATN transition issues from an operational requirements point of view. Final ATNP disposition of this topic must wait until inputs are received from the ADSP. He further noted that the FANS-1/ATN transition was be addressed further at the ATNP working group of the whole meeting, the following week, so he suggested that further discussion be deferred to the WGW.

4.3 Review Defect Reports

Mr. Asbury proposed to start the review of defect reports for the air-ground applications with the overview in WP9-37. The overview paper proposed to assign a block of SARPs page numbers for each of the air-ground applications thus allowing for later page insertions without effected the page numbers of the subsequent sections of the document. Mr. Jones suggested that SARPs will be

controlled by the CCB and that this is a CCB issue. Mike concurred that he would await further advise from the CCB.

WP9-34, Mr. Saccone reviewed the defect reports for the CM application. Changes to incorporate these defects are presented in WP9-11.

WP9-33, Ms. Hamelink reviewed the defect reports for the CPDLC application. Changes to incorporate these defects are presented in WP9-13. Many of the changes were a result of lessons learned from FANS-1, which supported the operational validation of the SARPs.

WP9-32, Mr. Picard reviewed the defect reports for the FIS application. Changes to incorporate these defects are presented in WP9-17. Mr. Jones questioned whether or not the relatively small number of changes to the FIS application SARPs is a result of the fact that less extensive validation had been done as compared to the other three applications. Mr. Asbury suggested that perhaps this was correct, but the FIS SARPs should move forward and further work is being done by ProATN and Jim Moulton that may uncover addition defects that will need to be submitted to the CCB. He stated that also the ADS and CPDLC are pilot and controller tools and are more sophisticated with more variation in their use and the ATIS is well prescribed and is a limited application.

WP9-36, Mr. Asbury reviewed the defect reports for the ADS application. Changes to incorporate these defects are presented WP9-15. Mr. Burgemeister asked the question about the need for different ranges between ADS and CPDLC parameters for similar data. Ms. Hamelink indicated that the users are different and the differences are justified.

Mr. Godberson informed WG3 that an issue has been raised by one or more of the ICAO air navigation commissioners concerning the units of measure used for the ADS application. The primary concern is that the ATNP has elected to define certain units in neither metric or English units and has instead come up with a third option. Mr Godberson pointed out that the metric/English definition of units has been an issue for 10 or 12 years within ICAO and Annex 5, Units of Measure, includes both. Mr. Asbury explained that there was much controversy over doing just metric or just English units of measure, so they (with inputs from the ADSP) came up with a “middle of the road” solution. Mr. Burgemeister noted that this should be corrected and believes that this was a case where the ADSP over stepped its bounds as this is not an operational requirement. He noted that all FMCs only use English units of measure for altitude. It was suggested that WG3 should prepare the necessary paperwork to submit to the CCB. Alternatively, Mr. Asbury suggested that the change to the specified units could be put into the set of proposed SARPs changes out of this WG3 meeting before the SARPs are placed under the CCB. Mr. Burgemeister proposed that we should not provide an option of metric and English for ICAO to decide, but we should adopt the English, which is currently what is used throughout Annex 10. Mr. Jones suggested that we could prepare the paperwork for the change to the units and then let the WGW decide. The WG3 agreed to empower Mr. Asbury to prepare the paperwork for the most commonly used units of measure and present to the WGW for incorporation into the SARPs out of the WGW meeting.

Rapporteur's note: The WGW decided to prepare, as a separate submission to the ANC, a change proposal to use English units of measure for the ADS application. It will then be up to the ANC to decide to accept the change proposal or to retain the units as defined in the draft ADS application SARPs out of ATNP/2.

4.4 Review Propose SARPs Changes

WG3 agreed to the changes as proposed in WP9-11 (CM), WP9-13 (CPDLC), WP9-17 (FIS), and WP9-15 (ADS) for submittal to the WGW for approval.

5. Validation of Sub-Volume 3

5.1 Subgroup 1 report

Mr. Piram provided a report of the activities of the SG-1 since the ATNP/2 meeting. The chairman's report was contained in WP9-3. SG-1 held their 10th meeting 14-17 January 1997 in Toulouse. The sub-group met to discuss defects and validation activities. Guidance material has not progressed since its version 0.3, which had been delivered to the Working Group in the Alexandria meeting (Oct. 1996). All defects reported against the ICC and ATSMHS SARPs were reviewed and the sub-group members agreed to solutions, which resulted in change pages to the SARPs. He indicated that for the ATSMHS SARPs, defect reports had not been prepared for some changes. Mr. Jones suggested that there should be a defect report for all changes to the SARPs. Mr. Vacher indicated that most of the defects are editorial in nature and that a complete list of the defects is contained on page 11 of WP9-4, ATSMHS SARPs Validation Report. The working group accepted this list as effectively a defect report.

5.2 Review Validation Results/Report

Mr. Piram introduced Mr. Cid to present WP9-28, Validation Method and Results of Spanish ATSMHS. The working paper represents the methods followed by Aena to validate the ATSMHS that will be implemented in Spain, for national use, with a gateway to the AFTN international telegraphic network. The validation plan uses "black box," "white box," "local box," and interoperability tests to demonstrate the validity of each of the "shalls" contained in the ATSMHS SARPs. The results of the tests have been successful to date and the validation program is expected to be completed in June of 1997.

Mr. Cid introduced IP9-29, Differences between ATSMHS SARPs and Spanish Implementation, and IP9-30, Defect reports on ATSMHS SARPs. These information papers represent some differences found between the ATSMHS SARPs and the Spanish Gateway Implementation and associated defects of the ATSMHS SARPs. These differences and the resulting impact on the SARPs and guidance material will be addressed by the sub-group and for the purposes of this meeting these papers will be treated as an information papers.

Mr Moulton introduced WP9-46, Validation Results for the Type A Gateway SARPs. The WP presented details on the FAA sponsored validation of the Type A Gateway part of the ATSMHS SARPs. He reported that this area of the ATSMHS SARPs had been successfully validated by way an implementation and testing.

Mr. Vacher introduced WP9-4, ATSMHS SARPs Validation Report. The report demonstrates that the validation for the ATSMHS SARPs takes credit for the validated and mature ISO MHS standards and the ISPs and that ATSMHS interoperability validation occurred using numerous independently developed implementations, including AENA, Eurocontrol, France, Germany, Nortel DASA (Germany), FAA, U.S. DoD/NATO, and SITA. Mr. Vacher suggested to revise the validation report to include implementations of MHS using upper layers efficiency enhancements. However, while it is recognized that a commercial software vendor is working on an implementation of MHS that would take advantage of the upper layer efficiency enhancements, this implementation is viewed as part of the future work program for the ATNP and does not need to be addressed in the validation report for the ATSMHS.

Mr. Vacher subsequently introduced WP9-4A, a revision to the earlier distributed version. This update included revisions on page 12, the defect #54 at the top of the page was missing on the

previous version of the WP and was added to this version. There were other minor corrections and all defects were shown as closed.

Mr. Leclerc introduced WP9-7, AIDC Validation Report. Mr. Jones commented that the table in paragraph 4, which provides the status of validation activities, indicates completion when some of the activities are not complete as indicated in paragraph 5.2.3 on page 4. On page 6, AIDC-DF10, states "open." It was agreed that the proposed changes will be incorporated into the SARPs change package and close this defect report. WP9-7 was revised to WP9-7A to incorporate the results of this discussion.

The WG3 agreed that the validation reports WP9-4A (ATSMHS) and WP9-7A (AIDC) provides an acceptable level of confidence that the ground-ground application SARPS are complete and correct to the extent that interoperability has been demonstrated and WG3 accepted these working papers for submission to the WGW for approval.

5.3 Review Defect Reports

Mr. Vacher discussed the defect reports for the ATSMHS as part of the validation report under WP9-4. Most of the defects were of an editorial nature, however, it was noted that defect reports should exist for each of the changes resulting from the validation report to provide traceability of the source of the change.

Mr. Vacher introduced WP9-59, ATSMHS Defect Reports (ICAO Version 1.0). The paper covers defect reports for three technical discrepancies and includes a summary of editorial changes also prosed against ICAO Version 1.0.

Mr. Leclerc introduced WP9-39, ICC over the ATN, AIDC Draft SARPs, SARPs Defect Register. The WP contains a summary of defects which have been raised on the AIDC SARPs presented to ATNP/2 and which have been received since that meeting. It was noted that there are changes that need to be made to the ICAO version of the SARPs to reflect what was already approved at the Alexandria meeting but were not incorporated at ATNP/2. It was agreed at the meeting that even in these cases a defect report should be generated to indicate the source of those changes. Mr. Calow noted that the baseline we are using is the version from ICAO and regardless of what was approved at previous working group meetings, any changes to the ICAO version of the SARPs will require a defect report with traceability to resulting changes. The "Open" status in the defect register indicates that approval from SG-1 has not been obtained, however, changes to correct these defects have been incorporated in the redline change pages, and upon acceptance of these redline change pages, all defects will be closed.

5.4 Review Propose SARPs Changes

Mr. Vacher introduced WP9-5, Proposed Changes to ATSMHS SARPs. The changes to the ATSMHS are a result of the defects that were discovered during the validation activities for the ATSMHS SARPs. It was agreed at the meeting that the change proposal package be purged of pages to the SARPs that did not include a change.

Mr. Leclerc introduced WP9-40, ICC over the ATN, AIDC Draft SARPs, Redline edition. A summary of the changes to the AIDC SARPs is provided in WP9-8. This WP contains a complete "redline" version of the draft AIDC SARPs that include corrections of the defects and comments received since the ATNP/2 meeting. It was noted that CCB submissions should only include change pages. Mr. Jones commented that Table 3.2.6-1 on pages 231 and 232 include "TBDs" which are considered a defect. He suggested that these be changed to "user defined" with guidance material to

come out later. Also, on pages 257 & 258 with the ASN.1 there are cases where there is an extra tab indent. It was suggested that for those pages where other changes exist, these tabs be removed.

The WG3 agreed to the changes as proposed in WP9-5 (ATSMHS) and WP9-40 (AIDC), as amended by the working group, for submittal to the WGW for approval.

6. Validation of Sub-Volume 4

6.1 Subgroup 3 report

Mr. Van Trees presented WP9-21, the SG3 Chairman's Report. He reported that SG3 had held one meeting since ATNP/2. The SG reviewed validation results and identified 8 defects to the ATNP (ICAO version 1.0) Upper Layer Communications Service SARPs. He noted these are presented to the working group in WP9-49. He noted that the SG had done a major upgrade to the draft CNS/ATM-1 Package ULCS Guidance Material to align with the SARPs. He also reported on the status of related ISO and ITU-T standards activities. He indicated that Eurocontrol and the FAA have successfully completed interoperability testing of their respective ULCS implementations. He noted that an updated validation report is submitted to WG3 as WP 9-19. He reported that some activities are underway within ITU-T/ISO related to edition 3 of ACSE and application mobility management that support future work on CNS/ATM-2 Package SARPs. Work within ISO supporting the base standards planned to be used by SG3 for specifying CNS/ATM-2 Package SARPs are now entering the final approval cycle within ISO.

6.2 Review Validation Results/Report

Mr. Van Trees presented WP9-19, ULCS Validation Report. This working paper presented the results of the validation programs that have been undertaken by various States and organizations, which apply to the ATN ULCS SARPs. It summarizes the ULCS-related results, and analyses them against a set of high level validation objectives, drawing conclusions on the level of validation achieved to date.

Mr. Van Trees presented Revision 1 to WP9-19 to incorporate the results of the discussion from the earlier version.

The WG3 agreed that the validation report WP9-19, Revision 1 (ULCS) provides an acceptable level of confidence that the ULCS SARPS are complete and correct to the extent that interoperability has been demonstrated and that this working paper be submitted to the WGW for approval.

Mr. Van Roosbroek introduced IP9-25, EUROCONTROL ATN Project Overview and Status. The strategy which is followed by the ATN Project was presented in paper WP9-25. The National Administrations, the EUROCONTROL Agency, the European Commission and Industry are working closely together on the ATN. Besides making for valuable synergy, this partnership has reduced unnecessary duplication of work and effort. The strategy has been divided into three streams of activities. The first stream is the development of a European ATN Trials Infrastructure. Not only are ATN standards being validated to ensure that they are complete and correct, but they are also being tested in operational environments. A topical example of this is the UK/France/European Commission ADS Europe Project in which commercial aircraft are using the ATN for ADS. The next phase in this stream is the development of Pre-operational ATN implementations. EUROCONTROL is contributing to the funding and is also actively participating in two programmes (Pro-ATN and EOLIA) being run by the European Commission and European Industry. These programmes will develop, implement, demonstrate and evaluate a complete pre-operational environment which includes the ATN and User Selected Air Traffic Services (ATS) data-link services, based on ICAO standards. The second stream deals with the support to the ATN

standardisation process in ICAO and Europe. It is concerned with the validation of standards and the development of tools for certification. The EUROCONTROL Agency and its Member States have successfully completed an extensive co-operative validation programme. Results show that the ATN standards are mature; that they meet the requirements and that they form a good basis for the independent development of interoperable systems. At a recently held meeting of the ICAO ATN Panel all ATN standards were endorsed on the basis of the positive results of the validation programme. The availability of stable global ICAO ATN standards will accelerate the global implementation of the ATN on the ground and in the air. EUROCONTROL is currently managing the User Requirements phase for the development of a Reference ATN Facility (RAF). The contract for this phase was awarded to IBM Belgium. The intention is to make the facility available to States and the Aeronautical Industry for testing in the context of certification, commissioning and acceptance of operational ATN systems. The third stream consists of implementation-related activities, incorporating the design of the European ATN, the identification and discussion of Institutional Issues and a detailed Cost-Benefit analysis. The stream also includes Pilot Implementations which are operational implementations on a limited scale. A European ATN Implementation Task Force will be established to co-ordinate the implementation of the ATN.

6.3 Review Defect Reports

Mr. Van Trees presented WP9-49, ULCS SARPs Defect Resolutions (ICAO Version 1.0). This working paper presents defect reports for the ULCS SARPs (ICAO Version 1.0) reported to ATNP/WG3/SG3 to date. It also contains the solutions agreed by SG3 and the changes required to the ULCS SARPs text. SG3 has agreed to solutions for all defects that had been reported. Most of the defects were related to either over-specification in that implementation specifics were included in the standard or other documentation that had to be changed because of inconsistency.

6.4 Review Propose SARPs Changes

Mr. Van Trees presented WP9-20, ULCS (redline version). It was noted that WP9-50, ULCS SARPs proposed for ICAO Version 2.0, is the same as WP 9-20 except that it does not contain the redlines. As a result, WP9-50 was not specifically discussed. It was also noted that the working papers being submitted to the WGW, that propose changes the SARPs, should only include the SARPs pages that contain proposed changes.

The WG3 agreed to the changes as proposed in WP9-20 (ULCS) for submittal to the WGW for approval.

7. Draft Guidance Material

Mr. Jones stated that the guidance material would not be discussed in detail due to time constraints. Each of the sub-group chairmen was ask to provide a status report on the development of the guidance material.

7.1 Sub-Volume 2

Mr. Asbury introduced WP9-38, Draft Guidance Material - Sub-Volume 2. This working paper provided the status of the of the guidance material for the air-ground applications and described the progress made since ATNP/2. The draft guidance material was provided, but not reviewed, in the following working papers: WP9-31 (FIS), WP9-47 (CPDLC), WP9-48 (CM), WP9-54 (ADS).

Mr. Godberson commented on the form of guidance material. There will no longer be green page guidance material published by ICAO in the annexes. There may be exceptions in special circumstances and on a small scale. A circular or a manual are the only other options other than the

green pages. Guidance material are considered “Group 3” category for ICAO publications department. SARPS are “Group 1” and ICAO Journals, reports, etc. are “Group 2.”

7.2 Sub-Volume 3

Mr. Piram reported that the guidance material for the ground-ground applications has not progressed since the Alexandria meeting of WG3 in October 1996.

7.3 Sub-Volume 4

Mr. Van Trees introduced WP9-35, Draft Upper Layer Guidance Material. He note there had been some revisions since ATNP/2. The material was not directly reviewed by the working group.

8. Planning for future work program

Mr. Jones introduced WP9-58, Excerpt for ATNP/2 Report on Agenda Item 5. This working paper provides the working program assigned to WG3 by ATNP/2. He indicated that WG3 needs to start thinking about the future work program and the focus of future WG3 meetings should be on completing the package-1 guidance material and progress the work program as defined by ATNP/2. It was agreed that WG3 should maintain the same sub-group structure. Each sub-group was tasked with developing a strategy for progressing the work program as defined at ATNP/2 and reporting on this at the next WG3 meeting.

Mr. Koopmann and Mr. Okle introduced WP9-22, CIDIN/ATN Gateway. This paper discussed that ATNP/2 has agreed to include the specification of CIDIN/ATN gateway in the future work programme. The gateway provides connectivity between the CIDIN and ATN at the message level for interworking of applications accessing the CIDIN or ATN. The working paper indicated potential scenarios for the gateway and identified the corresponding functional scope of the needed specification work. Mr. Asbury noted that the Russians are very interested in concepts involving the CIDIN in starting to handle MET data, perhaps we have to consider a economic solution on whether to migrate from MET architecture to ATN or through the CIDIN. He noted that it may be difficult to justify the costs associated with developing a new gateway if there are other options. Mr. Jones noted that since we are just starting to look at this we should look at all the scenarios to see what the best solution is.

Mr. Koopmann introduced IP9-51, CIDIN as an ATN Subnetwork - Proposal to Extend the ATN ICS Guidance Material. This paper provides material to support the development of CIDIN as an ATN subnetwork and was developed under the cooperation with experts from the Russian delegation at ATNP/2.

Mr. Koopman noted that WP9-22 and WP9-51 should be passed on to WG-1.

Mr. Van Roosbroek introduced IP9-27, Eurocontrol Reference ATN Facility Project. This working paper presents the EUROCONTROL Reference ATN Facility Project that has been initiated in recognition of the fact that, due to the complexity of the SARPs and the consequence of multiple product suppliers of ATN equipment there is a need for a single reference system against which ATN products should be tested for interoperability prior to their deployment in an operational environment. This working paper presents the objectives, approach and conclusions of the project to date. As a result of the project conclusions to date of proposals are made for the development of SARPs and guidance to take into account the needs of testing ATN equipment. It was suggested that maybe this paper be first addressed in WG-1 and possibly the WGW.

9. Any other business

Mr. Jones introduced WP9-53, Reporting of ATN SARPs Validation Status. The ATNP WGW is expected to produce a report for the ANC describing the validation status of the ATN SARPs. This working paper proposed an approach for providing a high level summary of the status of the SARPs validation and technical confidence the working groups have in the correctness and completeness of the SARPs. The approach assigns percentages of validation coverage of each of the shalls for a functional area of the SARPs according to the different validation means. Mr. Van Roosbroek expressed concern with using specific percentages and suggested a low, medium, high status be reported. Mr. Godberson stated that ICAO ANC is looking for a high level narrative statement from the technical panel stating that they have an acceptable level of confidence that the ATN SARPs will provide for interoperability. Mr. Camus suggested that there will be defects resulting from operational validation. Mr. Jones after consultation with the WG1 and WG2 rapporteurs and the representative of the ICAO secretariat withdrew the proposal.

Mr. Asbury introduced IP9-41, Integration of ADS and CPDLC in the NAT Region - Integrated Scenarios. The paper identifies various scenarios and the integrated use of ADS and CPDLC, such as detection of a lateral deviation, detection of a level range deviation, request for a level change, and aircraft emergency.

The following validation working papers were accepted for submission to the WGW for approval: WP9-10A (A-G), WP9-4A (ATSMHS), WP9-7A (AIDC), and WP9-49, Rev 1 (ULCS).

The following defect reports working papers were accepted for submission to the WGW for approval: WP9-32 (FIS), WP9-33 (CPDLC), WP9-34 (CM), WP9-36 (ADS), WP9-59 (ATSMHS), WP9-39 (AIDC), and WP9-49A (ULCS).

The following change proposal working papers were accepted for submission to the WGW for approval: WP9-11 (CM), WP9-13 (CPDLC), WP9-15 (ADS), WP9-17 (FIS), WP9-5 (ATSMHS), WP9-40 (AIDC), and WP9-20 (ULCS)

The next meeting of WG3 will be hosted 23-June through 26 June by the German delegation in Langen, Germany (near Frankfurt).

Attachment 1

ATNP Working Group 3 - Ninth Meeting
4-6 March, 1997
Phuket, Thailand

AGENDA

1. Review/approve meeting agenda

2. Review report of the 8th meeting of WG3 (Alexandria)

3. Review status/outcome of ADSP, ATN CCB and ANC actions

4. Validation of Sub-Volume 2 (Air-Ground Applications)

    4.1 Subgroup 2 report
    4.2 Review Validation Results/Report
    4.3 Review Defect Reports
    4.4 Review Propose SARPs Changes

5. Validation of Sub-Volume 3 (Ground-Ground Applications)

    5.1 Subgroup 1 report
    5.2 Review Validation Results/Report
    5.3 Review Defect Reports
    5.4 Review Propose SARPs Changes

6. Validation of Sub-Volume 4 (Upper Layer Communications Service)

    6.1 Subgroup 3 report
    6.2 Review Validation Results/Report
    6.3 Review Defect Reports
    6.4 Review Propose SARPs Changes

7. Draft Guidance Material

    7.1 Sub-Volume 2
    7.2 Sub-Volume 3
    7.3 Sub-Volume 4

8. Planning for future work program

9. Any other business

Attachment 2

LIST OF WORKING PAPERS

ATNP WG3 - Ninth Meeting - Phuket, Thailand - 4-6 March 1997

No	Agenda Item	Presenter	Title
9-1	1	R. Jones	Agenda
9-2	2	R. Jones	ATNP WG3 Eighth Meeting Report
9-3	5.1	J. Piram	SG1 Chairman's Report
9-4	5.2	J. Piram	ATSMHS Validation Report
9-5	5.4	J. Piram	Proposed Changes to ATSMHS SARPs
~~9-6~~	~~7.2~~	~~J. Piram~~	~~Draft ATSMHS Guidance Material~~
9-7A	5.2	J. Piram	AIDC Validation Report
9-8	5.4	J. Piram	Proposed Changes to AIDC SARPs
~~9-9~~	~~7.2~~	~~J. Piram~~	~~Draft ICC Guidance Material~~
9-10A	4.2	M. Asbury	Air-Ground Applications Validation Reports
9-11	4.4	M. Asbury	Proposed Changes to CM Draft SARPs
~~9-12~~	~~4.2~~	~~M. Asbury~~	~~CPDLC Validation Report~~
9-13	4.4	M. Asbury	Proposed Changes to CPDLC SARPs
~~9-14~~	~~4.2~~	~~M. Asbury~~	~~ADS Validation Report~~
9-15	4.4	M. Asbury	Proposed Changes to ADS Draft SARPs
~~9-16~~	~~4.2~~	~~M. Asbury~~	~~FIS Validation Report~~
9-17	4.4	M. Asbury	Proposed Changes to FIS Draft SARPs
9-18	4.1	M. Asbury	SG2 Chairman's Report
9-19	6.2	S. Van Trees	Upper Layer Communications Service Validation Report
9-20	6.4	S. Van Trees	Proposed Changes to Draft Upper Layer Communications Service SARPs
9-21	6.1	S. Van Trees	SG3 Chairman's Report
9-22	8	M. Okle	CIDIN/ATN Gateway
9-23	4.2	D. Van Roosbroek	Results from Eurocontrol Application SARPs Validation
9-24 (IP)	4.2	D. Van Roosbroek	Implementation of Eurocontrol CNS/ATM-1 Trials End System (TES)
9-25 (IP)	6.2	D. Van Roosbroek	Eurocontrol ATN Project Overview and Status
9-26 (IP)	4	D. Van Roosbroek	An Overview of the Eurocontrol extension to the EOLIA Project
9-27 (IP)	8	D. Van Roosbroek	EUROCONTROL Reference ATN Facility Project
9-28	5.2	J. Cid	Validation of Method and Results of Spanish ATSMHS
9-29 (IP)	5.2	J. Cid	Differences between ATSMHS SARPs and Spanish Implementation
9-30 (IP)	5.3	J. Cid	Defect Reports on ATSMHS SARPs
9-31	7.1	M. Asbury	FIS Guidance Material
9-32	4.3	F. Picard	FIS Defect Report Log
9-33	4.3	J. Hamelink	CPDLC Defect Reports
9-34	4.3	G. Saccone	CM Defect Reports
9-35	7.3	S. Van Trees	Draft Upper Layer Guidance Material
9-36	4.3	M. Asbury	ADS Defect Reports
9-37	4.3	M. Asbury	Defect Reports and Change Paragraphs A-G Applications
9-38	7.1	M. Asbury	Draft Guidance Material - Sub-Volume 2
9-39	5.3	J-Y. Piram	ICC SARPs Defect Register
9-40	5.4	J-Y. Piram	Redline ICC SARPs
9-41 (IP)	9	M. Asbury	Integration of ADS and CPDLC in the NAT Region - Integrated Scenarios
9-42	4.2	J. Moulton	CPDLC Validation
9-43	4.2	J. Moulton	A-G Validation Activities
9-44	4.2	J. Moulton	ADS Validation
9-45	4.2	J. Moulton	CM Validation
9-46	5.2	J. Moulton	Type A Validation
9-47	7.1	M. Asbury	CPDLC Guidance Material

No	Agenda Item	Presenter	Title
9-48	7.1	M. Asbury	CM Guidance Material
9-49	6.3	S. Van Trees	Upper Layer Communication Service Defect Resolutions (106-113)
9-50	6.4	S. Van Trees	ULCS SARPs proposed ICAO Version 2.0
9-51 (IP)	8	E. Koopman	CIDIN as an ATN subnetwork
9-52 (IP)	4.2	M. Asbury	A Summary of the ADS Europe Final Trials Report
9-53	9	R. Jones	Reporting of ATN SARPs Validation Status
9-54	7.1	M. Asbury	ADS Guidance Material
9-55	4.2	K. van den Boogaard	FANS-1 CNS/ATM Accommodation
9-56A (IP)	3	T. Calow	ATNP Configuration Control Board (CCB) Procedures Document
9-57 (IP)	4.2	P. Camus	Transition to ATN Aerospatiale Strategy
9-58 (IP)	8	R. Jones	Excerpt for ATNP/2 Report on Agenda Item 5
9-59	5.3	J-M. Vacher	ATSMHS Defect Reports (ICAO Version 1.0)
9-60A	3	F. Picard	CCB Procedures Applied to SARPs Sub-Volume 2
F-1	3	A. Sharma	Proposed Additional Par. to Clarify Relationship between ATNP CCB and WGs 1, 2, &3

ATNP WG3 Ninth Meeting - Attendance List

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ATTACHMENT 4

WG3 WP9-60 REVB

AERONAUTICAL TELECOMMUNICATION NETWORK PANEL (ATNP)

WG3
March 4-6, 1997 - Phuket (Thailand)

CCB Procedures Applied to WG3 SARPs

Summary

This documents proposes procedures for managing defect reports related to the SARPs of WG3. These procedures should to be followed in addition to the CCB procedures as defined in document [1]. The involvement of WG3 in these procedures is also described.

Revision B has been issued to incorporate comments from WG3 members.

References

[1] ATNP Configuration Control Board (CCB) Procedures Document - Output Phuket

Prepared by: Sub-Volume 2 and 3 SMEs
Presented by: F. Picard

1. Scope of this Document

1.1 During the second interim CCB (Configuration Control Board) meeting held in Phuket, the SMEs (Subject Matter Expert) have been tasked to define the processing of the Proposed Defect Report (PDR) by the SME team and to indicate the nature of the relationships of the CCB and the SME team with the ATNP Working Groups.

1.2 This working paper reviews the role of the SME as defined in the CCB procedures document [1]. It also proposes how the general mode of operation can be customised specifically to the management of sub-volume 2 to sub-volume 4 PDRs.

2. Background

2.1 Role of the SMEs

2.1.1 A SME is a technical expert for a sub-volume and acts as an interface between the CCB and an open group of technical experts wishing to be involved in the resolution of PDRs. The SMEs co-ordinates the technical debate among experts and reports the results to the CCB.

2.1.2 Three SMEs will be appointed for WG3 to cover:

- Sub-Volume 2 (Air-Ground Applications),
- Sub-Volume 3 (Ground Applications), and
- Sub-Volume 4 (Upper Layer Communication Service).

2.1.3 SMEs are involved in the CCB process as follows:

1. once the PDR has been accepted by the CCB, the CCB chairman designates one responsible SME for the PDR resolution (even if several sub-volumes are concerned),
2. the PDR is resolved under the responsibility of the designated SME, who with the help of his team of technical experts, produces a recommended action for CCB approval. The SME recommendation is submitted to the CCB mailing list (ccb_chair) in the form of a predefined format message.
3. in the event of the SME recommendation being rejected by the CCB, the SME shall attempt to develop an alternate SME recommendation (back to step 2).

2.1.4 Each SME shall determine the actual working methodology of the team. Generally this will consist of a discussion period electronically or face to face, followed by a consensus (or if necessary a vote) on the solution for the PDR.

2.1.5 One (or several if needed) e-mail distribution list is maintained by SME. This mailing list is used to progress the resolution of accepted PDRs.

3. CCB process for Sub-Volume 2/3/4 SARPs Defects

3.1 SME teams

3.1.1 The Sub-Volume 2 and 4 SME teams will include by default members of SG2 and SG3, respectively, plus any interested parties (IPs).

3.1.2 Two separate SME teams will be set up for Sub-Volume 3, one for ATSMHS and one for AIDC.

3.1.3 The SME team members shall subscribe to the SME email list either by contacting the appropriate SME directly or by sending a "please subscribe" message to the appropriate SME list.

3.1.4 They may quit the SME team at any time by contacting the SME directly or by sending a "please unsubscribe" message to the appropriate SME list.

3.1.5 Interested parties shall participate actively in the discussion on PDRs. They are requested to put forward their proposal for the resolution of the PDR as described later in this document. In the event they do not follow this rules for several consecutive PDRs, they will be automatically deleted from the appropriate SME list.

3.2 Resolution of a PDR inside the SV-2/3/4 SME teams

3.2.1 Once a defect raised against one part of Sub-Volume 2/3/4 is accepted by the CCB (PDR status is ACCEPTED), the SME sends the PDR to all members of the appropriate SME team (including when possible the editor of the SARPs).

3.2.2 The editor of the SARPs against which the PDR has been raised or the SME becomes the leader of the discussion for the PDR. He/She shall acknowledge explicitly the reception of the PDR (response time is <TBD> days):

- if a change to the SARPs to resolve the problem is included in the PDR, he shall indicate whether or not he/she accepts the solution. If he/she does not accept the solution, the reason for the rejection and a new proposal shall be enclosed with the reply.
- if no change is proposed, the reply shall contain one technical solution.

3.2.3 A period of <TBD> days is allocated for the e-mail discussion by the SME team members. The discussion moderator is the SARPs editor or the SME concerned with the PDR. If an sub-group meeting is held during this period, the result of the SG discussion shall be reflected in an e-mail message sent to all SME team members.

3.2.4 At the end of the discussion period, each SME team member are expected to express via email his/her resolution on the defect. This should allow the SME and/or the SARPs editor to write the final SME recommendation. If an insufficient level of input is obtained, the SME shall request an explicit opinion from each SME team member. The SME sends the updated PDR to the CCB chair through the appropriate mailing list.

3.2.5 Once the PDR status becomes RESOLVED (i.e. the CCB has accepted the SME resolution), the SME is ultimately responsible for updating the Engineering Version according to the SME resolution. He/She may make use of any resources available for the maintenance of the Engineering Version.

3.3 Dissemination of the Information

3.3.1 The CCB Procedures Document [1] recommends the use of the WG3 mailing list "atnp-wg3" for initial discussion about proposed PDRs. This list could be used for discussing proposals for defect report before official PDRs are sent to the CCB chairman. However, this procedure previously used by WG2 has never been seen as necessary by WG3 members. As any WG3 member can register the SME Team email list(s) in which he is interested, it seems useless to have two separate means of discussion.

3.3.2 PDRs related to SV-2/3/4 are available on the archive maintained by the CCB Chair.

3.4 Relationship SMEs and WG3

3.4.1 The SME, or a CCB representative (e.g. the CCB Chairman or an other SME), with the support of the SG Chairman and the SARPs editors, will inform each WG3 meeting the on-going CCB activities.

3.4.2 Defect resolutions approved by the SME team and the CCB can not be superseded by sub-group or WG3 discussions. If it so happens that a sub-group or WG3 does not agree with a CCB resolution, a new PDR shall be produced and shall enter the normal PDR resolution process.

4. Conclusions

4.1 Any person interested in participating in the resolution of PDRs for Sub-Volumes 2/3/4 is requested to provide the appropriate SME with its e-mail address as soon as possible.

4.2 The process drafted in this working paper shall be refined by WG3 SMEs and SME team members as necessary.