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AERONAUTICAL TELECOMMUNICATION NETWORK PANEL (ATNP)

Working Group 3 -- Applications and Upper Layers

Tenth Meeting

23-26 June 1997
Langen, Germany

REPORT OF THE MEETING

PART I. ADMINISTRATIVE ITEMS

Mr. Heribert Lafferton, the ADS Panel member from Germany 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. Asbury, the new Rapporteur of the Working Group, thanked Mr Lafferton and his staff for all the arrangements they had made for the meeting, and for the provision of all the support services. Mr Asbury reviewed working papers for the meeting. An index of working papers is contained in Attachment 2.

PART II. MEETING REPORT

1. AGENDA ITEM 1 - APPROVAL OF THE AGENDA

1.1 Mr. Asbury introduced the agenda contained in WP10-1. The agenda was approved and also included with these minutes as Attachment 1.

2. AGENDA ITEM 2 - REVIEW AND APPROVE REPORT OF THE NINTH WG3 MEETING (PHUKET)

2.1 Mr. Asbury introduced WP10-4, the report of the ninth meeting of WG3, prepared by the outgoing Rapporteur, Mr R Jones. A few minor editorial corrections were noted and the meeting approved the report with the indicated changes.

3. AGENDA ITEM 3 - REVIEW STATUS/OUTCOME OF ADSP, ATN CCB AND ANC ACTIONS

ADSP Joint Working Group Transition Meeting

3.1 WG 2 joined up with WG 3 for this presentation. Mr J F Grout, Chairman of the ADSP JWG meeting, reported on the proceedings. He introduced WPs 31 and 32, the reports of the ADSP WG A and B Chairman. Much of the paperwork for the meeting had been prepared by Ms Hamelink. She had suggested five possible approaches of dealing with FANS-1/A and CNS/ATM-1 aircraft in the same environment. After seriously considering all options, the JWG had agreed that a SARPs-based approach, with FANS equipped aircraft being accommodated to the extent possible, was the most logical approach. (Further information on the other possible options considered was available from Ms Hamelink.) Mr Grout emphasised that the JWG were only looking at the operational functions - they

had not considered safety, performance costs or certification, because there were other groups far better qualified to look at those matters.

3.2 There were seven assumptions which the JWG considered, namely:

a. Minimising the effect on aircraft - this implied that all accommodation would be made within the ground segment.

b. Minimising the number of transition stages, because each change cost money in terms of installation and certification - this implied that in order to minimise costs there would be no transition path

c. Minimising impact on pilots and controllers in the way of workload, change of procedures etc. - this implied a greater system complexity 'behind the scenes'

d. No change in FANS-1 definitions, and no changes in SARPs

e. Ground systems can recognise all downlink messages - they may be unable to comply, but they cannot reject a correct message - and can uplink all messages

f. The same attributes as passed in the downlink message would be available for the uplink message, and,

g. There would be a FANS uplink to a FANS aircraft.

3.3 There were some key differences highlighted, and these were outlined in the papers. Mr Jones asked whether dual accommodation on the ground implied that the same operational credit would be given to all data link equipped aircraft. Although Mr Grout agreed with this, Mr Hennig argued that consideration of benefits was out of the scope of the ADSP and ATNP, since much depended on Regional or State agreements, e.g. NATSPG. This implied that the controller would have to know the aircraft fit. Mr Asbury strongly agreed with this, noting that the information would be available from the flight plan. Mr Paydar wanted to know how the information would be made available to ICAO and States. Mr Grout said that there would be an addition to the ADSP Manual. Mr Whyman thought that there was an operationally contradictory requirement - there would be three classes - aircraft with ATN, with FANS and with neither. Mr Asbury said that ATC had to cope with differing fits all the time, and this would be little different.

3.4 Mr Kraft noted that if FANS was not going to change, there would be a great deal of free text message going to have to be used - the certification authorities were most unhappy about this, since free text messages could not be used as a basis for procedural approval - he thought that the ADSP JWG should reconsider some of the previous seven key points. Mr Grout, in response to Messrs Whyman and Kraft, agreed with the problems of free text, but said that ADSP was not in a position to give detailed guidance, but was rather looking at highlighting the problems. Mr Van Roosbroek was not at all happy with the assumption made that all regions should be dual stacked, and Mr Whyman wondered whether we were forcing a way for the world. Mr Grout emphasised that nobody was forcing anything, and flexibility was the key. Mr Stevens was uncomfortable about the operations of FANS aircraft in an ATN environment - the general operations will have to be user-friendly, and transparent to the controller, and traffic density would play a key role in the determination of ATM benefits.

3.5 Mr Hennig said that since the ADSP had indicated that there was no impact on the SARPs, there was no issue for the WGs to discuss - it would all be handled by WG1 in a systems basis. Mr Jones disagreed - for example the ADSP had not completely tackled the problem of CM and its FANS equivalent, and not all FANS-fitted aircraft operate to the same criteria - there was still a need for the technical expertise of the other WGs. Mr van Roosbroek understood that ACARS would be saturated by 2003 - if this was the case, and VDL was used, would FANS continue as is, or would it be changed? No-one seemed to be able to give an answer to this point.

3.6 In concluding his presentation, Mr Grout said he was not sure that ATNP could give all the guidance required to States - but they could go some way by preparing a checklist, which would give regions some guidance on which technical points had to be considered.

3.7 Mr Asbury closed the discussion on this item, thanked Mr Grout for his presentation, and noted that this discussion had also encompassed Agenda Item 7 of WG 3, which would not be discussed any further. The WG 3 Subgroups would continue to take account of the FANS implementation where applicable, and incorporate lessons learned from it for the benefit of the ATN implementation, both in the corrective action arising from PDRs and the implementation of information in Guidance Material.

ATN Configuration Control Board

3.8 Mr S van Trees, Chairman of the CCB, briefly reported on the first meeting of the Board, held at Phuket. This had set up the CCB requirements and procedures. The report of this meeting had been presented at the Working Group of the Whole meeting, also held in Phuket, and had been widely circulated. The next meeting of the CCB would be held on the afternoon of Friday 27th June 1997.

ANC

3.9 Mr M Paydar, ATN Panel Secretary, presented WP10-25, a summary of ATN-related developments in ICAO. Since both Working Groups 2 & 3 were meeting concurrently, Mr Paydar's presentation was made to both WGs simultaneously

3.10 The ANC Working Group of Panels had met twice to review the Report of ATNP/2 and the output of the Working Group of the Whole (WGW) at Phuket. The ANC itself had also met twice to consider the Report of its Panel WG, and to review the material for itself. The ATNP/2 material was generally approved, as were the changes indicated at the WGW meeting, with the exception of Tables 2.3.7-5 to 2.3.7-28 relating to Uplink and Downlink messages in CPDLC. The reason given for the non-approval of these particular Tables was that a State Letter has just been sent out containing proposed changes for DOC 4444 (PANS-RAC) containing an earlier version of these tables which had been approved by ADSP/4, and the ANC did not wish to send out two lots of similar but different material, the inconsistency of which may lead to confusion at State level. The Secretariat had therefore amended these Tables in the WGW material to bring them in line with the DOC 4444 material sent out earlier.

3.11 The core part of the ATN SARPs is being sent to States for comments on 27th June 1997. States are also advised that a copy of the detailed ATN provisions (i.e. SubVolumes 1-5), known as Appendix A to Chapter 3 of Annex 10, Volume III, Part 1, will be sent to them on request. But the ANC will not be `seeking comments on this Appendix A, considering it to have been sufficiently validated. The revised Appendix A is called Version 2.0, dated 27th June 1997. Mr Paydar made hard and soft copy of this material available to Mr van Trees, in his position as Chairman of the CCB. This was the definitive version which the ANC had considered, and on which any future activities should be based.

3.12 The ANC had expressed support for the formation and functions of the CCB, but only as an internal mechanism of the Panel. The ANC understood that the CCB will maintain the ATN SARPs, and will submit to the ANC, through the Panel Secretary, appropriate amendment proposals, supported with proper validation/resolution reports which will be reviewed and processed by the ANC according to the procedures in force at that time.

3.13 The WG members were extremely concerned that changes to the SARPs had been made without reference to the CCB. Mr Asbury said that as far as he had understood, SARPs were the highest point of reference documentation in ICAO, and Documents (e.g. 4444) should take the lead from them. Ms Jane Hamelink said that the changes made to Chapter 7 of Version 2.0 had made the document doubly inconsistent, in that Chapter 7 was inconsistent within itself, and that it was also inconsistent with Chapter 4, which was the core of the operating data link mechanism. Mr Tom Kraft argued that unless every single change went through the CCB, there was no point in having the CCB at all - it was an all-or-nothing package. Mr Al Burgemeister said that Industry were looking for responsible behaviour in the control and consistency of the SARPs, and such changes made here were not helpful.

3.14 In answer to these and similar other points raised, Mr Paydar emphasised that draft SARPs had no status until they had gone through the full approval system, and had been accepted by Council. The ANC could make whatever changes they wished, and had made this change in order to be

consistent with proposed changes to Doc 4444, which had gone out earlier. (The fact that the proposals to Doc 4444 were themselves still draft material was merely one of ICAO's delightful little inconsistencies, about which States could do very little.) With regard to the CCB, Mr Paydar reiterated that the ANC supported the work, but it had to go through the proper ICAO channels. ICAO were not producing industrial specifications - they were producing SARPs in the interests of interoperability, and it was up to States to make them work, as they were already doing with other SARPs known to be inconsistent. The ANC was not particularly receptive to complaints concerning industrial problems with SARPs material. With regard to Version 2.0, this was consistent with the output from WGW at Phuket except in relation to the Tables indicated, and two small detail changes which had been passed to Mr Van Trees. But Mr Paydar could not vouch for the editorial consistency of Appendix A - to a great extent they were relying on automatic translation of the documents in different Word Processing systems, and errors could be introduced.

3.15 Mr Paydar said that the only way that Version 2.0 could be changed back to the WGW version post Phuket was for States to comment adversely on the State letter for DOC 4444, recommending either that the Tables 2.3.7-5 to 28 should be brought in line with the output of the ATNP/2 WGW meeting at Phuket or that the tables be withdrawn completely from Doc 4444. Then if these State recommendations were approved by the ANC, Mr Paydar could use them as a reference to make Appendix A of the ATNP SARPs consistent with Doc 4444, or to update them, as the case may be. Copies of the State letter were made available to the meeting as Flimsy 2.

3.16 Mr Paydar had also indicated in his briefing that there was a possibility that the ANC were looking for a 'final' CNS/ATM package to follow Package-1 and that would be the end of the work as far as the ATN SARPs were concerned. The WG could not understand this idea at all - Mr Paul Hennig said it seemed contrary to the concept that ADSP was an operational Panel, and that ATNP developed technical SARPs for operational requirements. ADSP had a projected long life cycle, so why should the ATNP be disbanded. Mr Paydar said that the ANC were very wary of a new CNS/ATM Package being developed subsequent to every Panel meeting. Mr Mike Bigelow said that the contents of packages were driven by ADSP - when they produced a requirement it would have to be technically evaluated and SARPs produced by the ATNP - no requirement, no SARPs. Mr Paydar proposed that we get rid of the 'Package' terminology altogether, and just propose amendments to SARPs. Mr Burgemeister and others agreed with this idea - Ms Hamelink noting that we did just that in the SARPs - there is no reference to 'Package 1' anywhere. Mr Burgemeister suggested that proposed subsequent additional material would just be seen as amendments to the SARPs, with no concept of a 'Package'. Mr Paydar agreed, noting that they would be progressed through the normal ICAO channels and `procedures. The WG generally agreed that the members could not visualise the end of ATNP after the third meeting.

3.17 Mr Asbury was not sure that the ANC could truly appreciate the advantage of the CCB as a means of controlling the quality of the SARPs material. Mr Paydar had noted in his brief that Annex 10 is reviewed yearly (in March), and that the CCB could progress changes through the Secretariat annually to meet that date. Mr Asbury asked about a 'fast lane' approach, for changes seen by the CCB as being safety critical. Mr Paydar said that there was an existing 'fast track' procedure, which could be invoked as required, regardless of the CCB normal mechanism. Mr Kraft requested strongly that the Secretariat follow the CCB procedure with regard to changes, to enable full change control to be monitored, but Mr Paydar said this was not possible - ICAO was responsible for the editorial work on the document, and made the necessary changes at the request of the ANC. The Document was an ICAO document, and as such was the responsibility of the Secretariat, not the CCB. Both Mr Hennig and Mr Kraft strongly pointed out that if the CCB was not all, then it was nothing, when it came to configuration control. Other members also questioned the need for the CCB, if the ANC and Secretariat did not see it in the way in which it had been conceived by the Panel.

3.18 In his comments relating to the Guidance Material, Mr Paydar said that the ANC was of a mind to publish all the Guidance Material in a single volume, as soon after the ATNP/3 as possible. The Working Groups should have the material fully prepared for publication before ATNP/3, and should consider a suitable title for the document, and prepare contents lists and an outline structure for transmission to ICAO as soon as possible. Mr Asbury said that the Working Groups were aiming towards the date of the next WGW as a target, and expected to have all the material ready by then. Mr Jones asked if the material was ready, why did it have to wait till ATNP/3 for ICAO to work on it?

Mr Paydar replied that if the material was ready, it could be passed informally to ICAO, who would start their word processing, translation and editorial work, but it should still have to be approved by the full meeting of the Panel, as a courtesy to non-participating members.

3.19 Mr Asbury thanked Mr Paydar for his comprehensive briefing, and replies to the many questions. Members had a number of actions resulting from this discussion. Specifically,

a. Members would input replies to the ADSP/4 State letter relating to amendments to Doc 4444, noting that they did not agree with the proposed CPDLC message intent list, indicating that it should be brought in line with that approved for the Draft ATNP SARPs at Phuket.

b. Mr Picard, Subject Matter Expert for WG3/SG3, would file a generic Potential Defect Report against Version 2.0.

c. The attention of the ADSP would be drawn to the inconsistency between Doc 4444 and what had been indicated in the Manual of ATS Data Link Applications, to which the ATNP were working.

3.20 Subsequently the WG revisited this item several times during the course of the meeting. A rapid comparison of the new version threw up some startling anomalies, not only in CPDLC message intent lists. In particular -

a. The CPDLC tables are <u>not</u> consistent with the proposed amendment for Doc 4444 (which itself is in error)

b. Partial deletions in the tables have made a nonsense of some entries, left blank messages, removed attributes and ignored change-barred material developed at Phuket

c. Vital instructions in safety-critical software have been deleted.

In addition, the software version is not all in WordPerfect 7.0 - only four out of the thirteen disks have been converted, with all the others in version 6.0. This negates any means of automatic comparison with previous versions. It was patently obvious that no checks had been made for consistency, nor was it possible for a simple change in the tables to make the document consistent.

3.21 Mr J-Y Piram said that sorting out the ICAO-introduced changes and requirements was fast becoming a permanent agenda item and work programme for the WG. We should stop this endless process, develop a mutual understanding of the Secretariat problems, and adapt the procedure to have it acceptable by both the Secretariat and the Panel/CCB. Mr van Roosbroek suggested we should find out what procedures for document handling were current in ICAO - an appreciation of this mechanism may allow the WG to be flexible in its approach. Mr Asbury was not happy about having the 'approved' ICAO version so blatantly in error when compared with the correct version (1.1) which had been output from Phuket, accepted by the ICAO staff, and taken back, hard and soft copy and correction pages, to ICAO for incorporation. Contracts could be let by States, based on the 'approved' version, which would be shown to be in error, incurring significant extra costs. Ms Hamelink and Mr J F Grout suggested that the tables could be removed from the SARPs, which would go some way to eliminating some of the problems. The tables in Doc 4444 could be referenced from the SARPs, but of course there was no guarantee that they would be correct on this volume. Mr Asbury suggested the alternative - i.e. that the tables be removed from Doc 4444, and that the SARPs should be referenced. Mr Asbury re-emphasised that Version 2.0 would only be released for information purposes, and States would not be able to comment on it, nor have a means of passing corrections to the ANC in time to prevent a wide distribution of erroneous information

3.22 Mr Stevens wanted to know if it would be feasible/advisable for WG 3 to produce a strawman amendment to Doc 4444 that would incorporate an ATN flavour, including message formats necessary to operate this technology, for consideration by the appropriate operational Panel It was suggested that this would also have a beneficial side effect of ensuring that the document would be completely aligned with ATN SARPs It was explained that Doc 4444 was an operational document, and as such could not be the responsibility of a technical division within ICAO. ATNP was a technical Panel in a technical division.

3.23 The WG agreed that there were three options -

a. Persuade ICAO to revert to the unadulterated version 1.1 they were passed from Phuket

b. Distribute the relevant sections of Version 2.0 to editors, and have them do a manual 'search, detect and correct' for all the errors. ICAO would withhold distribution of Version 2.0, pending receipt and input of the corrections, and release as version 2.1 (In effect this is the same as (a), but taking longer and costing significant editorial effort)

c. Let ICAO go its own way with version 2.0, whilst maintaining and updating the Phuket version, with a view to resubmitting an up to date correct version to ATNP/3.

3.24 Mr Vacher thought that none of these options could justify the need for a retention of the CCB if the ICAO Secretariat was not gong to support it by ensuring that all changes were passed to the CCB for acceptance and consistency checks - for example removal of a single comma in the ASN.1 would jeopardise compilation and normal operations. Later, Mr Paydar advised that Option C above appeared to be the only viable course of action at this time.

3.25 Mr Paydar indicated that he would be consulting with his managers in ICAO. This topic would be briefly discussed at the Joint Working Group meeting on 27th June, where it was confidently expected that a constructive statement would be made by Mr Paydar after his consultations.

4. AIR-GROUND APPLICATIONS

4.1 Subgroup 2 report

4.1.1 Mr. Asbury reported that Subgroup 2 had held one meeting since the last WG 3 meeting in Phuket. The 13th meeting of the ATNP WG 3/SG2 was held in Whistler, BC, hosted by Greg Saccone and Hughes Aircraft of Canada. The meeting was attended by the four air/ground SARPs editors, plus two members from the aircraft industry, and three from the ATC provider administrations. This ensured a strong user input for the SARPs corrections, preparation of Guidance Material and development of future work. of WG3. The SG had agreed that as far as it was concerned, the priorities for its work were SARPs Corrections, Guidance Material and Transition Accommodation.

4.1.2 The structure of all the guidance material was based on the layout developed at the 11th meeting of the SG in December 1996. Where material was common across more than one set of guidance material, common wording would be used to the extent possible. Where this was not practicable, a common format would be used. This also applied to diagrams.

4.1.3 There had been some points raised concerning the SARPs since the Phuket meeting. These were reviewed to determine whether they were Probable Defects, and if so, to derive possible solutions. It appeared to the SG that submitting a defect report without offering a possible solution (and outlining the benefits and deficits of such a solution), would be counter productive, and would significantly slow up the CCB process. The CCB Subject Matter Expert (SME) for Air/Ground applications expected to use the SG members as experts in the resolution of defects, with the editors being specifically responsible for their related specialities. There needed to be editorial availability, continuity and support. ATNP members had accepted the concept of the CCB, and therefore should make some effort available to support it.

4.1.4 The SG had a preview of the WPs which would be presented to ADSP Joint Working Group the following week (see para 3.1 above) - this was to avoid a technical analysis at the JWG. There was much good material in the FANS applications - this SG had certainly benefited from the FANS theoretical and early practical experience. The SG should be in a position to offer technical solutions/architecture to permit accommodation.

4.1.5 When the chairman of the SG had accepted the chairmanship of WG 3, he was requested to relinquish the chairmanship of SG 2. Attempts were being made to find an alternate, but this was unlikely to happen before the next WGW meeting in October 1997. The four editors of the SARPs had agreed unanimously that an editor could not also be Chairman, due to confliction of interests. It was agreed that SG2 members would canvas their administrations for suitable candidates. To date, there had been a conspicuous lack of nominations.

4.1.6 At the last WG 3 meeting, there had been an action put on all SG Chairmen to discuss, and if need be, develop, a future work programme for their SGs. WG 3 itself had a responsibility to review the work of its SGs, and to ensure that most economic use was made of States' and Organisations' resources. The SG agreed that some activities may involve joint activities with other subgroups, but the final programme would have to be decided by WG 3.

4.1.7 Finally, SG 2 planned to have two more meetings before the WG3/WGW series in October /November - these would be in UK in early August and East Coast USA in late September. The SG was confident that its Guidance Material would be completed for the WG3 meeting.

4.2 Review Post SARPs Validation Studies, Trials and Implementation Activities

4.2.1 Mr Esser, in WP 18, illustrated a range of problems that have arisen as a result of the European EOLIA programme. There is a requirement in the proposed European operations to be able to send a Logical Acknowledgement (LACK) for every operational message received. However, implementation of this requirement in certain message sequences appears to result in messages possibly being sent to the wrong address. The paper proposed a range of solutions. Mr Asbury said that there might be a possible procedural solution, but Mr Esser was interested in implementing a full data link solution. This problem would be reviewed by the SG2 at its next meeting.

4.2.2 Mr Camus highlighted, in WP 6, a problem concerning the availability of addresses for use by the aircraft initiating a CM-logon. This was not future work, but had to be done now to answer a requirement of ATNP to look at address functions and mechanisms. The large number of possible addresses, and the size of the addresses themselves, would mean a significant increase in data base capability if it all had to be stored on the aircraft. The paper proposed a solution where a limited number of well known addresses would be available to the avionics - the physical location of these addresses need not be known - and they would access a data base of full addresses, specified by the pilot in the form of a three letter country code and a three letter local address code. The system was to an extent analogous to the current world wide web (www) addressing, except that it could not be self-administering to the extent that the www was.

4.2.3 In the subsequent discussion, Mr Saccone said that this was a matter for Guidance Material, rather than the SARPs, and he would look to referring to it there. But part of this was ground topology, and standardising this for global addressing plan could be difficult. Mr van Trees pointed out that this was not the current way that WG2 were looking at address allocation. Mr Asbury requested that the paper be presented to WG 2 for comment, since there was a definite interest in addressing in that group, and this was arranged. Both Mr Burgemeister and Mr Kraft were unhappy about the potential for incorrect addressing if a pilot was required to touch anything - a recent meeting of ISPAG had emphasised the need to automate any addressing functions where possible.

4.2.4 Mr Camus subsequently presented the paper to WG 2, who offered no technical objection. IATA endorsed the proposal, and WG 2 proposed to generate Guidance Material to resolve the issue, and it would be raised at the Joint Working Group on 27th June 1997.

4.2.5 Mr Hennig gave a brief presentation of an ATNSI document (WP 5), intended to provide an analysis of the network management functionality required for the ATNSI Router Reference Implementation. It contained an analysis of the Managed Objects (software packages with a standardised functionality) to be specified by ATNSI for their development of production reference router and end system (through upper layer) software. The WG noted the material and attachments, and would take them into account when developing future SARPs or Guidance Material. Ms Hamelink said that as far as the air/ground applications were concerned, there were no managed objects: Mr van Trees agreed, but said this clearly had to be taken into account in the Upper Layers work.

4.2.6 Mr van Roosbrook informed the WG of progress on the wide ranging Trials End System programme of Eurocontrol (WP 23). The Eurocontrol Trials End System (TES) project has been involved in a number of activities in support of the validation of the draft ICAO Air-Ground SARPs and supporting ATN Upper Layers. A major activity was the production of prototype software realisations of the SARPs. The TES prototype software currently implements version 3.0 of the air-ground applications SARPs and version 4.0 of the Upper Layer Communication Service SARPs. The initial phase of the TES software development successfully completed the final stage of acceptance testing

on 5th June 1997. TES is now available for free issue for experimental purposes to Eurocontrol Member Administrations.

4.2.7 The software is currently being delivered to NATS (UK), DFS (D) and SICTA (I). Mr van' Roosbroek noted that the DFS installation was going ahead during the course of the meeting, and there would be an opportunity to view the package in operation during the week of the meeting.

4.2.8 Several demonstrations were made, and the majority of the members were able to view the system during the breaks in WG proceedings

4.3 Briefing on Potential Defect Reports and CCB Working

4.3.1 Mr Picard, Subject Matter Expert for Air/Ground Applications, presented WP 28. The work of the CCB and the SME was briefly reviewed, along with the status of CCB procedures and tools. Mr Picard then reviewed the Potential Defect Reports raised by SG2. These were in two groups - those which were approved by the SG for forwarding to the CCB, and those where more discussion/consultation was required. This was in line with the SG 2 policy of forwarding a potential solution(s) along with the PDR.

4.3.2 One of the PDRs raised concerned the question of timestamping, missing from the CM application. The ADSP manual mandates the inclusion of a timestamp (consisting of a date/time group) in all messages. Mr Esser asked whether the timestamp was required, where was the stamp applied (controller button-press, initialising of uplink message etc.) and what was its use. Mr Kraft was also somewhat confused about the requirement, pointing out that for use in incident investigation, the time of receipt on board an aircraft is required, and the aircraft could record this anyway. Mr Camus said that Aerospatiale had raised this PDR, based on its interpretation of the ADSP Manual. Mr Asbury said that no-one disagreed with this - there was indeed a requirement in the Manual, but it was 'open to interpretation' - it did not actually specify that the timestamp should e included in the message. The timestamp did not reflect the actual time of the data - that related to latency, and was well specified in the relevant documentation. Mr Piram said he understood that there was a pilot/controller requirement to know when the message was transmitted, hence the requirement to send up the information.

4.3.3 Dr Kerr observed that the proposed technical solution would make the draft SARPs incompatible at the protocol level with all previous versions. He reminded the WG of the need to ensure the stability of the application protocols to the greatest extent possible. Only safety-critical modifications to the protocols should be permitted, otherwise considerable investment of authorities and experts in producing early implementations of the SARPs is put at risk. An extensibility mechanism is provided to ensure backwards compatibility, and consideration should be given to utilising this.

4.3.4 Mr Asbury said that this discussion was straying into the area of ADSP, and ADSP should be asked to clarify the requirement. Mr Asbury proposed that he should submit a short paper to ADSP WG B, and Mr Grout undertook to bring this up at the next meeting. Meanwhile the PDR would still be submitted, as a marker, pending output from the ADSP WGs.

4.3.5 A further time-related issue concerned the Estimated Time of Departure as presented in the CMLogonRequest as date/time. This is used for flight plan correlation. The ADSP Manual only requires Time as the parameter. Mr Asbury proposed to put a short paper to ADSP to ask them to include the date in the requirement. Mr Grout pointed out that currently the flight plan only contains the time, which was why the Manual had framed its requirement thus. Nevertheless the point could be considered at the next ADSP meeting. The PDR will not be submitted until the results of the` ADSP deliberations are known.

4.3.6 At the last SG meeting, Mr Camus had raised the point concerning validity and availability of the data in an ADS contract if there was a failure after the contract had been agree, and the aircraft could no longer deliver the information. Ms Hamelink said that the PDR solution proposed adequately covered validity, but did not cover complete failure. Mr Asbury said that this was probably the first

safety-critical PDR - if the ground was expecting out of conformance event reporting, but the means of detecting this had failed, they would continue to assume that all was well, with resultant safety implications. Insidious failures were the most difficult to deal with. Mr Picard said that this PDR would be split into two - one to cover validity, with the agreed solution, the other to cover failure, yet to be discussed in detail.

4.3.7 The question of the need for an aircraft to support ADS contract with at least four ATSUs (with the implicit requirement that a fifth could be supported while contact was refused) was also raised. Clarification was still required as to whether an Aircraft Operating Communications link could be established with an ADS port (thus preventing its access to an ATSU). Mr Camus emphasised the need to remember that an aircraft only had limited resources, and minimising potentially redundant links was to be encouraged. Mr Burgemeister thought that we should not have to second guess 'implicit' requirements - all requirements should be explicit, and if need be, the ADSP should amend their material accordingly. But expressly there was a need for all AOC contract requirements to be made explicit. Mr Grout agreed, noting that the ADSP should add the word 'simultaneously' to its requirement, and also that they would review the need to explicitly include the requirement for an aircraft to acknowledge the fifth station.

4.3.8 In CPDLC it was currently possible for both the air and ground stations to initiate simultaneously, whereupon the system would lock up (although it could identify the problem) and eventually abort on a technical time-out. This could have serious safety implications. It was proposed that if a simultaneous start occurred, that the ground system would abort, leaving the air initiation to continue. Mr Esser said that a case could equally well be made for the air-user to abort. Ms Hamelink said that the SG decided that since it was possible that the aircraft could be sending an emergency message, it should continue the start sequence. Mr Picard would submit the PDR with this proposed solution.

4.3.9 Mr Picard highlighted a number of issues which were still open for discussion and resolution prior to submission of a PDR. In particular, the maximum size of a message in CPDLC had yet to be defined. The theoretical maximum size, where each of five message items could consist of a 128 way point route clearance message, was clearly impractical, and exceeded the limits of current processing. (Mr Burgemeister clarified the maximum possible message size as being $5x128^2$ bits, clearly of excessive proportions.) Ms Hamelink noted that the SG proposed solution was to limit any message to containing only one route clearance message - any additional route clearance message e.g. prefaced by 'Expect...' could be send as another message. Mr Grout said he would be putting a paper to ADSP suggesting a maximum of two route clearance elements in a message, and cited an operational example of where this could be required. Mr Burgemeister informed the meeting that ICCAIA would be putting a paper to the ADSP meeting next month. Mr Asbury said that the question of maximum message length would be discussed further (at both SG2 and WG3 level) after a reply had been received from ADSP.

4.9.10 A further issue requiring clarification related to a situation where there was a change of control authority without a change of data authority - i.e. when multiple control authorities were using the same data link. Since there was a requirement for the pilot to know who his current control authority was, it had to be possible to show a change of control authority positively. Until now there had not been a significant difference between the concept of Current/Next Data Authority and Current/Next Control Authority. Ms Hamelink pointed out that this threw up a whole new concept of multiple control authorities with the same data link address, which would require further work. A paper would be presented to the ADSP to clarify the requirement, the result of which would be discussed at the next meeting of SG 2.

4.4 Review and Status of Draft Guidance Material for SV 2

4.4.1 In a brief overview, Mr Asbury reviewed the generic concept of the material. All four applications conformed to the same pattern where possible, and were closely aligned to their respective SARPs, in line with the outline proposal put to the ATNP/2, and the earlier draft material presented at the last WG 3 meeting, and accepted by ICAO. In general, the core of the early material consisted of the explanatory notes which were removed from the SARPs at the behest of the Secretariat when the draft material ceased to be stand alone material. Where possible, unless

otherwise indicated or obvious, the material was considered to be one draft away from final form, and comment off line direct to the editors would be welcome.

4.4.2 In addition, requests for clarification or explanation of some aspects of the SARPs had been made to the editors - these had given an indication to the editors where further explanation was required. There were two more meeting of SG2 before the next WG 3 meeting, and the Guidance Material would be reviewed in detail and finalised in time for the WG 3 meeting.

ADS

4.4.3 Mr Asbury reported on the status of the ADSP Guidance material (WP 11). This remains similar to that presented and reviewed at the last WG 3 meeting at Phuket in March 1997. Minor changes have been made, based on the comments and reports from that meeting, but in the interests of reducing printing costs, and saving paper, the Chairman of SG2, in consultation with the Editor of the document, agreed that it was not necessary to reproduce the draft material at this juncture. The final draft will be available for review at the 11th meeting of the Working Group.

CM

4.4.4 Mr Sacconne presented the draft CM Guidance Material (WP 9). Chapters 1.0 to 4.4 were nearly complete. Further work was in hand, and the material would be progressed through normal SG 2 procedures. Mr Esser, in reference to flight plan association, noted a reference to inclusion of the aircraft 24-bit address in the flight plan correlation activity (e.g. para 2.2.14 (6)) He asked whether ICAO had approved the inclusion of the 24 bit ID in the flight plan, since as far as he was aware, the concept had been rejected by ADSP/4. Mr Grout said that, on the contrary, the ADSP/4 had approved the insertion of the code in the Flight Plan, and this was covered in page C-7 of Flimsy 5, the State Letter resulting from ADSP/4.

CPDLC

4.4.5 Ms Hamelink reviewed the draft CPDLC Guidance Material (WP 8) There were minor additions proposed by the meeting, and these would be incorporated. Chapters 1.0 to 3.6 were complete, and the full Glossary was included. Ms Hamelink identified the need for further work in the clarification of controlling authority/data authority, but this would have to await the outcome of the ADSP WG meeting. Mr Camus wanted to see more information on the generic procedures for the transfer of communications, but Mr Grout pointed out that Regions, if not States, are quite likely to have very different procedures and problems, and specifying in too much detail may be counter-productive. Mr Burgemeister agreed with Mr Camus to an extent - implementers needed as much information as possible to avoid inconsistencies.

FIS

4.4.6 Mr Picard outlined the contents of the FIS Guidance Material (WP10). This was a stage nearer completion than the other air/ground documents, and gave a good indication of how the finished article would look. Mr Picard had had support from Norman Goodacre in the preparation of Section 8 (PDU encoding), but would be grateful for an independent check of the results. There were a few minor correction identified by the meeting, and these would be included in time for the next SG review.

4.4.7 Making a few general comments on all the material, Mr Paydar had noted some ‘shall’ statements - these had no place in Guidance Material, and should be replaced by a suitable form of words. The editors undertook to check their documents. In addition, he wanted to know why the material referred to SARPs - to be more user friendly it should try to be more detached. Mr Asbury said that he was responsible for the general editorial policy and an element of standardisation - he was following an earlier secretariat suggestion that, when the notes were taken out to form the basis of the material, the documents should be made reasonably consistent with the SARPs. He had proposed that this be done at chapter level, and this is what had been done. Mr Grout said he found the references to SARPs very useful, but perhaps in the interests of user friendliness the SARPs reference could go at the end of the title, rather than at the start. Several members of the group would welcome a number of scenarios - these acted as ‘worked examples’, and were of great value in

planning implementation strategy. Mr Asbury said that all the points raised would be reviewed at the next SG 2 meeting.

5. GROUND-GROUND APPLICATION

5.1 Subgroup 1 report

5.1.1 Mr. Piram provided an overview of the work of SG 1 (WP 14). Because of the size of the SG (17+), it has not held any formal meetings since the last WG 3 meeting, but instead informal progress had been carried out on a basis of direct contacts and electronic co-ordination. The work had covered three main topics:

a. Development of Guidance Material to be associated to the CNS/ATM-1 SARPs, concerning the two ATN Ground-Ground applications, ATSMHS and AIDC;

b. Proposal for the SG1 Future Work Program; and

c. Co-ordination with ICAO regional bodies, and guidance to these groups, aiming at the initiation of an implementation planning process concerning ground-ground ATN applications.

5.1.2 A draft version of the Guidance Material for ATSMHS has been finalised and distributed for comments to SG1 members. This issue is the proposed version 0.4. This version incorporates major additions, and some amendments to the previous versions successively discussed in SG1 between its 8th and 10th meetings. The previous submission to WG3 had been version 0.3, presented in the 8th WG3 meeting (Alexandria). Some comments have been received about this new version, but they have not been discussed yet in detail by SG1. However, SG 1 is expected to discuss them in an ad hoc meeting held during period of the present WG3 meeting. A proposed baseline version will be produced for WG3 endorsement at the next meeting, with the objective of presenting a WG 3 approved version to the WGW in November 1997, as the "CNS/ATM-1 Guidance Material for ASTMHS SARPs".

5.1.3 Likewise, an initial version of the Guidance Material for AIDC has been drafted. This issue is the proposed version 0.1. Due to time constraints, this version had not been distributed to SG1 members prior to this WG3 meeting, nor commented by them. Nevertheless they will be discussed at the ad hoc SG 1 meeting proposed above. The next step is expected to be the completion of the document in its next version, which could be discussed by SG1 in September and presented for endorsement by WG3 at its 11th meeting next October.

5.1.4 Concerning the future work program of the subgroup, beyond the task described above, a proposal has been drafted and submitted to SG1 members. A limited number of comments has been received and taken into account for presentation at this meeting. The starting point for this program has been the ATNP future work programme, as described in the ATNP/2 report (report on Agenda Item 5). At the highest level of description, the work program comprises the following topics:

a. Extended ATS Message Service, including the CIDIN/ATN Gateway;

b. Inter-Centre Communications;

c. Directory Service; and

d. Guidance Material for ATSMHS Deployment.

Each of these topics is then refined into more detailed work items and deliverables.

5.1.5 Several presentations have been made by experts participating in SG1 to ICAO Regional bodies. Although not a direct SG1 task, these actions are reported here since they contribute to ATN planning and implementation initiatives. The goal of these presentations was to provide an introduction to the ATN SARPs and to the ground-ground ATN applications, to initiate a planning process aiming at the implementation of these applications. Presentations were made to-

a. The annual EUR/AFS meeting on ground-ground communications (Paris, April 1997);

b. The 1st meeting of the ATN Task Force of the GREPECAS Com Sub-Group (Buenos-Aires, April 1997); and

c. The 2nd ASIA/PAC ATN transition co-ordination meeting (Pattaya, June 1997).

These meetings have demonstrated a strong interest for ATSMHS (ATS Message Service) in all regions, and for AIDC in the ASIA/PAC region. Implementation announcements have been made, and ad-hoc planning groups have been set up, aiming at the implementation of the ground-ground ATN.

5.2 Review Post SARPs Validation Studies, Trials and Implementation Activities

5.2.1 Mr Piram said that, following the very significant report made at Phuket, there was comparatively little new information for this meeting. Nevertheless it was the firm French intention to develop systems, and not to 'continue validation'. Therefore, for 'post validation', we should read 'pre-implementation'. France indicated its intention to call for tenders to replace their domestic switch network in the Caribbean and Pacific areas of responsibility to the EU eight weeks ago. They sent out tender forms to ten companies, and have had more than ten replies! There was a strong European and American interest. There is a similar job for Eurocontrol being negotiated.

5.2.2 Mr Koopman noted that the German DFS had issued a call for tender to replace its current AFTN/CIDIN switching centre by October 1998 with ATN compliant ATSMHS. The review is complete, and a decision due end of this week (27 June 1997). Mr van Roosbrook reported that, in addition to all the work on data link they are already doing, Eurocontrol have EATCHIP Communications Gateway programme building on work from France and Germany. Mr Tran indicated that the FAA now has prototype Pass Through Gateway, and is expecting to have an ATSMHS gateway summer 1998, with an operational ATSMHS no later than 2000 on line with Japan.

5.3 Briefing on Potential Defect Reports and CCB Working

5.3.1 Mr Vacher presented the Ground/Ground PDRs for both applications (WPs 16 & 17). He did not see any of the changes as being safety critical, but, with the exception of one cross reference, neither were they trivial. With regard to provision of support to him in his role of SME for SG1, he was rather disappointed with the response. There were four names in the MHS team and only three (SME + Editor + A N Other) for AIDC. He desperately needed more support for the AIDC team. At present there was little CCB action, but this could all change after the next meeting on 27th June.

5.3.2 Mr Asbury emphasised the need for support for the CCB process - he was surprised that with such large numbers of people actively participating in SG 1 activities, they could only muster such a small

5.4 Review and Status of Draft Guidance Material for SV 2

5.4.1 Mr Vacher introduced the ATSMHS Guidance Material Version 0.4 (WP 12). Considerable work had been done since the last review of this material at Phuket. Several new diagrams had been prepared - these were particularly useful. The current material was quite mature, and the meeting reviewed the contents in some detail. There were minor editorial changes suggested by the group. Mr Vacher said that although there was still some additional work to be done, SG 1 were happy with the document, and did not perceive any problem in finishing the work to meet the October deadline.

5.4.2 Mr Leclerc reviewed the first draft of the AIDC Guidance Material (WP 13). None of this had been available prior to this meeting, and it had yet to be fully reviewed by all members of SG 1. Mr Piram emphasised the draft nature of the work, and the meeting reviewed the document and contents in this light. Mr Leclerc, in his briefing, noted that there was still a great deal of work to be done, but was confident of being able to produce a final draft of the material for review by SG 1 at its next full meeting in September.

6. UPPER LAYERS COMMUNICATIONS SERVICE (ULCS)

6.1 Subgroup 3 report

6.1.1 Mr. Van Trees provided an overview of the work of SG 3 since the Phuket meeting (WP 26). The SG had met once (the report of that meeting being attached to this paper), and two additional members had joined the SG - Mr Norman Goodacre from the USA, and Mr Gerard Mittaux-Biron from CENA, France. The Guidance Material is presented at this meeting in a greatly improved form.

6.1.2 The SG had discussed the use of X.509 in Security Authentication, in particular the use of bilateral agreements between certificate authorities. The group also reviewed the possible ways of security key management. With regard to base standards, all ISO ITU-T upper layer efficiency enhancements are complete and have been delivered for publication. The ACSE, edition 3 texts are in need of dedicated work to meet the 1 August 1997 editorial deadline for ITU-T approval - the relevant UK ITU-T expert, Peter Furness currently does not agree with the ITU-T proposal, and, since the ACSE Ed 3 is presently without an editor, great leaps of progress are unlikely. The SG is also responsible for reviewing changes to ASN.1 standards on behalf of WG 3, but no significant changes had been introduced in the last period. Concerning future work, this is presented in an additional WP. The next meeting will be held in September 1997, in Toulouse.

6.1.3 Ms Hamelink had noted from the report of the SG 3 meeting that the SG intended to do work on accelerated start up of the CPDLC dialogue. She was not aware of any requirement for this work having been generally indicated to the WG. A fast start to CPDLC could reduce the effectiveness of the safety checks currently built into the operations of this application. Dr Kerr said that the idea for this work had come from Eurocontrol, who had also identified a similar need to review AIDC operations. Mr Van Roosbrook said that Eurocontrol were concerned about the viability of CPDLC in small FIRs, and were reviewing all means of saving time in the air/ground and ground applications.

6.2 Review Post SARPs Validation Studies, Trials and Implementation Activities

6.2.1 Aside from that reported by SG 3, there were no reports of any other activities.

6.3 Briefing on Potential Defect Reports and CCB Working

6.3.1 Dr Kerr presented WP 21, which showed all the change pages from the UCLS SARPs with proposed changes to ICAO version 1.0 and beyond. The changes were not in the PDR format yet, but this would be arranged prior to any presentation to the CCB. The meeting noted the changes in the format presented, without additional comment.

6.4 Review and Status of Draft Guidance Material for SV 2

6.4.1 The ULCS Guidance material was prepared and presented by Dr Kerr (WP 20). The format of this document is slightly different to the other material presented, in that it is seen as a companion document to the ULCS SARPs. It may be read alongside the SARPs on order to provide a better understanding of that sub volume, or alternatively it may be read by those who wished to understand the purpose of the UCLS without having to read the SARPs themselves. Earlier drafts of this document have been presented successively from the 7th meeting of WG 3, and consequently the material is very mature, with little to do to complete the work. Dr Kerr foresaw no difficulty in having the material finalised for the next WG 3 meeting.

7. CNS/ATM-1 AND FANS1/A

7.1.1 This item was comprehensively covered during discussions on the presentation of recent ADSP work, by Mr Grout, under agenda Item 3 above.

8. PLANNING FOR FUTURE WORK PROGRAMME

(Note:

The ATNP work items which are relevant to WG3 are as follows:

CNS-9403 *Define the technical specification for the interface between CIDIN and ATN, and develop appropriate SARPs and GM.*

CNS-8101 *Monitor the implementation of AFTN, CIDIN and ATN and address questions related to the transition to ATN. Develop solutions to related issues.*

CNS-9403 *Develop Draft SARPs and GM for network, transport and upper layers of the ATN in compliance with the OSI reference model for the support of a final package of ATM applications, taking into account new technologies.*

CNS-9403 *Define a mechanism and technical specifications for ATN Security and Systems Management. Develop appropriate SARPs and GM.)*

8.1 Ground-Ground Applications (SG1)

8.1.1 Mr Piram presented a very well thought out paper (WP 15), which had been given wide circulation through SG 1 prior to being tabled at this meeting. The objective of this WP was to propose a structured set of tasks to be performed by SG1 in order to achieve the work programme assigned by ATNP/2 to WG3, as far as ground-ground applications are concerned. Related to the work of SG 1, the tasks outlined in the note above became -

a. provisions for extended message handling system (MHS) consistent with the facilities defined by ISO and ITU-T;

b. investigation of the development of additional categories of services, such as electronic data interchange messaging system (EDIMS);

c. provision of X.500 directory Services integrated with other ATN applications including CM and ATSMHS;

d. investigation of the use of inter-personal message (IPM) heading field for convergence of ATSMHS parameters; and

e. development of SARPs and Guidance Material for CIDIN/ATN operation.

8.1.2 Based on the above breakdown, Mr Piram proposed a high level list of deliverables, to be produced by the date of the next Panel meeting -

D1 Draft SARPs for the Extended ATS Message Service;

D2 Draft SARPs for Inter-Centre Communications (including a set of operational services which extends beyond AIDC);

D3 Draft SARPs for the Directory Service;

D4 Guidance Material for AMHS deployment.

8.1.3 He further broke down this list into individual tasks and subtasks, the output of which might be for the benefit of another subtask, rather than for the WG or Panel.

8.1.4 Commenting on the programme, Mr Asbury had two main points of concern, firstly the amount of work planned, and the short timescale between now and the proposed dates of the next Panel meeting and secondly, the emphasis in Mr Piram's brief on the non-technical issues involved - e.g. institutional, political etc. In answer to the first point, Mr Piram accepted that time was short, but, given the necessary effort and resources, success could be achieved, with careful project management. Through this meeting he appealed for effort to support the work programme. Members from several States and international organisations (including France, UK, Canada, Eurocontrol and ICCAIA) took an action to investigate the provision of resources for this work.

8.1.5 In answer to Mr Asbury's second point concerning non technical issues, Mr Vacher said that since SG 1 had been identified as the focal point for ground/ground communications within the ATN,

there had been many queries relating to implementation, and these had been much wider than just technical. The SG thought that this should be recognised in the future work of the SG, hence the references in the programme. The meeting generally thought this was an entirely logical explanation, and Mr Asbury conceded the point.

8.1.6 Mr Paydar noted the content of the programme, but expressed concern that the SG might be going their own way, and ignoring much of the existing work on AFTN and CIDIN which already existed in Annex 10. He requested that SG 1 look at the existing Annex material, and see what amendments needed to be made to that to give a seamless join to the new material being developed in a different part of the Annex. He would like this to be in the form of linking sentences, additional text, and references to common documents. Mr Piram noted Mr Paydar's concern - SG 1 were already making use of existing Annex material, but would act on his advice. Mr Ashton had two points which he felt needed to be looked at, namely the question of whether the message switching backbone could carry all the traffic, and whether COTS products could always meet X400 security requirements. Mr Vacher agreed that these were relevant points, and would be looked at in the early stages of the work.

8.1.7 Mr Paydar also pointed out that the proposed dates for the next Panel were only tentative, and that if more time was required to complete work programmes, then he could look to having the Panel meeting dates put back. He would soon be reaching the stage where he had to justify the dates, and the ANC would want guarantees that the need for the meeting was definite. Mr Asbury said that work programmes were aimed at meeting the proposed dates, and Mr Piram would be able, through judicious use of time and effort, to adjust his programme accordingly.

8.2 Air-Ground Applications (SG2)

8.2.1 Mr Asbury apologised to the meeting that his presentation (WP 33) was not as comprehensive as that of Mr Piram. SG 2 had agreed in the first instance that any future programme would be for post-October 1997, since up until then, Guidance Material had the highest priority. It was due for delivery in its final form at the WG 3 meeting at that time, before being finally adopted by the Working Group of the Whole, and forwarded to ICAO. The SG agreed that there was likely to be major work to be done to develop technical specifications at SARPs level to met the operational solution for FANS-1/A/SARPs accommodation - possibly in the design of gateways, including development of suitable levels of integrity etc.

8.2.2 There would continue to be a maintenance role for the CNS/ATM-1 SARPs, based on lessons learned during implementation, for example - .

a. In the refinement of timer values in the light of experience.

b. Extension of FIS SARPs to METAR as well as ATIS.

8.2.3 THE SG noted that this maintenance role would require editorial support at least until November 1998 (incorporation of Amendment 73 in Annex 10 - the ICAO target date) or when the SARPs became effective.

8.2.4 ATS data link was a dynamic system There is a need to develop future applications and/or upgrade current applications for CNS/ATM-2. for example -

a. Use of OSI directory services in conjunction with CM

b. Simplification of ADS and FIS dialogue service.

c. Ground connectivity for FIS servers.

8.2.5 At present there is no formal means of Security incorporated into Package-1. The ADSP required that the end users could positively identify the other end user in a dialogue. This in itself implied some form of positive authentication. In addition, protection had to be given against masquerading. With some States having strict rules in the export and use of cryptographic materials, the implementation of commercially available means of authentication would have to be investigated

8.2.6 In addition, work will need to be done on compatibility between Packages 1 & 2.

8.2.7 Mr Asbury pointed out that some activities may involve joint work with other subgroups - a sort of cross pollination - but it was likely that the final programme would have to be decided by WG 3.

8.3 ULCS (SG3)

8.3.1 Mr van Trees reviewed WP 27, in which SG 3 presented plans for a continuing work programme after the Langen WG3 meeting. With the completion of the SARPs in Phuket, the group is evaluating the requirements for new initiatives in the upper layers. There are two sources of requirements for SG3. First, the applications developed by WG3/SG1 and WG3/SG2, and second, the security and system management SARPs developed by WG1/SG2 and WG1/SG3.

8.3.2. Concerning base standards activity, at its Toulouse meeting in March 1995, WG3 stated a requirement for ACSE, edition 3 for CNS/ATM-2. This work has a projected completion date of December 1997, although dedicated effort is required to meet this date.

8.2.3. Possible support of WG1 requirements could involve development of Security requirements relating to the operation of X.509. In addition further work is required on the X 500 schema, and to provide an indication of how ACSE carried CNS/ATM-2 authentication information. In addition, work is required on ISO 10165 parts 8 and 9, the managed objects for upper layers, and the system management.

8.3.3 Regarding provision of support of WG3 Requirements, the group could update the dialogue service in response to new application requirements. Second, investigation of ATN ULA support of OSI applications is in order. The ATN ULA can support non-RTSE Directory implementations, as well as non-scope/filter CMIP applications. This can be validated by checking directory and CMIP ISPs (the CMIP ISP is completely supported by the ATN ULA). Third, the group could upgrade the CF to new user requirements. In addition, the group has been informed of a requirement to support CPDLC with an implicit D-START, i.e., the application wished to immediately send off CPDLC messages without waiting for the D-START round trip. The SG are studying the ASO template work in this regard.

8.3.4 Dr Kerr presented a paper related to earlier comment concerning a proposed optimisation to the connect phase for ATN upper layers and applications. Redundant information exchanged at connect time is eliminated, thus resulting in a significant reduction of overhead on the transport connection. WG3 / SG3 proposes to develop appropriate specifications to allow use to made of this optimisation in future CNS/ATM Packages.

8.4 CNS/ATM Package 2

8.4.1 Earlier in the meeting Mr Jones had taken the opportunity to present Flimsy 1, two papers which would be presented to the next WG 1 meeting, on Security and System Management.

8.4.2 On the basis of the programmes presented, Mr Asbury had identified an obvious overlap in two topics, namely Security (possibly based on X509 protocols), and Directory Service (probably based on X500). Mr Ashton suggested that the role of system management related to the work programme should also be discussed.

<u>Security</u>

8.4.3 Regarding Security, this was a major topic which had been raised at both ATNP/2 and Phuket. It was conceded generally that there was a need for security - certainly from the point of view of authentication, if not encryption. Mr van Roosbrook pointed out that it was all very well having warm feeling that security was a good thing, but where was the operational requirement. Mr Asbury said that the ADSP had put the requirement that in any data link dialogue the end user must be able to positively identify the other end user right at the top of its list of generic requirements (ADSP Manual Pt I, Ch 3 para 3.4.1). Mr Kraft emphasised that security was not a deliverable by itself - it was an intrinsic part of any safety-critical operation. Mr Asbury said that there was a need to minimise any application/human involvement - controllers or pilots should not be tasked with coding a system prior

to use, for example. Mr van Trees thought that this implied more than anything a secure dialogue service, with the system controlling the allocation of authentication keys and digital signatures.

8.4.4 Mr Camus asked what would be the procedures if and aircraft entered an airspace with a lost or out of date key? Mr Asbury said that the loss of a key should not result in a loss of communications, but the end users would have to be made aware that there had been a loss of security, and act accordingly. Mr Burgemeister said that it might not be a loss of the key - there might be corruption, but that this should again not result in any reduction of communications performance.

8.4.5 Mr Asbury said that it was clear both from the future work presentations and the discussion that security was a cross SG activity. But it was clearly a waste of time to have all the SGs looking at the work - he proposed that SG 3 should be the focal point for security work within WG 3 at the present time - they would track the work of WG 1, and if need be attend the relevant WG 1 SG meetings. Mr Asbury would rely on the Chairman of SG 3 to alert the other SG chairman when or if there was any expansion of the WG 3 programme.

Directory Services

8.4.6 Regarding the topic of directory services, also identified by all the SGs as an element of their programmes, Mr Asbury noted that the implementation of this technology could be significantly different for the different applications. For this reason he proposed that individual subgroups should look at the use of directory services in their own way, and report back at the next WG 3 meeting to see if there was enough common ground to make it worth while nominating a focal point.

System Management

8.4.7 Opening the discussion on System Management, Mr Ashton said that this was a topic for all WGs, not just WG 1. Airlines need a consistent service, and there should be a global means of monitoring overall system performance. One would not be looking for a super-body - the task could be delegated to individual States, but they should all be focused on the same system measures. Mr Camus said that airlines did not necessarily want the added avionics complexity of a system management capability on board the aircraft - apart from anything else, this could raise yet more certification problems. He wanted to know where the operational requirement, rationale or background was for this work. Mr Ashton said that that he saw this as more a ground monitoring - not control - task, the rational being that by monitoring, deficiencies could be shown up, and the necessary system corrections input. Mr Asbury pointed out that many ground systems already have a system monitoring capability, which can be pretty effective at detecting weak spots and possible room for improvement.

8.4.8 Mr Kraft said that maybe there was an ‘operational requirement’ for this, but we should not assume that every request from an operational Panel becomes an Operational Requirement - in many cases it is a technical requirement masquerading as an OR. Mr Burgemeister mentioned that the AEEC has a group actively looking at aspects of system performance monitoring and checking. But he would point out that this might be a case of jargon overcoming events - people have been doing System management, or evaluating system performance for years - it just has not been referred to as such. Mr van Roosbroek noted that that there was a ‘Maintenance of Service’ requirement emanating from ADSP - what was to be our reply to that?

8.4.9 Mr Asbury, in attempting to come to some conclusion from the discussion, said that the paper initiating this discussion was a paper for WG 1 - notionally the systems related WG. We should await the results of their discussion on the paper, and any guidance we may be given. In the mean time, editors of GM should ensure that reference is made to the need for system performance monitoring.

SG Work Programmes

8.4.10 With regard to the future work programmes for the Subgroups, the meeting agreed that with the exception of Security, the overall outlines of the programmes as outlined by SGs 2 and 3 were acceptable at high level, but needed to be expanded along the lines given in the paper by SG 1, i.e. with indications given as to the relationship with the overall WG 3 programme as handed down by ATNP/2, including deliverables, subdeliverables and, where applicable, timescales. The detail programme presented by SG1 was also acceptable, bearing the mind the possible constraints of time and effort. Mr Asbury asked that the revised inputs from SGs 2 and 3 should be available by 20th

September, to enable him to put a co-ordinated work programme together for circulation before the next meeting in October.

ICAO Version 2.0

8.4.11 Several members of the WG were uncertain as to how to treat the version 2.0 of the SARPs material produced earlier in the week by Mr Paydar. Mr Camus asked what were the overall implications of the new version. There must be backwards compatibility with the existing (post Phuket) version, to which people were now working. If the object was interoperbility (and there were two sorts of interoperability - technical and operational), there had to be a common starting point from which to apply modifications. There were two requirements - how to make corrections to existing material, and how to add new material.

8.4.12 Mr Asbury explained that since the only version which ICAO would acknowledge was the version 2.0 on the table, there really was no option but to ensure that it was corrected. It had to be corrected to match version 1.1 from Phuket. In that way we would all have the same version, and everyone would be happy. The further problem in the long term was the maintenance after the versions had been rationalised. Mr Paydar needed corrections made to version 2.0 in the approved ICAO fashion - this was the only way that they could be passed on to text editors and translators. The responsibility for getting the versions straight lay with Mr van Trees, in his role as Chairman of the CCB, but it was most likely that the true task would fall on the editors to do a word by word comparison. So however it happens, version 2.0 will be made compatible with version 1.1. Therefore version 1.1 can be used for reference, and for developing programmes, and as source material for PDRs, thus forming the baseline documentation requested by Mr Camus and others.

8.4.13 Related to the provision of new material, Mr Asbury proposed that this should be developed against version 1.1. But taking into account Mr Paydar's plea for the elimination of the package number concept, Mr Asbury proposed that any new material should be prepared (if necessary against accepted operational requirements) and presented for approval through the normal channels, but then held until it was decided either at Panel or ICAO Secretariat level that the time was ripe for the development of an upgrade to the existing SARPs to be introduced. Thus in ADS, for example, work should go ahead on the development of the Unlawful Interference notification, which will be 'banked' until such times as a suitable upgrade is agreed.

B.4.14 Mr Kraft, agreeing with this procedure, noted that the regional bodies had to be kept informed of any changes - they may feel, for example, that they did not need to adopt a change, being content with the performance of the system as it then existed.

9. Review of Organisation of Subgroups

9.1 Mr Asbury said that, taking into account the revised work programmes accepted by the meeting, there was currently no need to change the current organisation of the Subgroups.

10. Any other business

10.1 Two papers, WPs 24 and 29 were to be presented under this item. However, WP 24 will be presented to the JWG, and WP 29 is an information paper only, not requiring presentation or comment.

10.2 There was no other business.

11. DATE OF NEXT MEETING

11.1 WP 30, tabled by Mr Jones, gave details of the next meeting of the Working Groups. The next meeting of WG 3 will take place at Redondo Beach, Los Angeles, from Monday 27th October to Thursday 30th October 1997. The Meeting will start on the first day at 9.00am. It is expected that drafting groups will be needed between then and the start of the WGW meeting on 4th November.

M J A Asbury
Rapporteur

ATNP Working Group 3 - Tenth Meeting

23-26 June, 1997

Langen, Germany

AGENDA

1. Review/approve meeting agenda

2. Review report of the 9th meeting of WG3 (Phuket)

3. Review status/outcome of ADSP (Joint WG Transition Meeting), ATN WGW and CCB meetings, and ANC actions

4. Air-Ground Applications

    4.1 Subgroup 2 report
    4.2 Review Post SARPs Validation Studies, Trials and Implementation Activities
    4.3 Briefing on Potential Defect Reports and CCB working (F Picard)
    4.4 Review and Status of Draft Guidance Material for SV2

5. Ground-Ground Applications

    5.1 Subgroup 1 report
    5.2 Review Post SARPs Validation Studies, Trials and Implementation Activities
    5.3 Briefing on Potential Defect Reports and CCB working (J-M Vacher)
    5.4 Review and Status of Draft Guidance Material for SV3

6. Upper Layer Communications Service

    6.1 Subgroup 3 report
    6.2 Review Post SARPs Validation Studies, Trials and Implementation Activities
    6.3 Briefing on Potential Defect Reports and CCB working (T Kerr)
    6.4 Review and Status of Draft Guidance Material for SV4

7. CNS/ATM-1 & FANS1/A - Accommodation, Transition and System Compatibility (incorporating input from WG 1 Drafting Meeting, May 1997)

8. Planning for future work program

8.1 Air-ground Applications
8.2 Ground-ground Applications
8.3 Upper Layer Communications Service
6.4 CNS/ATM Package 2

9. Review of Organisation of Subgroups

10. Any other business

11. Date and Place of Next Meeting (27-30 October 1997, USA-tbd?)

WP3/10-2
Rev 2

LIST OF WORKING PAPERS

ATNP WG3 - Tenth Meeting - Langen, Germany - 23-26 June 1997

Paper Number	Agenda Item	Presenter	Title
10-00	-	M Asbury	Preliminary Draft Report of 10th Meeting WG3 - Langen
10-1	1	M Asbury	Agenda
2	1	M Asbury	List of Working Papers
3	1	M Asbury	List of Attendees
4	2	M Asbury	ATNP WG3 Nineth Meeting - Phuket- Report (R Jones)
5	4.4	R Jones	Managed Objects (Prepared by ATNSI)
6	4.2	P Camus	DLIC Contact Initiation
~~7~~	~~4.3~~	~~F Picard~~	~~SME Report (SG2)~~ See WP 10-28
8	4.4	J Hamelink	CPDLC Guidance Material
9	4.4	G Saccone	CM Guidance Material
10	4.4	F Picard	FIS Guidance Material
10-11	4.4	T Maude	ADS Guidance Material
12	5.4	J Y Piram	ASTMHS Guidance Material
13	5.4	J Y Piram	AIDC Guidance Material
14	5.1	J Y Piram	SG1 Report
15	8.2	J Y Piram	SG1 Future Work Programme
16	5.3	J Y Piram	Summary of Open ASTMHS Defects
17	5.3	J Y Piram	Summary of Open AIDC Defects
18	4.2	R Esser	Air/Ground Applications Implementation
19	4.1	M Asbury	SG2 Report
20	6.4	A Kerr	Draft ULCS GM
10-21	6.3	A Kerr	Change Pages for ULCS SARPs
22	8.3	A Kerr	Fast Associate Optimisation
23	6.2	A Kerr	Eurocontrol Trial End System Status Update
24	10	S Tamalet	ATNP Archive and Electronic Mailing Lists
25	3	M Paydar	ATNP Proceedings Update - ICAO Secretariat
26	6.1	S Van Trees	SG3 Report
27	8.3	S Van Trees	SG3 Future Work Programme
28	4.3	F Picard	SG2 SME Report
29	5.2	E Koopman	Implementation of CIDIN in EUR Region
30	11	R Jones	Arrangements for Next Meeting
10-31	7	J F Grout	ADSP WG A/B WP18
32	7	J F Grout	ADSP WG A/B Extract from WP 17
33	8.2	M Asbury	SG2 Future Work Progamme
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10-41			
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10-50			
Flimsy 1		R Jones	Wps for WG1 from FAA
Flimsy 2		M Paydar	State Letter SP 52/4-97/49 - form ADSP/4
Flimsy 3		M Paydar	Slides from Japan Presentation to ASIA/PAC
Flimsy 4		G Saccone	FANS-1/A AFN & CM SARPs Transition
Flimsy 5		T Kraft	RTCA SC 189 / EURCAE WG 53 Position Papers
Flimsy 6		M Asbury	File Names for WG3 Papers and Flimsies
Flimsy 7			
Flimsy 8			
Flimsy 9			
Flimsy 10			