AERONAUTICAL TELECOMMUNICATIONS NETWORK (ATN)

WG3 - (ATN Applications and Upper Layers) Seventeenth Meeting

Gran Canaria, Spain

28 September – 1 October 1999

Agenda Item 11: Any Other Business

Draft Report of the 17th meeting of WG3 (Gran Canaria)

(Presented by M J Asbury)

1.   INTRODUCTION

1.1   The 17th meeting of the ICAO Aeronautical Telecommunications Network Panel Working Group 3 was held in the Melia Tamarindos Hotel, Las Palmas, from 28 September – 1 October 1999. The meeting was chaired by the WG3 Rapporteur, Mr M J Asbury, and was attended by some 36 Members from 10 States and 2 International Organisations.

1.2   The attached paper constitutes the Draft report of the meeting.

2.   RECOMMENDATION

2.1   Members are recommended to review and correct the attached Report.

REPORT OF THE 17TH MEETING OF THE AERONAUTICAL TELECOMMUNICATIONS NETWORK (ATN) WG3 - (ATN APPLICATIONS AND UPPER LAYERS), GRAN CANARIA, SPAIN, 28 SEPTEMBER – 1 OCTOBER 1999

1. INTRODUCTION

1.1   The 17th meeting of the ICAO Aeronautical Telecommunications Network Panel Working Group 3 was held in the Melia Tamarindos Hotel, Gran Canaria, Spain, from 28 September – 1 October 1999. The meeting was chaired by the WG3 Rapporteur, Mike Asbury, and was attended by some 36 Members from 10 States and 2 International Organisations. 50 Working Papers (WP) and 8 Information Papers (IP) were presented. A copy of the Agenda for the meeting is at Appendix A, the list of attendees is at Appendix B, and the list of Working Papers is attached at Appendix C.

1.2   Those presenting papers, replying or commenting included –

Mike Asbury (MA)	Jim Lenz (JL)
Thomas Belitz (TB)	Jim Moulton (JM)
Mike Bigelow (MB)	Gerard Mittaux-Biron (GMB)
Paul Camus (PC)	Frederic Picard (FP)
Jane Hamelink (JH)	Jean-Yves Piram (JYP)
Paul Hennig (PH)	Greg Saccone (GS)
Jean-Marc Vacher (JMV)	Steve Van Trees (SVT)
Tony Kerr (TK)	Danny Van Roosbroek (DVR)
Jim Simpkins (JS)	Dirk Fieldhouse (DF)
Claude Leclerc (CL)	

1.3   The meeting was hosted by AENA, and Jesus Cid welcomed the members to Gran Canaria. On behalf of the members, MA thanked JC for the organisation and the setting up of the meeting.

1.4   JC announced that on Wednesday 6th October 1999, there would be a demonstration of ATN data link capability at Las Palmas Airport.

1.5   Throughout these notes, frequent reference is made to 'the TM'. This refers to the 18th Meeting of WG 3, proposed to be held in Tokyo from 1 - 3 December 1999

2. AGENDA ITEM 1 – REVIEW/APPROVE THE MEETING AGENDA

2.1   The agenda at Appendix A was approved. The joint meeting with WG 2 would be held on the afternoon of 28th September, and would include agenda items 3.2, 3.3, 3.4, 3.5 and 3.6 from the WG 3 agenda.

3. AGENDA ITEM 2 – REVIEW REPORT OF THE 16TH MEETING OF WG 3 (NAPLES)

WP 4 – Review of the Draft Report of 16th Meeting of WG 3

3.1   MA presented the report, which was unchanged from that finalised at the end of the last meeting. It had been available from the CENA server for the last two months, during which time no-one had proposed any changes.

3.2   The Report was reviewed on a page-by-page basis. There were no changes.

4. AGENDA ITEM 3 - REVIEW STATUS/OUTCOME OF APPROPRIATE MEETINGS

3.1   ADSP WG A & B Meetings

4.1   Mike Asbury reported that there had been no ADSP Working Groups A & B meetings since the last ATNP WG 3 meeting in Naples – the next ADSP meeting will be the Panel Meeting – ADSP/5 – which will take place in Ottawa from 18 – 29 October 1999. All the ADSP work is now focussed on this meeting, which, like most Panel meetings, will not generally consider technical detail. It will be looking to approve the previous work carried out by its working groups, for subsequent incorporation into appropriate ICAO documentation. It was unlikely, therefore, that any points of detail arising from this meeting could be brought to ADSP/5 unless they were of a world-shattering nature.

3.2   CCB Report

WP 47 – CCB Chairman's Report

4.2   SVT, Chairman of the CCB, gave a verbal report on the progress of the CCB, since the next meeting was not due to take place until the evening of the 28th September.

4.3   SVT was also responsible for the maintenance of Doc 9705 – the ATN Technical Manual. Masoud Paydar (MP), the Panel Secretary, had done a great job and had prepared and made available for publication Edition 2. SVT had hard and soft copy available. The Document is in the throes of printing by ICAO (there are still three questions outstanding from the ICAO printing Department). Arrangements had gone very smoothly – there had been work done in Naples by the Subject Matter Experts (SMEs), and it had been virtually camera ready for MP at that time. MP had plans to update the Doc 9705 on a yearly cycle, and the next Edition would be based on the output from the Panel meeting in February, as approved editorially by a potential WGW meeting in May/June 2000. The Edition 3 would contain all the package II updates approved at the Panel, e.g. Security and System Management, plus resolutions of the 11 new PDRs raised since Edition 2.

4.4   SVT said that the CAMAL is also about to be published – MP had edited this, and it would be sent to the printers next week. MA said that he thought this was a bit hasty – there was much in the CAMAL that hadn't been reviewed in the last two years, and things had changed. SG 2 would need to revisit the Guidance Material (GM), to see what effect recent PDRs had had on it. Other SGs had the same problem. He asked that SVT get in touch with MP to delay the GM, at least until after the ADSP/5 meeting in October, and the following SG2 meeting in early November.

Action: SVT to ask MP to delay publication of the CAMAL until at least end November 1999.

[Post Meeting Note – SVT has returned all sections of the CAMAL to MP except the Applications. MP has been told to expect the Application Material in November 1999.]

4.5   TK asked whether there was an effective date for the new Doc 9705 and the CAMAL. SVT said that the date for Doc 9705/2 would be 6/11/99 – exactly one year ahead of Edition 1. He did not know about the CAMAL.

3.3   ICAO/ANC Activities

WP 40 – An Update from the Panel Secretary

4.6   MP was not present, and MA presented his short paper. Having discussed availability of material with the Rapporteurs and SG chairs, MP has gone ahead with the initial request to the ANC for the Panel meeting to be held from 7 – 18 February 2000. The request will be considered by the ANC on 2 November 1999. The Agenda will be similar to that which he showed at Naples. Bulky material will not be translated, but the core SARPs and any amendments thereto will be available in the languages. Noting the tight schedule, Rapporteurs (and members) are requested to finalise the papers to the ATNP/3 meeting (particularly those containing Draft SARPs, Technical Specifications and Guidance Material), and submit them to MP in hard and soft (Corel 8) forms. The CAMAL has a number – Doc 9739-AN/961. An FAA team, lead by Jim Lenz, will be briefing the ANC on Security matters on 3 November 1999.

4.7 JL expanded on the reason for the security brief – this had been triggered by the US Commissioner, Frank Price. There was a need to make the ANC aware of the problem. The US State Department had approved the briefing, but was unlikely to authorise the widespread dissemination of confidential security information i.e. the software toolbox. MA said that he had still to see an updated threat analysis paper beyond that overview presented to the WG at the Rio meeting by JMV. JL said that this work had been done for us by the FAA, and would be the basis for this presentation. MA asked whether a briefing will be available at the Tokyo Meeting (TM). JL said this would be possible.

Action: JL to prepare security briefing for the TM

4.8 DVR asked when other State/Organisation papers had to be prepared for the Panel. MA said that, bearing in mind translation, millennium closedowns, Christmas holidays etc, that papers should be with MP by 20th December at the latest. Timescales were horribly tight. JYP asked about PICS/OICS publication, and it was agreed that this would be taken under Agenda Item 7.

(Agenda Items 3.4 to 3.6 were taken at the joint WG2/WG3 meeting, pm 28/9/99)

3.4 System management

4.9 JM gave a verbal briefing – there was no written brief, due to the work going on on SV 6. A revised Subvolume (SV) 6 on System management had been prepared, and would be presented to WG 1 (see 7.29 for the WG 3 briefing). There had been several System management (SM) meetings since the Naples meeting, and there would be a completed first draft, under configuration control, later next week. This would be updated and completed by the TM. The document was basically in two parts – the protocols underlying system management and the definition of the cross-domain management information base (MIB) contents – what information would be exchanged across domains. The structure and format had been agreed – there was a need to discuss what managed objects went into the MIB, which into the GM and which need not be considered. Validation of the GDMO text will start next week if the compiler is delivered, and will be well under way by December.

4.10 MA asked what would be the validation level by the TM. JM said that there would be one State and one implementation, probably by May '00, but only to level G by ATNP/3. However, they will know by then that several parts will work, and commercial validation of all the protocols will count. They are seeking interworking partners. Ron Jones (RJ) pointed out that the MO's themselves were ATN related, and we should have to keep this in mind when claiming commercial validation. Validation reports presented in February will be December-based, and this is what the ANC will be looking at. He asked what would be the state of the GM at ATNP/3? JM said that this was problematical, and RJ added that we should not assume a Working Group of the Whole in May – this would be authorised by the ANC, and we should not pre-empt their decision. MA asked whether validation would be completed even by May, and JM said that it would definitely be completed by then.

4.11 PC asked, regarding airborne System Management, whether there would be a need for a manager in the aircraft, since this would add to software complexity and costs. JM said that there would be no need for a manager in the air, but someone in their domain would have to be able to collect the necessary information. The domain was expected to be the airline, and the ground element would be acting as system manager in that case.

3.5 Security

WP 44 – WG1 SG2 (Security Subgroup) Chairman's Report

4.12 Mike Bigelow presented his report of the ATN security subgroup to the joint session of WG2 and WG3. He reported that significant progress had been made since Naples and Sub-Volume 8 is now complete in structure, but requires additional, mainly editorial, revisions. The security subgroup has held three meetings since Naples along with co-ordination activities with other subgroups. He reported that a more efficient mechanism for security than that originally considered has been

defined. As a result the number of security levels offered to the applications have been reduced. A review of the backward compatibility of the 'No Security' option was being carried out. He confirmed that there was still a problem implementing security for the CM Forward and Update functions. Replying to a question by MA, MB and the representatives from the organisations conducting the security validation activities (GMB, Christine Ricci and Tom McParland) indicated that the validation will not be completed until May or June 2000, and that only a paper validation would be completed by the TM. GM would not be available until May at the earliest.

4.13   PC was unhappy that it seemed likely that for security reasons it would be mandatory to carry out a CM Update with each receiving authority. FP said that a way to provide Security for the Update and Forward functions of CM had been developed at a meeting earlier this week, and there would be full security available on the CM Contact, Logon, Forward and Update Functions in Version 2. MA confirmed that he has been worried about the security application for CM, but this had now been clarified, and MB confirmed that under normal operations, security would be transparent to both the controller and the pilot.

3.6   Other ATNP WGs

4.14   There were no other WG reports

Other topics raised at the Joint Meeting

4.15   RJ said that WG2 had discussed the best approach for Doc 9705/3 to present the enhancements associated with the third edition while still allowing implementations conformant to prior editions of Doc 9705 (1 & 2). Normally there is only one edition of the SARPs, and each new edition superseded the last. The new procedures would be more akin to aircraft certification, where an aircraft could be certified to the regulations pertaining at the time, but still be allowed to operate in the current environment, sometimes up to a 'sunset' date. Specifically, in the cases of the new provisions for Systems Management and Security, simply indicating these are options was not considered appropriate, as this would allow implementations without these capabilities to claim conformance to the 3rd edition of Doc 9705. WG2/3 members felt that an acceptable approach was required across the sub-volumes to mandate 3rd edition conformant implementations to support the enhanced functions while at the same time providing recognition for implementations conformant to prior versions of Doc 9705.

4.16   RJ said that WG2 had agreed to raise this as a discussion topic at the joint WG2/WG3 session and to further provide inputs to WG1. MA explained that WG3 had not given serious consideration to this specific issue, but he encouraged WG1 and WG2 to pursue developing a solution to this problem that could be applied in general for the 3rd edition of Doc 9705. SVT noted that this is breaking new ground with ICAO where Annex enhancements invalidate prior versions. JM pointed out that we may also face problems of documenting corrections to defects reported against a prior edition once a new edition is published – i.e. the new Edition has fixes that also apply to earlier Editions. Christine Ricci wanted the possibility of a 'lighter' implementation e.g. without Security and/or System Management. It was expected this topic would be further addressed at the WG1 meeting the following week.

FAA Presentation

IP 7 – En Route CPDLC Status Overview

4.17   Son Tran presented this paper to the joint WG2/WG3. It was a copy of a slide presentation made earlier in the FAA, describing the plans for implementation of en route CPDLC services in the United States. An initial Build 1 is planned for deployment Miami while a Build 1A, with an expanded CPDLC message set, is planned for national US deployment. A service provider will be used for the Build 1 and 1A VDL Mode 2 air-ground subnetwork services. The FAA en route ATC end system will connect via an X.25 wide area network to an FAA operated ATN ground-ground router, and via an X.25 wide area network to the service provider's ATN router. Eventually when the FAA implements

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NEXCOM, using VDL Mode 3, the FAA will add air-ground ATN routers within each en route centre while also maintaining connectivity for AOC via the service provider's VDL Mode 2 subnetwork.

5. AGENDA ITEM 4 - AIR-GROUND APPLICATIONS

4.1 Subgroup 2 report

WP 6 – Report of WG3 SG 2 (Air/Ground Applications)

5.1   MA reported that the 21st Meeting of the ATNP WG3/SG2 (Air/Ground communications) was held, courtesy of Open Network Solutions (ONS) and the FAA, in the Blue Horizon Hotel, Vancouver, from 12 – 16 July 1999.

5.2   There had been some concerns expressed about CM procedures by implementers, and these were noted – they would also be taken to the next ADSP meeting. However, many elements relating to implementation were clarified in the GM, which organisations should be encouraged to read. Defects were noted relating to ADS SARPs, and appropriate PDRs were raised. The ADSP had indicated new operational requirements relating to the Emergency/Urgency service. These were reviewed, and draft SARPs would be prepared for the next meeting – this was clearly a Version 2 enhancement, which could affect interoperability. FP had presented the new SARPs for the METAR service, which were reviewed in detail. Implementation of this would increase the version number, but backward compatibility would be maintained.

5.3   Mike Harcourt had updated the PICS/OICS. These would faithfully reflect the SARPs, to enable implementers to prepare accurate profiles. There were significant revisions made – Mike had said that RTCA and the PETAL/FAA implementations would use the PICS, and were awaiting their finalisation. There were significant questions relating to timestamping of messages to be taken up with the ADSP later.

5.4   New SARPs had been prepared for some CM services – these were reviewed, and would be presented in final form to the next meeting of WG3. There was some validation going ahead with the CM Server application. There had been interaction with WG1/SG2 (Security) during the meeting, which had been helpful. The next meeting would be held in Washington from 1 – 5 November, (immediately after the ADSP/5 meeting in Montreal).

5.5   Commenting on the work of the SG, DVR said that the preparation of the PICS/OICS had been highly appreciated by the joint RTCA SC189/Eurocae WG 53 meeting. Options available could be clearly highlighted, and this removes ambiguous intent.

4.2 Trials and Implementation Activities
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IP 2 – Status of the European Link 2000+ Programme

5.6   DVR presented this information paper, which provided a high level overview of the status of the Link 2000+ programme being co-ordinated by Eurocontrol for the implementation of ATN-based data link services in Europe. The objective of the programme is implementation of globally interoperable, ATN-based, validated air ground data link services for ATC in a number of core area air traffic control centres. This would also require equipage by airlines, which would be voluntary, but benefit driven. Timescales were 2005/7. The work was effectively a development of the existing ODIAC and PETAL work already going on in Europe. It would be developed in parallel with, but not in isolation from, the FAA baseline 2 work referred to by Son Tran in his presentation to the joint meeting.

Video – CPDLC in the FAA environment

5.7   JL presented an FAA-prepared video, on the implementation of CPDLC, containing ringing endorsements of the application from a wide caucus of aviation users, including pilots, ATCOs,

ATSOs and Administrations. The WG agreed that it was good to see such overt enthusiasm for the new technology and techniques.

4.3 – Briefing on Package 1 Maintenance, PDRs and CCB Work

WP 19 – SME 2 (Air-Ground ATN Applications) Status Report

5.8   FP presented this paper, containing the open PDRs (Potential Defect Reports) raised against SV 2 (Air-Ground Applications) SARPs. An editorial PDR has been opened to take account of all editorial changes between the newly available Edition 2 and the next Edition 3 of Doc 9705. One PDR, on CM logon Request/Response details, was to be rejected by the CCB, with the addition of suitable CAMAL guidance. JS disagreed that the SARPs were clear in this area, but would be satisfied with suitable CAMAL text. FP said that SG 2 needed to review *all* PDRs for CAMAL impact. The other significant PDR related to a missing requirement for an ADS-Demand-Contract Response. This could lead to significant changes in the SARPs, and possible interoperability problems. This is presented here for information, and will be discussed at the next meeting of SG 2 in November, where a solution will be developed. However, if the solution affected interoperability, it might be rejected. PC said that the ADS PDR should be discussed with operational people – rejection of a PDR because it would involve Version change/interoperability problems was not a good argument. We had to conform to justified Operational Requirements (ORs) – he felt that the ORs from the ADSP were not complete. FP asked whether the ADSP would require an ACK for the request, followed by the Report at a later time? MA could not confirm, and would discuss this at the next ADSP meeting.

Action: MA and other ADSP associated members to attempt to define the ADSP OR more accurately for the next SG meeting.

WP 41 – CPDLC Permitted Responses

5.9   Michael Harcourt had prepared this paper, given in his absence by MA. The development of specific operational profiles, which only require the support of a sub-set of messages, has introduced additional responses into some messages that are different to those originally foreseen by SG2. This raises an issue of how such responses should be classified for the ATN profile. This has arisen, for example in the PETAL II trials, and there needs to be a means of indicating this in the profile, or elsewhere, so that the avionics of potential participants can deal with the 'non-preferred' replies. It is proposed that detail amendments are made to the PICS/OICS to take this into account.

5.10   DVR said that the development of any amendments should have a strong operational input, to make sure that any changes/additions did not cut across current implementations. JH said that the current trials were using the PICS/OICS already, and they were fully consulted – hence the present paper.

5.11   The WG noted the recommendations in the paper, and decided that these should be further investigated in detail by SG 2 at its next meeting, which Michael Harcourt was expected to attend. Claude Leclerc asked that he be kept informed of any changes in the PICS/OICS philosophy, since the ground/ground PICS/OICS were closely shadowing the present air/ground ones.

Action: MA, for Agenda Item for SG2

Agenda Item 4.4 - Post Package 1 Work

WP 37 – CM 'Logout' Function Discussion

5.12   GS presented this paper, which discussed an identified need for an explicit logout service. CM Implementers have said that that the additional service would aid in the operational use of CM, and would accommodate equipment (i.e. aircraft) changes. (The problem arises when an aircraft has logged on, flight plan association has taken place, and then there is a last-minute aircraft change,) However, SG2 had discussed this earlier, and thought that there were other ways of accomplishing this without changing the SARPs, since there were knock-on effects from the introduction of such a

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service in the SARPs. It was felt to be a local implementation issue, possible requiring operational changes. The paper offered these operational change procedures.

5.13   JS said that the FAA wanted to minimise post-CM processing, and wanted the CPDLC dialogue in place as soon as possible after the opening of the CM application. He recognised the problem, but did not like the solutions. If there was a confliction/duplication of CM information, then the FAA planned to dump both, and not offer a data link service to either, at least until the problem had been clarified. However, if the 24-bit aircraft address is in the flight plan, and a new plan is filed, or a change message sent, these would clarify, and enable a service to be offered.

5.14   MA concluded that, as GS had identified, it was an operational problem, and best solved that way. JS would be joining SG2 at their next meeting, and it would be considered again there, in the light of the FAA comments.

Action: MA, for the next SG 2 meeting Agenda

WP 38 – Interpretation of Extensibility Markers by Package 1 Applications

5.15   GS presented this paper, which identified a need for package 1 applications to explicitly define how decoded information beyond extensibility markers is acted upon. Up 'til now this has been left as a local implementation issue. The requirement may be different for different applications. The paper concluded that in order for air/ground applications (etc.) to function in a properly backward compatible manner, explicit requirements should be included in Version 1 SARPs that define what to do if data beyond the extensibility markers is encountered. This could be a Version 1 PDR, which should not affect interoperability.

5.16   TK was pleased with the paper, and how GS had identified the problem. The problem could be alleviated if the version number was checked before the logon data was decoded. There should be a specification in SARPs about the processing order, with explanation. DF pointed out that X.400 protocols allow identification of criticality beyond extensibility markers – ASN.1 does not. AIDC will increment version numbers if extensibility affect criticality. Claude Leclerc said that version numbers would be static between adjacent ATSUs – letters of agreement (LoA) would see to this at a bilateral level. MA asked whether it would be possible to implement criticality in extensibility in the ATN – TK said that in theory there should be no problem, except that no-one has developed any critical extensions yet, as far as he knew.

5.17   The meeting appeared in agreement that something in the way of notification should be done, whether through a PDR, or note indicating processing sequence in the GM. SG 2 would review possible actions, and develop appropriate material at its next meeting. SG 3 would look at a standard way to express criticality of extensions.

Action: MA, for the SG 2 agenda and an SG 2 developed solution
Action: SVT/TK, for SG 3

WP 39 – Modification to CM for Rejected Logon Definition

5.18   GS presented this paper, which sought to clarify an ambiguity identified by implementers relating what is really meant by a Rejected Logon in CM. There is Guidance in the GM, but as we all know, this is not read as widely as it should be, and GM does not have SARPs status. The proposed solution is to add a new paragraph to Section 2.1.7 of the CM SARPs – this would have no interoperability or backward compatibility problems. A PDR had been presented and discussed at SG 2, and this seemed to be the best solution.

5.19   TK agreed that SARPs were not clear as to the definition of a 'rejected' logon, and clarification was required. He thought that there had to be an indication of no APDU being sent. FP said that GS's solution didn't imply any protocol change, since it was user data that was modified. TK amplified his remark – *no* APDU should be sent, not a NULL APDU.

5.20   The members agreed with the proposed solution, which would be offered as a response to the PDR.

Action: FP/GS, for the CCB

WP 36 – CM Security Approach

5.21   GS presented this paper, which gives an overview of how CM will work with the Security modifications, and what SARPs changes will be necessary. The Security Subgroup (WG1/SG2) has decided that in order to minimise the impact of the implementation of security in air/ground applications, CM will be responsible for providing the initial exchange of necessary security information. It is envisioned that a Version 2 CM will always attempt to use security – the implication of this is that if a CM Version 2 equipped aircraft wishes non-secure ATN operations, it must use a Version 1 logon. This paper only covered the CM-logon and CM-contact services – Forward and Update will come later (see above). The changes will not affect the backward compatibility of CM, in that a Version 2 CM application will always contain a Version 1 mode, which will be activated if the Version 2 logon attempt is not espoused.

5.22   MA asked what would be the processing overhead.   JS said that there would be some additional processing, due to key recovery and exchange of keys. But it wasn't yet known what, if any, significant effect this would have on the logon procedures. TK pointed out that the delays could be significant if a Version 2 tried to logon to a Version 1, was unsuccessful, and had to start over as a Version 1. Perhaps there should be a policy that all ground systems in a Region should be updated to Version 2 before a Version 2 aircraft was allowed to operate in the area. MA thought that this was a bit draconian and really unnecessary. GS said that the same problem will arise with any version change – not just to Version 2 with security.

5.23   In reply to a question form MA about round trip delays, SVT said that CM activities were not counted in performance time, like message transfers in ADS or CPDLC. But he thought that the plan was correct – the aircraft should be authenticated before any dialogue was passed. However, he wanted to know whether the implication of this was that any aircraft wishing to operate in secure airspace would have to carry out a CM logon. (The need to carry out a CM logon was consistent with Core SARPs and WG3 intent.)

5.24   Half in reply to that point, PC said that he had reservations about the proposal for Security Function authentication with regard to ATM procedures.   The airline plan would be that, given adequate ground/ground communications and ground only initiated CPDLC, CM would be done once and forever on a flight. The procedures in this paper would imply a new CM for each authority. He would want to see a complete end-to-end scenario, start to finish, with all message exchanges outlined. GS replied that as of earlier this week, the Forward and Update functions will be secure, and effectively operations will be just as PC had required. PC then suggested that there would still need to be a ground Update message to the aircraft at each handover, and this could have an implication on the avionics. JS said that the security-enforced update would only happen once per domain, which could be an ICAO Region – this was really a Regional/Institutional/Topology problem. FP said that what PC was raising were really short term problems based on strong assumptions. In the longer term with wide implementation, the significance of the problem would be reduced, since for air initiated application, the CM update would need to be done anyway.

5.25   DVR was very supportive of GS's paper – the use of the Directory was referred to and there was a whole raft of work behind this. At present Europe is concentrating on implementing Version 1, and it will not be before 2008/10 that the first Air Traffic Service Organisations (ATSO) will be implementing Security. He was worried about the current charge ahead to have security available and SARPed by ATNP/3 – would the SARPs remain stable and applicable as far ahead as 2010? TK was very supportive of DVR's point. He too was worried about the stability of the work being rushed before the TM, and that included the work that GMB was doing for SV 4 section 8. GS had indicated that the updated CM would not be available for review until the TM. There would not be any validation on a system wide basis for all the 'pieces of the puzzle'. Any validation Report to the Panel will be almost empty for ATNP/3, since full results will not be available until June 2000.

5.26   The meeting noted the concerns of DVR and TK, but accepted the need to continue with the security work for the TM and ATNP/3.

5.27   TK asked, *a propos* of other CM related work, what was the news about the CM server concept. GS said that the redlines for Version 2 are done, but that the CM interaction with the server is a Directory problem. Hopefully some of these problems would be solved with the availability of JM's directory paper later, and in the mean time validation was going ahead in preparation for the TM.

WP 48 –ULA Security Scenarios

5.28   In response to PC's request for scenarios, (5.19 above) JS presented this paper, originally presented as a Flimsy to WG1/SG2. The scenarios include a full CM message exchange for inter and intra domain operations. Although the scenarios were shown for ground initiation, they would work just as well for air initiation. The domain-based approach allows security with one domain – e.g. it is only necessary for an aircraft to know that it is talking to the FAA, not which controller in the FAA. So there is a concept of shared keys. JS said there was also a need to look at the AIDC, which used upper layers – but Claude Leclerc again emphasised that adjacent domain security may be also by letters of agreement.

5.29   PC was very grateful for this scenario paper, and said that it was exactly what he wanted.

WP 20 – Report on the ICAO Standardisation of the FIS (METAR) ATN Application

5.30   This was three papers in one package, presented by FP, which described the status of the SG2 activities on the FIS/METAR application, and included the SARPs themselves, the validation report and appropriate Guidance Material. The SARPs had been available in draft form earlier, but this was their final form. The Validation report was prepared in the usual ATNP style, initially developed by SG2 for the Air-ground SARPs and adopted since for all others, presenting the results of the validation and implementation programmes that have been undertaken by the various States and Organisations which apply to FIS Application Version 2. It summarises the results and analyses them against a set of high-level validation objectives (VOs). The Report concludes that the enhanced technical provisions will be sufficiently validated for inclusion in Doc 9705 Edition 3.

5.31   TK noted that GMB's appeal for validation partners seemed to be unsuccessful, and asked if there was still a requirement for partners. FP said that of course it was not too late – he would want the highest level of validation possible before the Panel meeting, and any support would be welcome.

5.32   With regard to the SARPs he pointed out that the basic structure of the FIS SARPs and the protocol had not changed – it was just that an additional service had been added. About 80% of the protocol had already been validated to at least level C. This addition of the METAR service showed that it was relatively simple (FP said 'easy') to add new services.

5.33   FP had also completed the GM, again using the updating and addition principle, to ensure minimal change. He showed how the system would react when there were differing version numbers in use. PC asked whether there was a requirement to do a CM logon if only the FIS application was being used. FP said that there was, in order to get the addresses. DF said that this was the first time that we had seen a clear indication of a Version 2 application. In the construction of the Version 2 ASN.1 definitions, much had been imported from the FIS/ATIS – how would the METAR elements be identified? FP said that everything in the ASN.1 which related to METAR was labelled METAR. MA said that DF raised a good point – there would be a requirement to identify the Version 2 elements now applicable in an updated application.

5.34   The meeting was grateful to FP for the completeness of the package, which would be formally presented at the TM, and subsequently to the ATNP/3

6.   AGENDA ITEM 5 – GROUND-GROUND APPLICATIONS

Agenda Item 5.1 – SG 1 Report

WP 5 – Report of WG3 SG1 – Ground-Ground Applications

6.1   JYP, chairman of SG1, presented his report. SG 1 met in Naples from 25 - 28 May 1999. Regarding the maintenance activity, there has been no significant work required for ATSMHS SARPs, but two PDRs have been submitted against AIDC, as a result of the CHARME project at CENA. One PDR will be rejected, since it is a misinterpretation of the SARPs, but is explained in the GM, and the other will be recommended for acceptance. (This PDR does not affect interoperability.) Work is progressing on the extended ATS Message Service – draft SARPs have been produced, and are expected to be completed by the TM. Work has been progressing relating to the implementation of AMHS Security, in co-operation with WG1/SG2. SARPs and GM are being developed for the CIDIN/AMHS Gateway, and are expected to be ready for the TM and the Panel meeting. Work concerning the AMHS use of the Directory is well advanced. It has been provided to WG 3/SG 3 for inclusion in SV 7, and has been incorporated in the latest draft of the SV. There has been co-ordination and an exchange of papers with the Systems Management JSG, and AMHS Managed Objects Classes are included in the overall ATN managed objects in SV 6. AIDC PICS/OICS proformas for AIDC have been developed to the standard format. The work in progress is indicated by the increasing percentage of work completed in the attached work programme. The next meeting will be held in Gran Canaria from 4th to 7th October 1999.

6.2   In an expansion of his notes of the SG, JYP noted that Masoud Paydar had requested that SG1 should review the contents of Annex 10 Vol. II, including the AIDC, AMHS, CIDIN and AFTN related sections (this has spin-off to Vol. III). In particular, the CIDIN specification in Annex 10 is different to that in the EUR/CIDIN Manual – the other difference is that a CIDIN to the EUR/CIDIN specifications would work – the other would not. On behalf of an informal European AFS ad-hoc group meeting held in Paris (6 – 7 July 1999) he proposed to remove 20 pages of detailed CIDIN specification from Annex 10, and to replace it, where appropriate, by a clear reference to the EUR CIDIN manual. This material elaborated by this ad hoc group will be reviewed by SG 1 next week. He was aware that there was a CIDIN user group, and this would be kept informed.

6.3   MA said that since this work was being done under the aegis of WG3, the proposal should be made at the TM, and brought to the ATNP, as a completed action. JYP wasn't sure that this would be the best way to progress – he would discuss this at the next meeting of SG 1, and keep MA informed.

6.4   The members of WG approved of the SG1 work, and the successful activity related to the declared work programme.

Action: JYP to review the preparation of the CIDIN amendments to Annex 10, and clarify the paper chase with MA

Agenda Item 5.2 – Review Trials and Implementation Activities

6.6   There were no papers presented under this agenda item.

Agenda item 5.3 – Briefing on Package 1 maintenance, PDRs and CCB Working

WP 45 – CCB Report of the WG3 SG1 SME3

6.7   JMV presented this paper, detailing the summary of the ATSMHS and AIDC PDRs. There are two new PDRs in AIDC, and they were explained in detail. One was due to error in comprehension, but the other is justified, relating to the provision of Provider Abort Indication Parameters. A solution has been prepared, which does not affect interoperability, and will be proposed to the CCB.

Agenda item 5.4 – Post Package 1 Work

WP 46 – Status Report about the draft SARPs for the Extended ATS Message Service

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6.8   JMV presented this paper, which identifies the level of progress achieved in the specification of the Extended ATS Message Service (EAMS), which is one of the major deliverables from WG3/SG1 to ATNP/3. The EAMS has been specified as part of the existing SARPs. It is therefore described as an additional level of functionality, which may or may not be supported by each AMHS system, and its specification will be totally embedded in the former specification for the Basic ATS Message Service. Notes and 'Editors Notes' are still very numerous in the text of the draft SARPs for the EAMS. The paper includes the SARPs to date, and a commentary on progress. SG 1 will review the material in detail at its next meeting. The final draft of this material will be delivered no later than the TM.

6.9   JMV said that a major issue of uncertainty was the use of the latest as yet unpublished version of the MHS base standards, and of the ISO International Standardised Profiles (ISPs). They have been assembled by the ISO MHS editor, Jim Craigie, who has done an excellent job, but the approvals process is still unclear at this stage. JMV encouraged members to bring this problem to the attention of both their administrations and their State standards organisations. Even if ISO don't move, ITU-T will, and there could be a referencing problem – previously parallel systems could diverge.

Action: All Members to help expedite approval of the revised MHS base standards and ISPs

WP 50 – Removal of Pass Through Service Gateway

6.10   JL presented this paper, prepared with the support of JYP. At present it appears that the Pass Through Service Protocol will not be implemented, and therefore removing it from the SARPs is appropriate at this time. Many States have decided to implement AMHS, foregoing the use of the transitional Pass Through Gateway. Those that are not yet implementing AMHS show no signs of wanting to adopt the interim transition solution. It is believed that keeping the service in the SARPs could mislead ATSO implementers into assuming that they have an ATN to supplement their AFTN service, when in reality they do not.

6.11   JYP strongly supported the paper – there was no point in maintaining SARPs that were not going to be used, and, what was more, could cause ambiguity and additional economic expense. He listed a significant number of States who were implementing, or proposing to implement, AMHS, and to the best of his knowledge only Thailand had actually implemented a type A gateway network. MA asked Somnuk Rongthong (Aerothai) whether removal of the SARPs would cause a problem. Somnuk said it would not.

6.12   MA still wanted clarification that withdrawal of the SARPs would not result in any State being deprived of the necessary information.   He was assured by several members that extensive canvassing had failed to identify any State using the SARPs. MA felt that withdrawing a functionality from the SARPs should have wide circulation, and he proposed that a short paper be prepared for the TM, and subsequently the Panel. JYP thought that this was overkill, and we could remove it from Doc 9705 and the GM (and the two definitions from the core SARPs and the picture from SV 4) with minimal disruption. But MA wanted to be sure that Masoud approved this route, and this would be cleared first.

Action: JYP and SVT to clarify SARPs removal action with Masoud Paydar

7.   AGENDA ITEM 6 – UPPER LAYER COMMUNICATIONS SERVICE

Agenda Item 6.1 – Subgroup 3 Report

WP 7 – Report of WG3 SG3 – Upper Layer Architecture

7.1   SVT gave this report of the activities of SG3. The SG is responsible for the SARPs SV 4 (Upper Layer Communication Service), SV 4 Enhancement (4.7 – CLDS, 4.8 – Secure Dialogue, 4.9 - GACS) and SV 7 (Directory). In addition a new SV 9, covering Registration, is proposed (see WP 49

below). The SG met in Toulouse from 8 – 10 September 1999. The Security, Directory, Naming and Addressing, Connectionless Dialogue and the Generic ATN Communications Service (GACS) are all in the Validation phase. SVT was much more optimistic after the Toulouse meeting – significant progress had been identified, and stable requirements from the Security Subgroup have now been incorporated into the revised 4.8, by GMB, itself now a much more stable document. Concerning the Directory, Revocation Lists will be available and accessible, and will be correctable. There will be another full week meeting of the SG between now and the TM, to tie up loose ends, and integrate the security requirements into the existing Control Function.

7.2   WG 3 was pleased to note the significant progress achieved by the SG since the Naples meeting, removing a great deal of the uncertainty over the completion of some major parts of the programme for the ATNP/3 meeting.

Agenda Item 6.2 – Review Trials and Implementation Activities

7.3   There were no papers presented for this agenda item.

Agenda item 6.3 – Briefing on Package 1 maintenance, PDRs and CCB Working

WP 17 – SME 4 (ATN Upper Layers) Status Report

7.5   TK presented this paper, which outlined all the PDRs raised against SV 4, and their status. There was one new PDR, more arising from the layout and presentation of the SARPs and the ICAO notal notation than anything else. However, there was a possible ambiguity, which should be properly resolved. The solution to the PDR proposed relocating and revising the ambiguous note.   There would be no effect on interoperability.

Agenda Item 6.4 – Post Package 1 Work

WP 49 – Sub-Volume IX – Registration

7.6   SVT presented this paper. SG 3 had identified the need for an additional Subvolume to the ATNP SARPs, dealing with Registration. In any system, entities have names – the name is not required to be unique, but it must be unambiguous, i.e. each name must point to only one thing, although other names may point to that thing (SVT illustrated his paper with appropriate examples). At present SVs 4, 6, 7 & 8 all require the use of globally unambiguous Object Identifiers (OIDs) and assign them themselves. This could cause confusion. RTCA and Eurocae already see a need for an ATN based register of names and other ATN related designators, and this could be covered and regulated through the proposed additional SV 9 to Doc 9705. The creation of a new SV was not really a PDR – there was no defect – rather this would be an addition. SG3 would welcome the facility, which would make its work easier.

7.7   JM gave it strongest support. He could see it as a repository for ASN.1 labels (and hence clarification?), Aircraft and Facility IDs, Logon addresses and low level definitions. DF also strongly supported the development, since it would identify (and hopefully eliminate) naming ambiguities. Other WG members also felt that regularising naming and definitions could only be beneficial.

7.8   SVT agreed that SG 3 would take responsibility for the new volume, ensuring that the other WGs were made aware of the facility. A skeleton SV would be prepared for the TM, with a more complete version for the ATNP/3.

Action: SVT and SG 3 to prepare SV 9 outline for the TM

WP 12 – Status of SV 4 'Package 2' additions (GACS, Naming, Security and CLDS)

7.9   The draft SV 4 revisions were presented at the last meeting in Naples, and TK did not propose to present them again. This paper was just an indication of the current work in progress on the volume. Revisions include implementation of all appropriate PDRs, and all changes approved at

the Naples meeting, including new sections 4.7 (Connectionless Dialogue Service - CLDS), 4.8 (Secure Dialogue Service) and 4.9 (Generic ATN Communications Service – GACS). However, TK pointed out to the WG that the specification of the Secure Dialogue Service required that specific values be assigned to the Security Requirements parameter of the D-START primitives. Any States that have made use of this parameter for their own purposes (e.g. simple authentication) will no longer be able to do so. It should also be noted that there is significant effort required before the SV is ready for presentation to the TM.

7.10   TK also highlighted a requirement for a decision on the proposed SV 9, as this would affect the content of SV 4. SV 9 has been approved (see 7.8 above) which should set TK's mind to rest.

7.11   The WG noted the work in progress on SV 4, and awaited the final version at TM with interest.

WP 34 – Proposed Mapping of WG1/SG2 Security Requirements on Upper Layer Mechanisms

7.12   GMB presented this paper as the introductory paper of a series of four. ICAO is in the process of standardising the requirements for ATN security. This will allow the development of a secure environment for data transfer between airborne and ground ATN systems, taking into account the various local legislation constraints. This paper gives an overall description of the mechanisms involved in the ATN upper layers as a result of this implementation of security. The paper is an introduction to the new SV 4, section 4.8. The implementation of security in the ATN upper layers involves two main mechanisms, namely deriving commonly agreed information, including key details, between two communicating entities, and then using that special agreed information to secure data/dialogue exchanges between these entities.

7.13   SVT asked whether there would be a need for 'perfect time' (e.g. within one second of UTC) for the security implementation. GMB said that he did not see it as specifically a security requirement, but it is required for other applications.   JS said that there was a specific security requirement for accuracy to within one second of UTC (in particular related to identification of Replay). PC asked whether it would be possible to disable security. GMB said that it would, but in Package 2 (or Edition 3) security would be assumed. Regarding status, the Security ASO is defined, and the template is basically an ATN ASE. The Start Service is a confirmed service, but the End Service is unconfirmed. GMB said that he would not wish to take all the credit for this work – the draft proposed to WG3/SG3 has been reworked in collaboration with FP, in order to provide a simplified version closer to the formalism of the of the existing ATNP SARPs.

WP 33 – Security Application Service Object

7.14   GMB introduced the second of his security-based papers. This was the new Section 4.8, the upper layer SARPs which specify the implementation of Upper Layer Security. This was the first time these had been available to the WG in reasonably final form, and GMB went through them in some detail. The implementation assumed a connected protocol; connectionless will not be covered at this stage.

7.15   SVT said that this was great progress, and would allow a build for validation. MA said that there had to be completeness, with definitions in the Glossary, and references in SV 1 – the implementation of Security was generating a lot of new terms. SVT noted that the global identifiers will now go in the new SV 9. SVT said that validation would not be easy – it was a CM-based scenario, with the mechanisms in the upper layers. The systems elements are scattered across several SVs.

7.16   The WG welcomed the SARPs as a further indication of the trend towards ATN completeness.

WP 35 – Security ASO Security Exchange Service Element (SESE) Specifications

7.17   GMB presented this paper, which, for completeness, gives the detail of the SESE, detailing the contents of the APDUs exchanged during the setting up of the upper layer security. It is basically an ISO-published standard, customised for its use in the ATN: tables describing ATN-specific PDUs have been included, and, for each table – ISO or ATN specific - an ATN column has been added. It is effectively the ATN Profile relating to an ISO PICS. This would be added to the SV section (4.8) dealing with Security.

7.18   JS was concerned generally that we had not defined how exactly security should be implemented. He said that if we wanted the security to work, we should specify exactly how the PDUs should be encoded. He was concerned that if an implementation used application relays, some PDUs may be encoded differently, leading to failure of the digital signature. There was general agreement that the use of application relays in the upper layers would be inappropriate, and that a note should be added to SV4 to indicate this. JS and SVT would produce a Flimsy with suggested words.

Flimsy 1 – Relay-Safe encoding

7.19   SVT presented the Flimsy. There was a question as to where in the documentation this should really go – it was almost a note to SARPs compilers as to how to compile SARPs. There is no such Guide (perhaps there should have been) – SVT would review a suitable place for the note (possibly in the Core SARPs) and raise the necessary PDR.

Action: SVT to review destination of the Relay-Safe encoding advice note

7.20   SVT pointed out that under US law, there was a requirement from 2003/5 to record all data link messages to the aircraft in accordance with Annex 6. In fact there was probably a need to record all messages in an area. There was therefore a need for an application relay architecture to be developed. But he and the SG 3 would investigate possible fixes, and a paper would be presented at the TM.

Action: SVT and SG 3 to review the implementation of application relays in the upper layers, and prepare a paper for the TM

IP 5 – Security Exchange Service Element (SESE) (Service and Protocol)

7.21   For completeness, GMB introduced this IP. The implementation of security mechanisms in the ATN Upper Layers involves a new ASO, the security ASO. This ASO includes a specialised application service element, the SESE, which allows the communication of security information to support the provision of security services within the ATN application layer. This IP refers to the OSI/ITU-T documents describing the SESE.

(That concluded the series of papers on the Upper Layers security implementation.)

IP 1 – Eurocontrol GACS implementation Project Update

7.22   This paper, presented by TK, gave an update on the Eurocontrol project that is aimed at producing a software implementation conforming to the draft Technical Provisions for the GACS. TK noted that this will provide developers with easy access to the full 7 layer ATN infrastructure, and will contribute to the validation of the draft SARPs for GACS, the connectionless ATN upper layers and dialogue service and the upper layer naming enhancements. A presentation of the general aims of the project was given in Naples, and this paper was just a short update on progress. The software was accepted by Eurocontrol from the contractor at the end of August 1999, and work is now in progress in several areas, including interoperability testing, specification of ATN Systems Management utilities, and a demonstration of AOC capabilities.

7.23   DVR said that GACS would be important for trials in the future, and was available for free distribution to Eurocontrol Member States under licence for ATN trials, evaluation and experimental use only. It was not robust enough for commercial use, but could be available for operational trial use. DVR had a demonstration on his lap-top if anyone wished to see it.

WP 18 – Draft Validation Report for ATN ULCS Enhancements

7.24   This paper, presented by TK, is the draft report of the validation for various enhancements that have been made to the ATN Upper Layer Communications Service (ULCS) by SG 3. These enhancements are the addition of UL Naming and Addressing extensions, the CLDS, the Security Dialogue Service and the GACS. The paper summarised progress on the validation, the paper being set out in the ATNP validation paper style for easy reference. TK concluded that the enhancements will be sufficiently validated for inclusion in Edition 3 of Doc 9705, with the possible exception of the Secure Dialogue Service. However, there is still an urgent requirement for partners for interoperability testing, and States and Organisations are requested to provide information regarding any validation activities for inclusion in this report.

7.25   TK said that the paper had not yet been presented or reviewed by SG3, but would be circulated for comment.

7.26   The WG noted the progress on the validation of the ULCS enhancements.

WP 13 – Status of SV 4 'package 2' Guidance Material (GACS, Naming, Security, CLDS)

7.27   TK reminded the WG that draft GM additions were presented in Naples. The status of the GM hasn't changed since then – there is still significant outstanding work, and major effort will be required to update the SV 4 GM prior to the TM, particularly in areas related to the Secure Dialogue Service. Likewise, an urgent decision is needed on how 'Package 2' (Version 2) GM is integrated into the CAMAL.

7.28   MA said that since the CCB now has overall responsibility for the CAMAL, editorial direction must come from them. The next meeting of the CCB was not until December, but SVT was urged to canvas CCB opinion as to merging, and distinguishing, Version 2 GM into the CAMAL.

Action: SVT, for the CCB

WP 15 – ATN Systems Management - SV 6 of ATN Technical Provisions
WP 16 – ATN Systems Management – Draft Guidance Material for SV 6

7.29   TK presented these papers, which, he said, were supplemental to JM's presentation on Systems management (SM) to the joint WG2/3 meeting – see above. Because the SARPs are still at a draft stage, the format has not yet been fully formalised. The initial section contains an overview of the structure, and some of the requirements for the air/ground and ground/ground management communications in plain (i.e. non SARPs) language. Information between domains is mandated in section 6.6 (XMIB), which is the least stable.

7.30   The whole area of the Management Information Base (MIB) standardisation is still under review, and there is yet time for the provisions of this draft to change fundamentally.   The whole set of information will be reviewd by the JSG on SM at their meeting next week. The Guidance Material is obviously also at draft stage, and its development closely follows that of the SARPs themselves. The question of validation timescales had already been discussed during the course of JM's earlier presentation.

WP 10 – ATN Application Level Systems Management Utilities

7.31   TK presented this paper, which proposes some simple ATN system management tools based on GACS, which could support requirements for measuring various end-to-end Quality of Service parameters available to ATN applications, and also provide a simple diagnostic test of reachability at the application service level. Other functions that could be performed include the measurement of round trip delays and connection set-up times, the verification of data integrity and the execution of simple management commands on a remote end system. It should be relatively easy to construct a

simple Responder application on top of GACS, and this could form the basis of a globally useful ATN confidence test/system management utility.

7.32   JM, as Chairman of the JSG on SM, expressed deep concern with the contents of this paper. He understood that the ATNP through WG 1 had approved a System Management implementation based on the ISO/IEC 9595 and 9596-1 Common Management Information Service and Protocol (CMIS/P), as profiled in Chapter 6.4 of the draft SV 6. He could not see any of the functionalities proposed for a GACS-based service which could not be done using a CMIP-based system. If the GACS management utility was adopted, then GACS would become a mandatory requirement, and States would be forced to implement it. The JSG had not had time to discuss this paper before it was presented here, and he was perturbed that this was creating a whole new architecture.

7.33   TK argued that this was not new, and indeed would be complementary to the CMIP being developed by the JSG. There were likely to be many systems running GACS for AOC, and this would be a quick way to achieve functions not easy to achieve with CMIP based systems. JM said that if the requirements identified by the GACS team were hard and fast, it would be better to change the CMIP, rather than create a new SM application like this. He re-emphasised that this proposal would force the use of GACS. MA said that the GACS implementation could be used locally, i.e. intra domain. JM refuted this – it was not a local issue, because some of the requirements were cross-domain.

7.34   TK said that CMIP is not mandatory within an organisation, and is required only for inter-domain System Management. He would hesitate to call the GACS tool an SM tool – it is more an administration tool – and if you have GACS, the tool would be trivial to add. System Management has five basic requirements, including Performance, Fault finding and Cost Implications which are, or will be, met by the CMIP based system (see SV 6). JM pointed out that if you had CMIP, the functions would be equally trivial to add. But he would prefer to see the functionalities in the paper justified as requirements, before the CMIP system was finalised, and they could be incorporated into the initial version. TK stressed that we could not assume end-to-end CMIP.

7.35   FP asked that if we considered that the functionalities were needed, why do they have to run over GACS? Why could they not run over the dialogue service, which is mandatory anyway? TK answered that this would require a new ASE and an implant of much of the existing GACS functionality anyway. He would view the GACS as an advanced dialogue service. JM said that if the CMIP/Dialogue Service/GACS mandated options for ATN end to end functionality, the GACS is the least desirable, and the first option was to see whether it could be done in CMIP-based systems.

7.36   PC confessed himself confused after TK's presentation. We now seem to have an alternative means of implementing SM functions. There is a requirement for airlines/operators to meet SM goals, and there is a need to consider the TK option deeply from the aircraft users' perspective. PC had noted some references to configuration management in TK's paper. In reply, TK said that configuration management was outside the scope of the JSG – it would be local to individual systems.

7.37   TK agreed that it would be simple if everything in the world was CMIP-based, but it is not. At least one State is implementing SNMP (Simple Network Management Protocol), and will retain this capability. He re-emphasised that he saw the GACS utilities and CMIP as being complementary - CMIP-based SM is the SV 6 architecture for inter-domain work. JM wanted to know the opinion of the WG – if the GACS paper was supported, then should we go all GACS, and ignore the CMIP-based work. In which case his JSG/SM meeting next week need not be held, since it was to review the CMIP-based SV 6, and this would clearly be a waste of time. He really wanted a WG view on this. TK opposed this. The CMIP-based approach needed to be completed, and the JSG SM meeting next week needed urgently to complete the XMIB definition. He proposed delaying further discussion of the complimentary end-to-end tools till after ATNP/3.

7.38   MA said that he thought that the WG did not have the instant expertise to make such a decision, if indeed it was required. He proposed a three point plan in the first instance – (a) the paper should go to the JSG for a requirements analysis, since that was where the expertise lay (b) that work should continue on the CMIP-based SV 6 application, and, (c) that the GACS option be reviewed after

the Panel meeting, since time was very short, and SV 6 had to be progressed to completion. There seemed to be general WG agreement for this.

7.39   PC said he was eager to avoid confrontation. The Aerospatiale position was that the aircraft management domain was a particular domain (whether the domain manager was in the aircraft or in the company HQ), and there is a difference between air and ground. He wanted to see Managed Objects (MOs) for the aircraft, with the objectives well defined. Aerospatiale will use the simplest solution.

7.40   TK said that CMIP and GACS were pretty close already anyway – it was really all the TM work that was preventing work on possible parallel operation and/or integration of objectives and functionalities. The vast part of SV 6 was not specific to CMIP – both GACS and CMIP were communications services, with significant commonality. PC said that we should consider the aircraft as a management domain, and indicate in the SARPs that there were alternative solutions for the airborne entity. MA said that we could not put alternative solutions in SARPs, but there was nothing to stop manufacturers developing alternatives if they wanted to, provided they were SARPs compliant. SARPs did not specify a company-specific engineering implementation.

7.41   JL agreed that we should look at GACS as an alternative/addition, but not until after the Panel – there was definitely no time for changes now. However, PC thought that we should hold off, and review the GACS proposal, and possible additions. JYP proposed that we should postpone discussion beyond ATNP/3, and present a CMIP-based SV6 to the Panel. Clarification could come later. He thought that MA had used the wrong word when he referred to possible SM SARPs amendments arising from GACS – he thought that 'additions' was a better word. He agreed that the Panel would not be happy with instant amendments to SARPs, but with advancing technology, additions would be less of a problem. MA agreed – GACS may result in additions to the CMIP-based System SARPs, rather than amendments.

7.42   DF agreed with TK that the two systems were complementary, rather than confrontationally different. SVT thought that we should go with the CMIP base – however, if there was GACS alternative proposal, we should withdraw SV 6 until that had been fully evaluated. JL strongly disagreed – we should not withdraw SV 6, but should progress it to completion in time for the TM and ATNP/3. JM said that, based on this paper, we should agree requirements, agent/agent, agent/ manager across domains. He had asked for MOs from SGs frequently in the past and had got none – he wanted to know where this lot had sprung from? TK said that at least the end to end timing had arisen from MA's attendance at the JSG meeting in Honolulu, as an ADSP requirement. MA confirmed this, noting that this information had been passed during the initial analysis of the MOs carried out some time earlier.

7.43   SVT proposed a strategy, that there would be no withdrawal of SV 6. The WG would note the serious concern about the WP, since it outlined high level requirements potentially not satisfied by the JSG/SM, including end to end timings and traffic type from ADSP. These new requirements would mean that the choice was not simply between GACS and CMIP - it may lead to a revised design of ASE over a communications system, but this would be done later (post Panel). (This strategy was not a whole lot different to that proposed by MA earlier). JM wanted a WG3 Flimsy to JSG on what the ORs were for two end systems residing in different domains – SVT undertook to generate that with the help of TK, FP, GS and JH.

Action (1):   SVT to develop Flimsy with interdomain end-to-end requirements for the JSG
Action (2):   TK to present WP 10 to the JSG/SM next meeting on 4 – 6 October 1999
Action (3):   TK and JSG/SM to complete SV 6 for presentation at the TM and ATNP/3
Action (4):   MA/SVT to note GACS work for post ATNP/3 programme

WP 43 – SV 7 – ATN Directory Service

7.44   JM introduced the first major draft of SV 7. (There were limited numbers of hard copies of this paper, due to its size.) The ATN Directory Service application allows ATN users to obtain directory information about ATN users, applications and services participating in the ATN. The Directory is

composed of two parts, Directory Service Agents (DSA) and Directory User Agents (DUA). The Directory is based on commercial X.500 principles, and is not doing anything that has not been done already. It is based on the International Standardised Profiles (ISPs) from the ISO/IEC 9594 (1993) X.500 Specifications. The Directory structure was easy to specify – what was far more difficult was the contents. However, he had now defined which object classes, and what attributes would be included. The profiles, object classes and attribute contents were now complete – but he did still need to investigate how to attach AFTN addresses to object classes.

7.45   MA asked about the validation requirements, bearing in mind the extensive commercial use of X.500 already. JM said that the only things that needed to be validated were the contents of the directory – the schema. There needed to be verification that complete schema and the directory structure were syntactically correct. SVT asked whether there were any dependencies on Security that needed to use the directory? JM said that there were none at all. Retrieval from the directory would be possible by January 2000, and available for X.509 transactions somewhat later. SVT said that the FAA was actively seeking validation partners for the upper layer work – they had partners for all applications other than the Directory Services. This could lead to a one-State, one-implementation validation, which clearly involved a level or risk – a partner would be welcome.

7.46   PC asked if there were any certification implications for using a ground-based directory? SVT said that there would be the same safety and interoperability considerations as in Package 1. JYP asked whether the AMHS addresses had gone into the schema? JM acknowledged the valuable contribution from SG1 – and the list from SG1 has indeed gone into the schema. Compliance checking had yet to be carried out.

7.47   Toli Geogias (Allied Signal/FAA) asked what were the directory requirements, and where were they written down? JH said that they were not written down. MA said that the need for a directory had been clear two years ago, and it had been part of the agreed work programme for SG 3 for and from that time. SG1 had been waiting for its availability for some months, and this was all covered in notes of WG 3 meetings. The FAA had agreed to sponsor the work, and now we have the draft SV 7. JM added that there was as yet no Guidance Material.

7.48   Toli said that Allied was working on data removal, retrieval and certificate plans, and could probably support work on the directory. SVT thanked Toli, saying that although this would still only give two implementations in one State, it would give a higher level of validation for the ANC.

7.49   DVR noted that there were no requirements on paper but only in minds, and now we had a 150-page document. He wanted to know where the ORs were, and the authority. He also wanted to know whether each state would have to implement X.500, and file an exception if they did not. JM said that the requirements were implicit, if not codified. As to whether everyone had to have a Directory Service Application – if all they were doing was internal work, then not at all. They could develop any old local directory system. DVR asked what was the review process by the SGs? SVT said that the work had been reviewed and reported in the SG 3 Honolulu and Naples reports. JM said that the work was going ahead under the aegis of SG1 and SG3 (this was confirmed by JYP, who said that SG1 had a permanent interchange with JM).

7.50   TK said that he welcomed the input to the WG, but we should not spend too much time reviewing it here – it still had to be examined by SG3, and the Schema information is only one part of the Directory. GS said that there was input available relating to the air/ground applications – this was developed in Honolulu.

7.51   Toli asked DVR what were the Eurocontrol objections to the Directory. DVR said that he had no problem with the directory – big D or small d – inter or intra domain. He just needed the requirements written down. JM asked whether Eurocontrol had a non-X.500 directory programme. DVR said that he could not answer for all the work going on in the 38 States. Toli asked that if Eurocontrol was going to be a Certificate Authority with Public Key access, how would the task be carried out , unless using a global DSA? DVR said that Eurocontrol had not yet prepared a plan for use, since the concept of operations was not yet known for Europe, and no requirements for use of a Directory (big D) has yet been identified. The use of the DSA should not be mandated – the door

must be left open for options. He was not against the development of a DSA in principle, but it must not be mandated. SVT noted that it was likely that the DSA would be available in the near future (2000), and could be in use thereafter, and this might encourage use of the Directory (big D).

7.52   JM asked about validation – whether the SV 7 would be validated as part of the general SG 3 work, or whether it would be done separately. In particular, how would elements relating to X.509 protocols be handled. MB said that X.509 elements would probably be handled by the Security SG in WG 1. SVT said that the problems of validation would be tackled in SG 3.

7.53   The WG welcomed JM's presentation, and generally supported the continuation of the work towards presentation at the TM and ATNP/3.

WP 14 – ATN Directory Considerations

7.54   This paper, presented by TK, followed DVR's concerns about ORs for the Directory Service Application, and SV 7. The paper was concerned that a document containing material such as is contained by SV 7 would normally be issued at the end of a preliminary process which would be designed to discover all the potential critical user business requirements. The presentation of this paper was therefore designed to highlight a number of directory issues which may be pertinent to the situation, and which may form a basis for discussion. There may also be an opportunity to take action to discover and clarify a number of user requirements that may not have been expressed fully to date.

7.55   The paper listed some points of consideration, and concluded that a CONOPs for the deployment of directory systems by ATN organisations is needed, addressing issues in the paper, and that careful consideration should be given to the full implications before States and Organisations who implement ATN are mandated to operate an X.500 infrastructure internally.

7.56   TK said that this paper raised institutional issues. PC asked whether access to the Directory would require secure communications – it could be so for ADS and CPDLC, but would it be required for FIS – and whether ICAO requirements applied to Directory Access? MA confessed that he didn't know, and neither, it seemed, did anyone else around the table, although SVT thought that they probably did. ADSP requirements were generally high level and not technically specific. JYP said that, in terms of Security, ground/ground communications were not looking for technical excellence – the ground message exchange security requirements were not very high. JM said that Directory data base access could include security – strong authentication. But whether it is actually needed can be reviewed later.

7.57   PC believed that MA's interpretation of the ADSP responsibility was wrong. He was sure that it was the responsibility of the ADSP to define end-to-end security, including agents. MA said that it was the ADSP task to require end to end security, but not the mechanisms of how it should be achieved – MA had been told this by the ADSP several times. PC said that he had worked with several distributed systems, and there was generally a requirement for contributors to have some level of safety, performance and security, and this should be the same for ATM systems. MA said that this was a high level operational requirement, more appropriate to the ATMCP, of which PC was a member. He proposed that PC should raise the topic of security of distributed systems, such as ATM, at the next meeting of the ATMCP WGs.

Action: PC, to raise the question of high level ATM security with the ATMCP WG, and report progress to WG 3

7.58   TK agreed with PC that it was very important to take a system-wide view – he understood that the FAA were doing work on the development of end-to-end system certification. SVT confirmed that this was the case, and he would bring a paper to the TM.

Action: SVT to prepare a System Certification Paper for the TM

8.   AGENDA ITEM 7 – INTEROPERABILITY AND THE DEVELOPMENT OF PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENTS (PICS) FOR ALL APPLICATIONS

WP 29 – PICS/OICS Guidance Material
WP 21 - 28 – CM/ADS/CPDLC PICS/OICS
WP 30 - 31 – FIS PICS/OICS

8.1   MA pointed out that the air/ground PICS/OICS were available in soft copy only, and would be available both on disc and from the CENA server, in due course. JH presented the updated Guidance Material, prepared by Michael Harcourt. There had been significant changes since the Naples presentation, probably the most important of which was the inclusion of the 'Out of Scope' option (signified by the letter I) in the profiles. The GM showed how the proforma had been developed, and the level of detail which was included, including message pairing in CPDLC. It also gave instruction on how to complete a Profile accurately, to allow a full operational capability comparison, whether air/ground or ground/ground.

8.2   Toli Geogias was most unhappy about the development of the PICS/OICS. He wanted to know what the operational requirement was, whether industry had been consulted or were aware of them, what was the operational input, and who selected/decided the level of detail, and why. He also wanted to know who had independently reviewed the material, and how it was reported. JH explained that the PICS/OICS were already in use by RTCA, the FAA/Eurocontrol PETAL Implementation Team etc. etc. They had been developed and reviewed by the SG2 (or SG 1 for the Ground/ground element). There was the strongest possible support from Industry for the work. Toli was marginally, but not significantly, happier with JH's reply.

WP 32 – AIDC PICS/OICS Proforma
WP 32A – Correction to WP 32

8.3   CL presented the AIDC PICS/OICS. There were closely modelled on the air/ground proforma, and CL asked that DF, as editor, could be kept informed of any policy/philosophy changes, so that both ground and air could keep in step. The AIDC proformas are not as advanced as the air/ground ones – there are still a number of 'Editor's Notes' scattered about, and DF would be grateful for clarification of some of these.

8.4   DF pointed out that AIDC had no subsetting rules, but there were a number of items, which should possibly not be made mandatory – for example the message exchange relating to the 'Notification' phase of an aircraft moving from one FIR to another. It was generally agreed that the highest level of the service should be made optional, and the lower levels conditional on the option being taken up - this was how quasi-mandatory services were handled in the air/ground applications.

8.5   PC was grateful for the expansion of the PICS/OICS capability – they were well supported by aircraft manufacturers and CAAs, including the FAA.

IP 3 –PICS/OICS Proforma for ATN Applications

8.6   At the last meeting of the WG in Naples, there had been considerable discussion as to how the PICS/OICS would be made available to users and implementers. ICAO had not been too enthusiastic about including them in SARPs, Guidance Material or on any proposed ICAO web site. However, DVR, on behalf of Eurocontrol agreed to put them on the Eurocontrol Web Site, accessible free of charge. TK presented this information paper, which indicated how the material should be accessed, how the files were broken down, and the size of each file. This was extremely useful information, and the WG was very grateful to DVR for his work and for Eurocontrol support.

9.   AGENDA ITEM 8 – IATA RELATED APPLICATIONS

WP 42 – IATA Policy on ATN Topology

9.1   PH presented this paper. The Airlines Electronic Engineering Committee (AEEC) had noted that some ATN implementation programmes assumed that certain States expected to mandate the use of their own air/ground routers for the exchange of ATSC traffic. IATA was very keen to ensure

that the aircraft operators should not be constrained in their choice of ATN service providers, and routing of ATSC traffic exchanges, and that ATS organisations should not require the exclusive use of any specific ATN air/ground routers for ATSC traffic exchange. IATA felt very strongly indeed about this, and was inviting support from all corners of the aviation world.

9.2   MA asked why IATA felt so strongly about this topic. PH said that there was a problem with cost and complexity of avionics if each domain/authority mandated a specific router connection, and there could be communication delays if a specific router path became congested. Flexibility would be lost. Ron Jones said that it was useful to get the operators' firm point of view. The Working Groups noted the concerns of IATA but felt that there were other related issues, both technical and economic, not adequately addressed by the draft IATA policy stated in the working paper.

9.3   PH agreed that this was to an extent an institutional problem. Klaus-Peter Graf noted that the Subvolume 5 (Internet SARPs) routing policy does not preclude bad network design, which could result in the need for the avionics to have prior knowledge of many air/ground routers. This is a network design issue. DVR accepted that the Eurocontrol Link 2000+ programme had institutional issues relating to communications routers – there was a need to know which organisations would be providing the necessary communications, so that the network could be optimised.

9.4   This was obviously a contentious issue, as far as IATA was concerned, and MA proposed that the members should co-ordinate the draft IATA policy with their administrations and further discuss this at the December WGW meeting.

Action: WG3 members to co-ordinate with administrations for second review at the TM

IP 8 – IATA Use of GACS

9.5   PH presented this paper. The AEEC Data Link Systems Subcommittee has been tasked with drafting two documents relating to the operational implementation of ATN in Avionics. For one of these, 637A covering the ATN infrastructure, the working group tasked with its preparation has specified GACS as the interface to the ATN infrastructure both in the avionics and in the ground systems of airlines and data link service providers. A copy of the draft 637A specifications was attached to the paper. Eurocontrol had asked IATA to prepare a breifing on this ATN-related work, which they did with pleasure.

9.6   The implication is that GACS will be mandatory if 637A is implemented. Eurocontrol has let a contract for GACS, and 637A still needs more work, but it will all come together. PC asked whether GACS would be in connectionless or connected form, and what was the IATA policy. PH said that this was covered on p 23 of the attachment – the connectionless GACS would be used for 90% of the time – the service providers say it makes the transition to their new systems easier. The other 10% will be connection oriented, allowing direct linkage to other on-line hosts. IATA has no position – it is a local matter. PC said that this was just his concern – the 90% connectionless. An aircraft will have to use the connection-oriented Dialogue Service for CPDLC, ADS etc, but CLDS for AOC. PH reminded PC that when multicast is used, that will be connectionless as well.

10.   AGENDA ITEM 9 – DOCUMENT TRACKING/VERSION CONTROL

10.1   There were no papers presented under this Agenda Item. However, MA was keen to clarify the proliferation of terms, e.g. Version Numbers, Package Numbers and Edition numbers. SVT said that we should not use 'Package' terminology – there really was no such thing. He said that an 'Edition' applied to a pile of paper – e.g. Edition 3 of Doc 9705. 'Version' applied to machine implementable software programs, or to protocol specifications. This seemed to be generally agreed by the meeting.

10.2   MA then asked what were the criteria for changing Edition numbers and Version numbers. For Edition numbers it appeared to be clearly an ICAO matter – Edition 2 of Doc 9705 has been printed because there were just too many pages to change in any amendment to Edition 1. Edition 3 will be printed because there will be significant enhancements included over and above Edition 2.

The case for rolling version numbers seems less definitive. There is clearly a case for a change if a PDR is introduced which seriously affects interoperability. There is also a need for a version change if significant additions are made – even if interoperability/backward compatibility is maintained, e.g. the inclusion of METAR into FIS, where an aircraft with Version 2 with METAR can still engage in a dialogue with a Version 1 data base for ATIS. PC said this was a complex matter, and needed clarification. SVT said that the CCB, in co-operation with ICAO Secretariat, would probably decide version numbers, based on interoperability.

Action: MA to try to clarify, and, with major support from TK, prepare a paper for the TM

11. AGENDA ITEM 10 – ANTP LEXICON

WP 8 – Proposed Amendment to the ATNP Lexicon

11.1 TB presented this update to the ATNP lexicon. This is part of an ongoing task in preparation for the publication of the full lexicon as a paper for the TM, and hence ATNP/3. TB would be grateful for contributions and comments on the existing material, which is always available in soft copy on the archive server at the meeting, and the CENA server thereafter. For the final version, TB proposed to add a fourth column, giving the destination of the definition.

11.2 The WG are grateful to TB for his maintenance and updating work on the lexicon, and look forward to the full edition in hard copy at the TM.

12. AGENDA ITEM 11 – AOB

WP 9 – New Roles for Pilots and ATCOs

12.1 This paper, written by Dr Walter Schwenk, was presented by TB. An earlier version had been presented at the ADSP WG A/B meeting in Ottawa in May. It highlights the roles of Pilots and Controllers in the new aviation environment where advancing technologies are leading up to Free Flight. Much of the technology of the ATN data link will be part of this, and it is interesting to note the lawyers attitude to liability and blame.

DP 01 – Draft report of the 17th meeting, Gran Canaria

12.2 MA apologised, but due to the number of papers presented, and the material discussed, the report of the meeting would not be available by the end of the meeting. A version would be available before the WG 1 meeting on Monday 4th October. This would be in draft form, and any corrections and additions would be made before the report was placed on the CENA server.

12.3 A brief resume of the report is attached at Appendix D.

13. AGENDA ITEM 12 – ACTIONS/PAPERS FOR THE WORKING GROUP OF THE WHOLE MEETING AND ATNP/3 MEETINGS

13.1 MA said that he would list the deliverables for the TM as an Appendix to the notes of the meeting. These are attached at Appendix E

Action: All members

WP 17 – ATNP Work beyond ATNP/3

13.2 DVR presented this paper, which was generated as a result of a request from the ICAO Secretariat. He supported the continuation of the Panel beyond ATNP/3, although he felt that some rationalisation of the WG and SG structure should be carried out. There are some essential areas where SARPs need to be developed, and he fully supported the position put forward by WG3 in Naples. He felt that there were some additional items that had to be included, and these were listed.

13.3   MA was grateful for the paper. He explained to the meeting that there was a requirement for two Flimsies to WG 1, in addition to the Meeting Report. The first flimsy should indicate the level of backward compatibility of the Version 2 of any air/ground, ground/ground or upper layer applications. The second Flimsy should indicate the WG 3-identified work of ATNP beyond ATNP/3. DVR's paper would do nicely as the basis for Flimsy 2. He also asked the SG Chairmen for any supplementary material.

13.4   With regard to compatibility status, where there are Version 2 applications, they are all backward compatible after a fashion – this is the purpose of version number negotiation. He would write a short note to this effect.

Action: MA for two Flimsies to WG 1

13.   AGENDA ITEM 13 – DATE AND PLACE OF NEXT MEETING

IP 4 – 3rd Working Group of the Whole (WGW/3) Meeting (and Related Working Group Meetings) of ATNP in Tokyo, Japan.

13.1   Mr Kuzuya presented the paper, formally inviting the WGs to meet in Tokyo, and outlining the very comprehensive arrangements for the meeting.

13.2   Working Group 3 will meet from Wednesday 1st December to Friday 3rd December 1999, starting at 0900 on the Wednesday. There will be the distinct possibility of Subgroups and/or Drafting Groups having to work on the following Saturday and Sunday, in preparation for the WGW/3, which will take place from the 6th to 10th December 1999.

13.3   MA thanked Mr Kuzuya and the JCAB for their kind offer to host the meeting, and looked forward to meeting members there.

M J A Asbury
Rapporteur, ATNP WG 3

2 October 1999

ATNP WORKING GROUP 3 - SEVENTEENTH MEETING

28 September – 1 October 1999

Gran Canaria, Spain

AGENDA

1.	Review/approve meeting agenda

2.	Review report of the 16th meeting of WG3 (Naples)

3.	Review status/outcome of appropriate meetings -

	3.1	ADSP WG A & B Meetings (M J Asbury)
	3.2	ATN CCB meetings (S Van Trees)
	3.3	*ICAO/ANC activities (M Paydar)
	3.4	*System Management SG (J Moulton)
	3.5	*Security SG (M Bigelow)
	3.6	Other ATNP WGs

	(*There will be a joint meeting with WG 2 from 1400 - 1530 on 28/9/99 at which briefing and discussion relating to common topics (e.g. Systems Management, Security and any ICAO updates) will be presented.)

4.	Air-Ground Applications

	4.1	Subgroup 2 report (M J Asbury)
	4.2	Review Trials and Implementation Activities
	4.3	Briefing on Package 1 maintenance, PDRs and CCB working (F Picard)
	4.4	Post Package 1 work

5.	Ground-Ground Applications

	5.1	Subgroup 1 report (J Y Piram)
	5.2	Review Trials and Implementation Activities
	5.3	Briefing on Package 1 maintenance, PDRs and CCB working (J-M Vacher)
	5.4	Post Package 1 work

6.	Upper Layer Communications Service

	6.1	Subgroup 3 report (S Van Trees)
	6.2	Review Trials and Implementation Activities
	6.3	Briefing on Package 1 maintenance, PDRs and CCB working (T Kerr)
	6.4	Post Package 1 work

7.	Interoperability and the development of Protocol Implementation Conformance Statements (PICS) for all applications

8.	IATA Related Applications

9.	Document Tracking/Version Control

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10.   ATNP Lexicon

11.   Any other business

12.   Actions/Papers for the Working Group of the Whole and ATNP/3 Meetings

13.   Date and Place of Next Meeting (Tokyo, Japan, 1 – 3 December 1999, prior to the WGW)

ATNP WG3 - Seventeenth Meeting – Gran Canaria, Spain – 28 September – 1 October 1999

LIST OF WORKING, INFORMATION and DISCUSSION PAPERS

Paper Number	Agenda Item	Presenter	Title
W3/17-W01	1	M Asbury	Agenda
02	1	M Asbury	List of Working Papers
03	1	M Asbury	List of Attendees
04	2	M Asbury	Report of 16th Meeting, Naples
05	5.1	J Y Piram	Report of WG3 SG1 (Ground/Ground Applications)
06	4.1	M Asbury	Report of WG3 SG2 (Air/Ground Applications)
07	6.1	S Van Trees	Report of WG3 SG3 (Upper Layer Architecture)
08	10	T Belitz	Update of ATNP Lexicon
09	11	T Belitz	Legal Considerations with regard to Air/Ground Data Communications
10	6.4	T Kerr	System management tool using GACS
11	12	D Van Roosbroek	Work beyond ATNP/3
12	6.4	T Kerr	Sub-Volume 4 additions (GACS, Naming, Security, CLDS)
13	6.4	T Kerr	Sub-Volume 4 draft Guidance Material (GACS, Naming, Security, CLDS)
14	6.4	T Kerr	Directory issues
15	3.4	T Kerr	Draft Sub-Volume 6 SARPs
16	3.4	T Kerr	Draft Sub-Volume 6 GM
17	6.3	T Kerr	SME4 report
18	6.4	T Kerr	Draft SG3 Validation Report (GACS, CLDS, Naming)
19	4.3	F Picard	SME 2 Report
20	4.4	F Picard	- Report on ICAO Standardization of the FIS(METAR) ATN Application
21	7	M Harcourt	CM Airborne PICS/OICS (available in soft copy only)
22	7	M Harcourt	CM Ground PICS/OICS (available in soft copy only)
23	7	M Harcourt	ADS Airborne PICS/OICS (available in soft copy only)
24	7	M Harcourt	ADS Ground PICS/OICS (available in soft copy only)
25	7	M Harcourt	ADS RF Initiator PICS/OICS (available in soft copy only)
26	7	M Harcourt	ADS RF Responder PICS/OICS (available in soft copy only)
27	7	M Harcourt	CPDLC Airborne PICS/OICS (available in soft copy only)
28	7	M Harcourt	CPDLC Ground PICS/OICS (available in soft copy only)
29	7	M Harcourt	PICS/OICS Guidance Material
30	7	F Picard	FIS Airborne PICS/OICS (available in soft copy only)
31	7	F Picard	FIS Ground PICS/OICS (available in soft copy only)
32	7	C Leclerc	AIDC PICS/OICS
32A	7	C Leclerc	Corrigendum to WP 32
33	6.4	G Mittaux-Biron	SV 4.8 Revised Chapter
34	6.4	G Mittaux-Biron	Proposed Mapping of WG1/SG2 Security Requirements on Upper Layers Mechanisms

35	6.4	G Mittaux-Biron	Security ASO Security Exchange Service Element (SESE) Specifications
36	4.4	G Saccone	CM Security Approach
37	4.4	G Saccone	CM 'Logout' Function Discussion
38	4.4	G Saccone	Interpretation of Extensibility Markers by Package 1 Applications
39	4.4	G Saccone	Modification to CM for Rejected Logon Definition
40	3.3	M Paydar	Update from Panel Secretary
41	4.3	M Harcourt	CPDLC Permitted Responses
42	8	P Hennig	IATA Policy on ATN Subnetwork Topology
43	3.4	J Moulton	Sub-Volume 7 – Directory services (Limited Circulation – soft copy available)
44	3.5	M Bigelow	WG1/SG2 Security SG Report
45	5.3	JM Vacher	SME3 CCB Report
46	5.4	JM Vacher	Status Report on Extended ATS Message Service
47	3.2	S Van Trees	CCB Report
48	4.4	J Simpkins	Security Scenarios
49	6.4	S Van Trees	Proposed New SV 9
50	5.4	J Lenz	Withdrawal of Pass Through Service SARPs
W3/17-IP01	6.4	T Kerr	GACS project update
02	4.2	D Van Roosbroek	Link 2000+ update
03	7	D Van Roosbroek	P/OICS Web site
04	12	N Sakaue	Arrangements for Tokyo Meeting, December 1999
05	3.5	G Mittaux-Biron	OSI/ITU – The Security Exchange Service Element
06	1	J Cid	Welcome to Las Palmas
07	4.2	S Tran	En Route CPDLC Status Overview
08	8.2	P Hennig	IATA Use of GACS
W3/17-DP1			Draft WG3 17th Meeting Report from Gran Canaria

ATNP WG3 SEVENTEENTH MEETING – GranCanaria, Spain, 28 September – 1 October 1999

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RESUMÉ OF THE REPORT OF THE 17TH MEETING OF THE ATN WG3, GRAN CANARIA, SPAIN, 28 SEPTEMBER – 1 OCTOBER 1999

1.   The 17th meeting of the ICAO Aeronautical Telecommunications Network Panel Working Group 3 was held in Gran Canaria, Spain, from 28/9 – 1/10/99. The Chairman was the WG3 Rapporteur, Mike Asbury, and 36 Members from 10 States and 2 International Organisations attended. 58 Working and Information Papers were presented.

2.   SG 1 (Ground/Ground Communications) met in Naples from 25-28/5/99. Draft SARPs have been produced for the Extended ATS Message Service. Work is progressing on the implementation of AMHS Security. SARPs and GM are being developed for the CIDIN/AMHS Gateway, and work concerning the AMHS use of the Directory is well advanced. PICS/OICS proformas for AIDC have been developed to the standard format. SG 1 is reviewing the contents of Annex 10 Vol. II, and it is proposed to reduce the CIDIN technical material in the Annex by about 10 pages. The CIDIN user group would be kept informed. It appears that the Pass Through Service Protocol will not be implemented, and therefore it should be removed from the SARPs. The policy for the removal of the SARPs would first be cleared with ICAO. The next meeting will be in Gran Canaria, 4-7/10/99

3.   SG 2 (Air/Ground communications) had met from 12-16/7/99. Work continued on CM enhancements. Defects were noted relating to ADS SARPs, and appropriate solutions were agreed. ADSP had indicated new ORs relating to the Emergency /Urgency service, and draft SARPs would be prepared for the next meeting. The new requirements could affect interoperability. New SARPs for the METAR service were reviewed in detail. PICS/OICS had been updated to enable implementers to prepare accurate profiles. There were significant questions relating to air/ground applications to be taken up with the ADSP. Additional work included definition of how Version 1 applications should explicitly define how decoded information beyond extensibility markers is acted upon. CM will work with the Version 2 Security modifications, and SARPs changes will be necessary. SARPs, Validation Report and Guidance Material, for the FIS (METAR) ATN Service are completed. The next SG 2 meeting will be 1-5/11/99.

4.   SG 3 (Upper Layers Architecture) met in Toulouse from 8-10/9/99. Draft SV 4 revision current work, including implementation of all appropriate PDRs, new sections 4.7 (Connectionless Dialogue Service - CLDS), 4.8 (Secure Dialogue Service) and 4.9 (Generic ATN Communications Service – GACS), is progressing. The Security, Directory, Naming and Addressing, CLDS and GACS are all in the Validation phase. Stable requirements from the WG 1 Security Subgroup have now been incorporated into the revised UL Security SARPs. SG 3 had identified the need for an additional Subvolume to the ATNP SARPs, dealing with Registration. The WG strongly supported the new SV 9, which would be available for WGW/3 in 12/99, with a more complete version for the ATNP/3. There will be another full week meeting of the SG before the next WG 3 Meeting
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5.   The Eurocontrol GACS implementation Project is being progressed. This will contribute to the validation of the draft SARPs for GACS, the connectionless ATN upper layers and dialogue service and the upper layer naming enhancements. The proposal to develop some ATN application level Systems Management utilities based on GACS was controversial, and would be reviewed post ATNP/3. The first draft of SV 7 – the ATN Directory Service was introduced. The Directory structure had been specified, and the contents defined. There was some concern expressed that the requirements for the Directory had not been codified, but WG generally supported the continuation of the present Directory work towards presentation at ATNP/3.

6.   Some ATN implementation programmes assumed that certain States expected to mandate the use of their own air/ground routers for the exchange of ATSC traffic. IATA was very keen to ensure that the aircraft operators should not be constrained in their choice of ATN service providers, and was inviting support from all corners of the aviation world.   Clarification was sought on the proliferation of terms, e.g. Version Numbers, Package Numbers and Edition numbers. The WG was advised that they should not use 'Package' terminology – there really was no such thing. An 'Edition' applied to a pile of paper. 'Version' applied to software programs. The ATNP Lexicon continues to be updated in preparation for publication of the full lexicon as a paper for the TM, and hence ATNP/3.

7.   The next meeting will be in Tokyo, from 1-3/12/99, and a list of the deliverables for this and the consequent WGW/3 had been prepared. Subgroups and/or Drafting Groups will have to work on the following Saturday and Sunday, in preparation for the WGW/3.

DELIVERABLES FOR THE WGW/3 MEETING , TOKYO

WG3/17 Para. Ref.	Deliverable	Author/ Action	WG3/18 WP Number
4.7	Security Briefing, including indication of Threat	Jim Lenz	W318W10
4.9/7.43	SV 6 – System Management	Jim Moulton/ Tony Kerr	11
4.10	SV 6 SM Validation Report	Jim Moulton/ Tony Kerr	12
5.2	Consolidated ADS Version 2 Material	Frederic Picard	13
5.12/25/27 etc	Consolidated CM Version 2 Material	Greg Saccone	14
5/34	Consolidated FIS Version 2 Material, inc. METAR SARPs, Validation Report and Guidance Material	Frederic Picard	15
6.1/6.8	Consolidated Extended ATS Message Service SARPs, Validation Report and Guidance Material	Jean-Marc Vacher	16
6.1	Consolidated CIDIN/AMHS Gateway SARPs, Validation Report and Guidance Material	Jean-Yves Piram	17
6.3	CIDIN Based Annex 10 Amendments	Jean-Yves Piram	18
6.12	Withdrawal of Pass Through Service SARPs	Jean-Yves Piram	19
7.8	New SV 9 – Outline Version	Steve Van Trees	20
7.11	Consolidated SV 4 Additional SARPs, Validation Report and Guidance Material	Steve Van Trees/Tony Kerr	21
7.20	Application Relay Architecture	Steve Van Trees/Jim Simpkins	22
7.53	SV 7 – ATN Directory Services SARPs, Validation Report and Guidance Material	Jim Moulton	23
7.58	End-to-End System Certification	Steve Van Trees	24
8.1	Cover paper for Air/Ground PICS/OICS (Full Air/Ground PICS/OICS available in soft copy only)	Danny van Roosebrook/ Mike Harcourt	25
8.4	Cover paper for Ground/Ground PICS/OICS (Full Ground/Ground PICS/OICS available in soft copy only)	Claude Leclerc/Dirk Fieldhouse	26
10.2	Document Tracking/Edition/Version Clarification	Mike Asbury /Tony Kirk	27
11.2	ATNP Lexicon	Thomas Belitz	28