Report of the 18th Meeting of ATNP WG2
18-21 May 1999
Naples, Italy

0.   Meeting Organizational Issues

Mr. Jones, Rapporteur opened the meeting and welcomed the members and advisors. Mr. Cecere welcomed the WG2 members to the Naples meetings hosted by SICTA. He explained an office had been set up in support of the meetings. After introductions of the WG2 participants, the working papers were collected and assigned working paper numbers. The list of working papers is provided as attachment 2.

1.   Approval of the Agenda (WP507)

The agenda, WP507 and attachment 1 to this meeting report, was reviewed approved with minor corrections.

2.   Review and Approval of the report of 17th Meeting of WG2 (Honolulu – WP508)

The group reviewed WP508, the report of the 17th meeting of WG2 held in Honolulu, USA. The group approved the report with only minor correctors.

3.   Inputs/Issues from other ICAO Bodies (e.g., Panel Secretary, CCB, WG1, AMCP, etc.)

Mr. Paydar presented WP516 discussing several items. He indicated that Mr. Lenz has been confirmed as the new U.S. panel member and Mr. Platz and Mr. Burgemeister have retired and their organizations have not yet nominated replacements. In order to support ATNP/3 in Feb. 2000, he indicated that the materials from the working group must be finalized and submitted to the secretary at the conclusion of the proposed Working Group of the Whole in December 1999. He also indicated that if the working groups feel they cannot produce the needed products in time to support a Feb. 2000 for ATNP/3 then the next available dates for ATNP/3 are in October 2000. WP516 included a tentative agenda for ATNP/3 and the working group was requested to provide their inputs on this agenda. A new task for ATNP has been proposed. This would be for the revision of Annex 10, Volume II (communications procedures). The new task would be for AFS procedures. This new task has been approved by the ANC and WG1 and/or WG3 will need to progress work on this new task for ATNP/3. ATNP is expected to provide the inputs related to data networks. The new task was discussed at the joint WG2/WG3 session and was planned for discussion at the subsequent WG1 meeting.

Mr. Paydar also called the attention of the WG2 to a letter that had been sent to the panel members discussing work beyond ATNP/3 and the level of participation in the working groups. This letter was provided as WP525.

Mr. Jones raised the possibility of holding a WGW in the May 2000 time frame to approve any final changes to the proposed second edition of Doc 9705 resulting from additional validation activities subsequent to a Feb. 2000 meeting of ATNP/3. This was suggested as an alternative to delaying ATNP/3 in the event the validation were not fully completed by Feb. 2000. Mr. Paydar confirmed that such an arrangement would be possible if the WGW resulted in a proposal for only a very modest number of proposed corrections to Doc 9705.

The group agreed that the baseline starting point for developing the proposed second edition of Doc 9705, SV-5, would be the published first edition of SV-5 with all of the Amendment 1 changes incorporated.

Mr. Jones noted that no inputs had been received to the previous ATNP WG2 communiqués to AMCP. Mr. Hennig noted that AMCP had held a panel meeting in March 1999 and a new subgroup of WG-D has been formed to address the VDL Mode 2 defects.

Mr. Hennig reviewed items from the WG1 meeting in Honolulu where two items were related to WG2 activities. WG2 is expected to provide inputs (reference: WG1 report from Honolulu, para. 11.2) on any changes to version numbers and on the proposed work programme beyond ATNP/3. WG2 reviewed a previously produced Flimsy 1 from the WG2 meeting in Bordeaux in October 1998 on this subject and updated this flimsy as a new flimsy 1 to provide response to WG1 on the topic of version numbering and the backward compatibility. WG2 also produced flimsy 2 to define the ICS related work programme envisioned beyond ATNP/3.

4.   **Review Status of Action Items from the 17th Meeting of WG2**

ACTION 16/6: Mr Whyman to prepare proposed ICS changes to provide Package-2 enhancements derived from the proposal in WP-471 to address the issue of the possible negative effects that could results from rapidly changing mobile subnetwork connectivity.

Status: Closed– passed to the ICS Drafting Group

ACTION 16/8: Mr. Graf will draft a proposal, against PDR 98060006, for the detailed changes to the ICS SARPs to address items a, c and d in the recommendations of WP-471. Mr. Graf will coordinate the proposed changes with Mr. Whyman before submission to the CCB.

Status: Closed

ACTION 17/1 – Mr. Tamalet to prepare two PDRs based on the proposal in flimsy 2.

Status: Closed

ACTION 17/2 – Mr. Moulton to submit a PDR to propose the addition of notes to SV-1 based on the proposal in flimsy 3.

Status: Closed

ACTION 17/3 – Mr. Moulton to coordinate with the WG2 members and develop a response to PDR 99010001. The response to be provided to the Sub-Volume V SME by 2 April 1999.

Status: Closed

ACTION 17/4 – Mr. Tamalet to prepare a PDR based on WP502 for submission to the Sub-Volume V SME.

Status: Closed

ACTION 17/5 – Mr. Whyman to prepare a PDR based on Attachment B to WP500 for the emergency mode issue.

Status: Closed

ACTION 17/6 – Mr. Briant will prepare a PDR on the issued raised by WP500 Attachment C and submit it to Mr. Graf the Sub-Volume V SME.

Status: Closed

ACTION 17/7 – Mr. Graf will coordinate with the WG2 experts with the goal of reaching a consensus by 2 April 1999 on the needed changes to the ICS SARPs to respond to PDR 98060006. The proposal is then to be submitted to the CCB.

Status: Closed

ACTION 17/8 – Mr. Moulton to coordinate with Mr. Cardwell on the issues raised by WP506.

Status: Closed

ACTION 17/9 – Mr. Moulton to prepare and coordinate a first draft WP for ATNP/3 on multicast architecture for review by WG2 in May 1999 with an final WP out of the Oct. WG2 meeting.

Status: **O**pen

ACTION 17/10 – ALL – Submit results of further consideration of WP491 to next WG2 meeting, Naples, May 1999.

Status: Closed

ACTION 17/11 – ALL - submit proposals and the results of analysis from investigations into candidate enhancements to Doc 9705 requirements for the transport service to better cope with the loss of TPDUs.

Status: Closed

5. Preparations for ATNP/3

5.1 Package 2 ICS documentation for ATNP/3

Mr. Graf and Mr. Schade prepared Flimsy 3 to provide a list of the candidate functional areas of the ICS to be enhanced for 'Package-2'. See discussion in agenda item 5.2 below.

5.2 Need for a Package 2 ICS Editorial Group

Mr. Jones presented WP511 proposing to form an ICS drafting group (IDG) for the purpose of preparing a red-lined version of the second edition of the ICS SARPs and the corresponding ICS guidance material. Mr. Whyman indicated that the proposed new functions to be added to ICS should be defined before the need for such a drafting group could be determined. Mr. Jones and Mr. Graf noted that WP510 generally identify these areas of the ICS SARPs to be enhanced, but do not do so in the best form for use in providing subgroup tasking. Mr. Graf and Mr. Schade prepared Flimsy 3 to provide a list of the functional areas of the ICS to be enhanced for 'Package-2'. This was used as an input into Flimsy 8, provided as attachment 4 to this meeting report, which provided both the terms of reference and the work programme for the IDG. The group agreed to form the IDG and the first two meeting were scheduled as follows:

> 1st meeting: 28-30 June in Fairfax, Virginia USA
> 2nd meeting: 31 August – 2 September in Munich, Germany (
> *<Rapporteur's note - the dates of the 2nd IDG have been changed to 1-3 September>*

The following individuals indicated they would be participating in the drafting group:

Brian Cardwell, UK NATS	Tom McParland, BCI/FAA
Klaus-Peter Graf, Connect/DFS	James Moulton, ONS/FAA
Paul Hennig, IATA	Stephane Tamalet, STNA
Ron Jones, FAA	

EUROCONTROL may also provide a participant to the drafting group.

5.3   ATNP WG2 Report to ATNP/3

Mr. Jones introduced WP509 which proposed the WG2 working papers/inputs that must be prepared for submission to ATNP/3.   The paper proposed 8 items that need to be prepared by WG2 (or the WG2 rapporteur) for submission to ATNP/3 and/or for submission to the planned December 1999 WGW for consolidation with inputs from the other working groups in preparing the WGW input to ATNP/3. One item was eliminated and the conclusions of the working group is reflected in the table below:

No.	Description of Needed Input	Status by Oct. WG2 meeting	Status by Dec. WGW Meeting
1	Draft Package-2 Sub-Volume V	Draft approved	Approved WGW WP with proposal to ATNP/3 to approve the attached Doc 9705 (including Sub-Volume V corrected as necessary based on validation results)
2	Working Paper on Multicast Architecture	Draft approved	Approved WP with proposal to ATNP/3
3	Rapporteur's report on WG2 progress	Draft Working Paper for review	Final Working Paper to ATNP/3
4	Validation Report for ICS enhancements	First draft (still incomplete results)	Approved WP with validation report attached
5	Proposed Work Programme for ATNP/4 to progress ICS provisions	Draft approved	Approved WGW WP with consolidated proposal for detailed (i.e., at the working group level) Work Programme items
6	Proposed Enhancements to the ICS guidance material (i.e., CAMAL)	First draft	Second, perhaps final, draft of ICS GM. WGW WP to ATNP/3 with comprehensive 'Package-2' GM (only if the overall GM is considered mature).
7	Summary of ICS backwards compatibility provisions with the current ATN SARPs and Doc 9705 (first edition with Amendment 1)	Draft approved	Approved WP with comprehensive description of 'Package-2' backward compatibility provisions

The joint session of WG2 and WG3 discussed a number of points related to the products to be delivered to ATNP/3 and well as items that need to be coordinated between the working groups. Mr. Hennig introduced the following points to the joint session:

- WG2 and WG3 will each need to provide WG1 with a flimsy on backward compatibility. WG1 will then prepare a paper to ATNP/3 from the overall package-2 prospective.

- WG2 and WG3 will each need to provide WG1 with a flimsy on the work that will need to continue beyond ATNP/3. WG1 will then prepare a paper to ATNP/3 presenting the consolidated list of proposed future work programme items.

- The ATNP members will needs to consider the ICAO vehicle to progress the work after ATNP/3 (see agenda item 8.4 for the alternatives discussed).

- A new task was recently added to the ATNP work programme. It was proposed that WG3/SG1 should take the lead in addressing this new task.

- The secretary has proposed that ATNP tasking including support for the secretary in addressing implementation issues raised by the States and Regional Planning Groups.

- It was propose that the CCB SMEs should coordinate all Package-1 PDRs with the Working Group, or designated subgroup, in order to keep Package-2 aligned with any changes going into amendments to the first edition of Doc 9705.

- The proposed alternative dates for ATNP/3 were Feb. 2000 or October 2000. After some discussion the WG2/WG3 session supported a request for a Feb. 2000 date with a follow-up WGW in the May 2000 time frame to review any additional validation request and to product any minor corrections to the proposed second edition of Doc 9705. Also this WGW would finalize the proposed revisions to the ATN guidance material (i.e., the CAMAL).

- The working group were requested to review the proposed ATNP/3 agenda and provide any comments to the secretary.

Mr. Jones indicated to the joint WG2/WG3 group that WG1 could be expected to provide out of its meeting the following week, drafts of the Core and Sub-Volume I with a request that WG2 and WG3 comments into the October WG1 meeting. He indicated that WG2 and WG3 will need to review the Package-2 draft Core and Sub-Volume I text to insure that package-2 enhancements contained in the other Doc 9705 sub-volumes are properly captured in these higher level requirement documents.

5.4   Working Group Organization and Work Programme post ATNP/3 (i.e., for ATNP/4)

Mr. Jones discussed the outstanding work on Multicast that will not be completed by ATNP/3. Mr. Hennig, based on inputs from the working group produced flimsy 2. This flimsy summarized the work programme items WG2 believes need to progressed after ATNP/3. See discussion under agenda item 8.4.

6.   Package-1 ICS Documentation

6.1   ICS SARPs (consideration of requests from the CCB and/or ICS SME).

Mr. Graf presented WP513, the SME report for the Sub-Volume V of Doc 9705. He reported that 31 PDRs have been raised against the Sub-Volume V. He reported that 28 of the PDRs have been resolved. With amendment 1 to Doc 9705 all 28 are the resolved PDRs will be reflected in the ICAO baseline for ICS. The 3 remaining PDRs have been accepted by the CCB and are awaiting resolution. He requested WG2 inputs for these unresolved PDRs. The paper specifically requested WG2 inputs for two of the PDRs while the third was provided for information and for which working group inputs, while useful, are not critical at this point in time.

The first of the PDRs relates to an issue raised in the context of VDL Mode 3 but potentially impacting other future subnetworks. This issue was first raised at the WG2 meeting in Honolulu. This related to the existing ICS recommendation for the use of the non-segmenting CLNP subset and the requirements for subnetworks to support a subnet protocol unit size of at least 1100 octets. The critical issue was in maintaining backward compatibility with implementations consistent with the current ICS recommendation for use of the non-segmenting subset. The group agreed to check with implementors to determine if Package-1 implementations have restricted use of the use segmentation in such a way that removal of the existing ICS recommendation would create a backward interoperability problem or not. An initial check with implementors (specifically ACI) did not find an implementation that had hard-coded the boundary for use of segmenting versus non-segmenting. Thus it was concluded that a) deletion of the current recommendation in the ICS SARPs, b) making the 1100 octet requirement into a recommendation and c) the addition of note explaining the possible negative consequence of the use of the non-segmenting CLNP subset would not cause interoperability problems with early Package-1 implementations. Mr. Graf agreed to draft the proposed changes to the ICS SARPs and submit these to the CCB.

The second PDR raised by WP513 related to recovery from a loss of an IDRP connection in the case where the subnetwork connection has not been closed. There is no current mechanism to trigger the establishment of a new IDRP connection. Two alternative solutions were presented and the group preferred the solution where the IS-SME re-attempts IDRP connection irrespective of which side first

initiated the BIS-BIS connection. Mr. Whyman suggested this might create a potential issue with the proposed IDRP security mechanism. Final consideration of this PDR was deferred until after the discussions on IDRP security. Is was subsequently concluded that the proposed solution would not conflict with the security mechnanisms.

The third outstanding issue related to the requirements for echo response function. There appeared to be a typographical error in the APRL that does not require intermediate systems to support the echo response function. The working group agreed the ICS SARPs should be corrected.

The WG2 recommendations in response to the defects identified in the 3 PDRs were presented to WG2 in Flimsy 6. The working group reviewed and endorsed the proposed ICS SARPs changes described in flimsy 6 with several modifications. The most significant modification was a decision to delete the requirement for the 1100 octet minimum SNSDU size from Sub-Volume V and not replace this with a recommendation. Rather guidance material will be created to describe the relationship between the SNSDU size support by a subnetwork and the overall effect on efficiency. These revisions were subsequently included in an update to flimsy 6.

Mr. Graf presented WP514, the draft amendment 1 to the ICS SARPs. This was presented as red-line/strikeout text for all of the Sub-Volume V pages with changes. Given that approximately 20% of the pages in the current Sub-Volume V will have changes, Mr. Paydar indicated that ICAO may elected to issue a fully updated Sub-Volume V rather than publishing just the changes. He agreed that it would be possible to include an up-front table indicating the paragraphs that had been changed. There is some potential that ICAO may decide to reissue the complete Doc 9705 as the second edition that includes the amendment 1 changes.

6.2   Additional Validation Results

No working papers were presented under this agenda item.

6.3   Implementation Plans

No working papers were presented under this agenda item.

7.   Package-2 ICS Documentation

Mr. Jones presented WP510 reviewing the WG2 tasking from ATNP/2 and the status of the working group progress on each item. The information in this working paper was used as an inputs to Flimsy 2 in defining the recommended work programme for WG2 subsequent to ATNP/3 and also to Flimsy 3 in defining the functional enhancements to be incorporated into the Sub-Volume V draft to be presented to ATNP/3.

Mr. Schade presented Flimsy 3 providing a summary of the candidate Package-2 functional enhancements to Sub-Volume V.

7.1   Security Mechanisms

Mr. Bigelow briefed the joint session of WG2 and WG3 on the progress that has been made by the WG1/SG2 security subgroup. He reported the subgroup had met two times since Honolulu and the focus has been on the security architecture and the cryptographic algorithm. He reported that updates to the Core SARPs and Sub-Volume I would be presented to WG1 the following week. Furthermore, a draft of Sub-Volume VIII will be provided to WG1 as an information paper and reviewed by the security subgroup at their meeting immediately following the WG1 meeting. Mr. Asbury indicated that from the U.K. point of view he has some concerns that ATNP is attempting to place too stringent security requirements on the ATN and he felt that the ADSP needs to complete a risk analysis in order to establish a target level of security protection that must be provided. Mr. Jones, Mr. Hennig, Mr. Bigelow and Mr. Whyman offered counter arguments that security provisions are needed in the ATN and what is now being proposed is

essentially a tool box that allows the end users to select the level of security desired on a application and local basis. This was the consensus position of the working group members.

Mr. McParland presented WP518 on IDRP security. He described the change in the proposed technique for IDRP (and application) security that has been developed by WG1/SG2. The current proposed approach is a hybrid solution where an asymmetric key (i.e., public key infrastructure) is used for the initial exchange for key agreement and subsequent exchanges use a symmetric key (i.e., session key). He began by providing an overview of two of the technologies (i.e., Diffie-Hellman Key Agreement and the Elliptic Curve Key Agreement Scheme) being employed by the proposed IDRP security scheme. He then presented a walk through of a scenario showing the sequence of exchanges between airborne and air-ground routers. There were several questions and suggestions from the group leading Mr. McParland to incorporated two changes in the proposal in WP518 and the related draft text for Sub-Volume V in WP522. WP518 proposes an approach that support either one-way authentication (i.e., air-to-ground) or full bi-directional authentication. Airborne routers supporting bi-directional authentication would need to carry a data base with the public keys of the certificate authorities.

Mr. McParland presented WP522 proposing revisions to Sub-Volume V to add provisions for the secure exchange of routing information. The proposed security enhancements define the provisions for the optional use of 'Type 2' IDRP authentication.

7.2 Systems Management

Mr. Moulton briefed a joint session of WG2 and WG3 on the progress of the joint systems management subgroup. He reported that two meetings of the subgroup had occurred since the working group meeting in Honolulu. He indicated the concept of operations should be out for comment by the end of the following week. This will be placed on the CENA ftp server under the WG1/SG3 directory. In response to a question from Mr. Jones, Mr. Moulton indicated that the Sub-Volume VI (systems management) will be essentially self contained and the other sub-volumes will need only to include a cross-reference. Mr. Moulton reported that the subgroup has been struggling with what systems management provisions represent SARPs versus guidance material. The joint working group agreed that it is important that an essentially complete systems management Sub-Volume draft be available for working group review at the Sept./Oct. 1999 working group meetings.

Mr. Whyman presented WP524, an information paper on performance management requirements analysis. He explained that the performance requirements from the ADSP manual of ATS data link applications has been examined and a set of technical performance requirements were derived from these. These derived performance requirements were then compared to the managed objects defined in the draft Sub-Volume VI to determine if the appropriate MOs have been defined to monitor the performance values. Mr. Moulton indicated that the joint systems management subgroup has already reviewed this paper and is working on defining MOs to address the performance requirements described in this working paper.

The status of the systems management support by the RRI, Pro-ATN and DLP based routers were discussed. All of these have or will have support for systems management, but likely not in a fully SARPs compliant way.

7.3 Multicast/Broadcast Functions

Mr. Moulton reported that a draft of the planned working paper to ATNP/3 on the subject of ATN multicast architecture will be available for review at the next WG2 meeting in September 1999.

The working group reviewed WP491, that had been previously introduced at the Honolulu WG2 meeting. This paper proposed that the broadcast/unicast feature of the proposed VDL Mode 3 be considered when developing ATN broadcast/multicast services. The group agreed the role of this VDL Mode 3 feature will be considered as part of the future WG2 work on multicast after ATNP/3. Mr. Whyman noted that the role of such a subnetwork feature will depend on the operational requirements that are being addressed by the overall ATN multicast service.

7.4   Additional and/or revised SNDCFs for mobile and/or ground subnetworks

The discussion of the VDL Mode 3 SNDCF related to the multicast/broadcast function is covered under agenda item 7.3 and is an item for the future work programme (post ATNP/3). Mr. Whyman prepared flimsy 5 to AMCP raising questions related to VDL Mode 3 related to the non-8208 subnetwork access protocol and the schedule for approval of the VDL Mode 3 SARPs. If the VDL Mode 3 SARPs are being progressed for inclusion in the 2001 amendment to Annex 10, as are the ICS enhancements, then the ICS will need to include the provisions (i.e., SNDCF) to accommodate VDL Mode 3 as a mobile subnetwork.

Mr. Jones raised an issue on VDL Mode 4 related to the AMCP decision to limited the VDL Mode 4 SARPs to navigation and surveillance applications. This issue was previously raised at the Honolulu WG2 meeting. The limitation placed on the use of VDL Mode 4 results in a incompatibility with the ATN internet service as currently defined in that the routers cannot restrict traffic over a given subnet to only being navigation & surveillance related (i.e., the ADS application in the context of the current ATN set of applications). It was also not clear if the intent of the AMCP is to progress the VDL-4 SARPs for incorporation in the 2001 or a later update to Annex 10. Mr. Cardwell drafted flimsy 4 as a communiqué to the AMCP to express the concerns of WG2 on this matter.

7.5   ATN ICS Subsets

No working papers were presented under this agenda item.

7.6   Enhancements to the ICS SARPs/GM based on New or Revised User Requirements

Mr. Whyman presented WP421 proposing an approach for the ICS to handling new subnetwork types. The current Sub-Volume V recognizes a limited set of mobile subnetworks that can be selected by use of the traffic class codes associated with the AOC traffic type. The proposal was to introduce a new mechanism in Sub-Volume V that would allow any one aircraft to have up to 8 mobile subnetworks that could be defined on an airline by airline basis. Mr. Tamalet expressed concern that the proposed changes would no longer allow routers to made local routing decisions based on the mobile subnetwork used on a given path. Mr. Whyman and others indicated that providing this ability for such local routing decisions for ATSC traffic had not be specifically envisioned when the current ICS SARPs were being drafting. However, the group agreed that this would be possible with the current ICS provisions. The working group concluded there is a need to enhance Sub-Volume V to allow AOC traffic to use forthcoming mobile networks, such as next generation AMSS, without having to update the ICS provisions and router software each time a new mobile subnetwork, or service provider, becomes available. However inputs are needed from IATA to better define operational requirements for the needed flexibility of the routing of AOC traffic on a subnetwork and service provider basis. At the request of the working group, Mr. Hennig prepared Flimsy 7, a communiqué to IATA on the requirement for the use of AOC traffic classes for subnetwork selection.

Mr. Tamalet presented WP512 on TP4 timeout and retransmission issues. The paper examined alternatives derived from mechanisms employed by TCP. This was a follow up to WP486, presented in Honolulu, that proposed the use of TP4 selective acknowledgements to mitigate the impact from the loss of subnetwork connectivity. WP512 described three dynamic algorithms for computing transport timer values (i.e., a 'smoothed RTT estimator' back-off algorithm, the Van Jacobson algorithm and the Karn's algorithm) and a forth 'fast transmit' mechanism. The working group agreed that such dynamic transport mechanisms need to be further investigated along with selective acknowledgement. It was further recognized that such mechanisms are not precluded by the current ICS provisions. However, consideration should now be given to adding requirement(s), recommendation(s) and/or note(s) for the purpose of provide a more robust operation of TP4.

Mr. Whyman presented WP520 proposing to add a new parameter in the ISH packet for "ATN version number." This could be viewed as an extension of the use of the uplink ISH packet options parameter that

has been added by amendment 1 to the first edition of Doc 9705. The proposal in this working paper is to add a downlink parameter to inform the air-ground router that the airborne router supports the reception and processing of the optional parameter on the uplink ISH. There was concern that the proposed name of the proposed new parameter is somewhat misleading and a more appropriate name for this new parameter is needed.

7.7   Enhancements to the ICS SARPs/GM based on Operational Experience

No working papers were presented under this agenda item.

8.   Future Work Plan

8.1   WG2 position on ATNP/3 schedule

The working group agreed with the previously proposal from the panel secretary to convene ATNP/3 in February 2000. Mr. Cardwell indicated that this position should be reconfirmed at the next WG2 meeting in October 1999. The working group further agreed that a Working Group of the Whole (WGW) should be convened in the May 2000 time frame to review additional validation results and to make any necessary final corrections to the proposed Doc 9705 second edition provisions. The responsibility for the proposed Doc 9705 second edition would be turned over to the ATNP CCB subsequent to this WGW meeting and released to the panel secretary for wider distribution.

8.2   Plans for 19th meeting of WG2

WP519 was introduced by Mr. Manuel Garcia Martin describing the arrangements for the next working group meetings being hosted by Spain on Gran Cararia Island at the:

> **Hotel Melia Tamarindos**,
> c/. Retama, 3
> Playa de San Agustin
> 35100 Maspalomas (Gran Canaria)
> Spain
>
> Tel: +34 9 28 77 40 90
> Fax: +34 9 28 77 40 91
> e-mail: melia.tamarindos@solmelia.es

The hotel is located in the southeast of the Gran Canaria Island, and faced to the San Agustin beach.

Reservations must be made by 23 August 1999.

WG2 will meet starting at 1300 on 27 September (Monday) and continuing through 1 October 1999 (Friday). It is anticipated that WG3 will meet concurrently with WG2 and WG1 will meet during the beginning of the second week in Gran Canaria.

Generally, two sessions (meetings) will occur in parallel during the two week period planned for meetings in Gran Canaria. The *tentative* overall schedule for meetings in Gran Canaria is summarized below:

Day of Week/Date	Session-I	Session-II
Monday PM 9/27	CCB-9 (0900-1200) WG2-19 (1300-1700)	
Tuesday 9/28	WG2-19	WG3-17
Wednesday 9/29	WG2-19	WG3-17
Thursday 9/30	WG2-19	WG3-17
Friday 10/1	WG2-19	WG3-17
Saturday/Sunday		
Monday 10/4	WG1-16	WG3SG1
Tuesday 10/5	WG1-16	WG3SG1
Wednesday 10/6	WG1-16	WG3SG1
Thursday 10/7	WG1SG2	JSG
Friday 10/8	WG1SG2	JSG

Notes: WG1/SG2 deals with ATN security requirements
           JSG deals with ATN systems management requirements

8.3   Plans for WGW meeting in December 1999

The *tentative* schedule for the December 1999 working group meetings in Japan are:
        1-3 Dec. WG1
        6-10 Dec. WGW (tentative schedule for the following breakout sessions)
                - 6 Dec. morning - Plenary
                - 6 Dec. afternoon through 8 Dec. morning - WG2 & WG3 breakout sessions
                - 9-10 Dec. Plenary

8.4   Post ATNP/3

Mr. Paydar presented a copy of the current ATNP work programme to the joint session of WG2 and WG3. He noted that the current work programme ends as of ATNP/3 and if the panel is continue beyond ATNP/3 then a revised work programme needs to be proposed to the ANC.
Mr. Paydar presented WP525 (WG2 number) that discussed the need for working and the vehicle to carry out this work beyond ATNP/3. A discussion among the working group rapporteurs and the panel secretary lead to the four possible alternatives being reported by Mr. Hennig to the joint WG2/WG3 meeting.
- Continue ATNP with working groups and CCB, or
- The ATNP activities transfer to a study group and the CCB continues, or
- The CCB become a working group under some other panel and the ATNP disappears,
- All ATN activities end within ICAO.

Mr. Hennig reported that the alternative preferred by the rapporteurs was the first alternative (i.e., continue ATNP with working groups and the CCB).

WP526 was an information paper from the Russian member (not present at the WG2 meeting) directed to WG1 that discussed the need for implementation support and suggested that ICAO could assist in this activity.

9.   Any Other Business

Mr. Cardwell presented WP527, an information paper describing the ATN Compliant Communications European Strategy Study (ACCESS). He reported that final report has been drafted and in now in final coordination. He also indicated the report will be made available via electronic distribution. The report proposes a target ATN architecture for 2010 in the European core area.

10.   Conclusions and Action List

As a result of forming the ICS Drafting Group most of the follow-up activities to the 18th meeting of WG2 will be handled by the IDG. The following individual actions were also assigned/open.

Action 17/9 – Mr. Moulton to prepare and coordinate a first draft WP for ATNP/3 on multicast architecture for review by WG2 in May 1999 with an final WP out of the Oct. WG2 meeting.

Action 18/1   Mr. Jones to provide copies of the communiqués from WG2 to AMCP and IATA to the panel secretary.

Action 18/2   Mr. Paydar to convey the WG2 communiqués to the AMCP and IATA.

Proposed Agenda for the 18th Meeting of ATNP WG2
18-21 May 1999
Naples, Italy

0. Meeting Organizational Issues

1. Approval of the Agenda (WP507)

2. Review and Approval of the report of 17th Meeting of WG2 (Honolulu – WP508)

3. Inputs/Issues from other ICAO Bodies (e.g., Panel Secretary, CCB, WG1, AMCP, etc.)

4. Review Status of Action Items from the 17th Meeting of WG2

5. Preparations for ATNP/3

    5.1   Package 2 ICS documentation for ATNP/3

    5.2   Need for a Package 2 ICS Editorial Group

    5.3   ATNP WG2 Report to ATNP/3

    5.4   Working Group Organization and Work Programme post ATNP/3 (i.e., for ATNP/4)

6. Package-1 ICS Documentation

    6.1   ICS SARPs (consideration of requests from the CCB and/or ICS SME).

    6.2   Additional Validation Results

    6.3   Implementation Plans

7. Package-2 ICS Documentation

    7.1   Security Mechanisms

    7.2   Systems Management

    7.3   Multicast/Broadcast Functions

    7.4   Additional and/or revised SNDCFs for mobile and/or ground subnetworks

    7.5   ATN ICS Subsets

    7.6   Enhancements to the ICS SARPs/GM based on New or Revised User Requirements

    7.7   Enhancements to the ICS SARPs/GM based on Operational Experience

8. Future Work Plan

    8.1   WG2 position on ATNP/3 schedule

    8.2   Plans for 19th meeting of WG2

    8.3   Plans for WGW meeting in November 1999

    8.4   Post ATNP/3

9. Any Other Business

10. Conclusions and Action List

WG2 18th Meeting Attendance

Naples, Itlay 18-21 May 1999

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ATTACHMENT 3

ATNP WG2 18th Meeting
18-21 May 1999
Naples, Italy

LIST OF WORKING PAPERS

WP No.	Agenda Item	Presenter	WP Title
507	1	R. Jones	Agenda for the 18th Meeting of ATNP WG2
508	2	R. Jones	Report of the 17th Meeting of ATNP WG2
509	5	R. Jones	WG2 Inputs to ATNP/3
510	7	R. Jones	Enhancements to Sub-Volume V and ICS Guidance Material
511	5.2	R. Jones	Proposal to form ICS Drafting Group
512	6.1	S. Tamalet	TP4 timeout and retransmission issues
513	6.1	K-P Graf	SME V (ICS) Status Report
514	6.1	K-P Graf	Draft Amendment 1 of Sub-Volume V (ICS)
515	7.2	M. Bigelow	WG1/SG2 Security Sub-Group Report
516	3	M. Paydar	ATNP Secretary Report
517			Withdrawn
518	7.1	T. McParland	IDRP Authentication Scenarios Using a Key Agreement Scheme and a Keyed Message Authentication Code
519	8.2	J. Cid	ATNP Working Group Meetings in Gran Gran Canaria (Spain)
520	7	T. Whyman	Proposed SARPs Changes for Enhancements Derived from WP471
521	7.6	T. Whyman	Handling New Subnetwork Types in the ATN
522	7.1	T. McParland	Draft Update Text for ICS Security
523			Withdrawn
524	7.6	T. Whyman	Performance Management Requirements Analysis
525	8.4	M. Paydar	Work Beyond ATNP/3
526	8.4	S. Nersessian	On Future Activity of ATNP
527	9	B. Cardwell	ATN Compliant Communications Strategy Study (ACCESS)
528			
529			
530			
531			
532			
Flimsy No.			
1		Hennig	Backward Compatibility and Interoperability
2		Hennig	Future Work Plan Beyond ATNP/3
3		Schade	Proposed Subject Areas for Subvolume V Enhancements
4		Cardwell	Communiqué to AMCP Regarding use of VDL Mode 4
5		Whyman	Communiqué to AMCP on VDL Mode 3 Frame Mode
6		Graf	Proposed Solutions for PDR 99010001 and PDR 99010005
7		Hennig	Communiqué - IATA Requirement for Subnetwork Selection
8		Jones	Terms of Reference and Work Programme for IDS

ICS Drafting Group (IDG) Terms of Reference

Use Doc 9705 First Edition, Sub-Volume V, WordPerfect files from ICAO as the baseline document that will be used as the starting point for the producing the proposed "Package-2" update for WG2 submission into ATNP/3.

The Amendment 1 baseline will then be used for producing a red-lined draft of the proposed second edition of Sub-Volume V.

Use the draft guidance material for the ICS, as provided by the panel secretary in WordPerfect files, as the baseline for producing a red-lined draft of a proposed second edition of the ICS section of the 'CAMAL'.

Draft revisions to Doc 9705, Sub-Volume V, to incorporate the technical provisions for the enhancements to the ICS that have been accepted by ATNP Working Group 2.

Draft editorial changes to Doc 9705, Sub-Volume V, as necessary to clarify the ICS technical provisions and to insure the consistency of the technical requirements.

Submit the proposed Doc 9705, Sub-Volume V, Second Edition draft to the 19th meeting of ATNP WG2, being held in Spain the week of 27 September 1999 and the proposed final draft to the Working Group of the Whole meeting held prior to ATNP/3.

Draft revisions to the ICS related guidance material and submit for approval, in the form of proposed red-line changes, to the Working Group of the Whole meeting being held prior to ATNP/3.

IDG Work Programme

1. Review relevant materials related to the requirements for mobile subnets issuing of Join and Leave Events and develop proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP484, WP485 and Flimsy 17-6.

2. Review relevant materials related to SNDCF improved handling of changing subnetwork connectivity and develop proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP471 and WP520.

3. Review relevant materials related to Connection Oriented Transport Service improved handling of the loss of TPDUs experienced during changes in subnetwork connectivity and develop proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP486 and WP512.

4. Investigate potential enhancements to the Connection Oriented Transport Protocol profile to provide improved efficiency for ground/ground communications and develop proposed revisions to Sub-Volume V as appropriate.

5. Investigate the potential use of IDRP adaptive retransmission timers to better cope with changing subnetwork performance and develop proposed revisions to Sub-Volume V as appropriate.

6. Review relevant materials related to route selection based on required support for additional mobile subnetwork types and additional criteria (e.g. service provider selection). Develop corresponding proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP521 and Flimsy 18-7.

7. Review relevant materials related to new subnetwork types and develop proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP459, WP491, Flimsy 18-4 and Flimsy 18-5.

8. Investigate potential enhancements to IDRP based on recent work such as that of the IETF "QoS Routing Mechanisms and OSPF extensions" and develop proposed revisions to Sub-Volume V as appropriate. Reference WG2 documents include: WP409

9. Review relevant materials related to enhanced fault and performance management and develop corresponding proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP497, WP501 and WP524.

10. Review relevant materials related to IDRP security and develop corresponding proposed revisions to Sub-Volume V consistent with the ATN security architecture (i.e., draft Sub-Volume VIII). Reference WG2 documents include: WP488, WP492,WP493, WP518, WP522 and draft Sub-Volume VIII.

11. Review utility of the ATN NSAP compression algorithm (ACA) and either update the ACA technical provisions or propose deletion of ACA. Develop corresponding proposed revisions to Sub-Volume V.

12. Investigate potential enhancements to the DEFLATE algorithm to allow for the dynamic negotiation for the use of pre-stored dictionaries. Develop proposed revisions to Sub-Volume V as appropriate.

13. Investigate potential benefits from the octet alignment of ATN address prefixes in IDRP. Develop proposed revisions to Sub-Volume V as appropriate. Reference WG2 documents include: WP474

14. Investigate the suppression of re-advertisement of routes in the case of changing mobile subnet connectivity. Develop proposed revisions to Sub-Volume V as appropriate. Reference WG2 documents include: WP520

15. Review relevant materials related to removal of redundancy in signaling mobile subnet capabilities and develop proposed revisions to Sub-Volume V.   Reference WG2 documents include: WP520 and PDR98060006

16. Investigate the addition of a parameter in the ISH PDU for signaling the non-support of IDRP. Develop proposed revisions to Sub-Volume V as appropriate.

17. Ensure the presence and use of technical provisions to support backward compatibility (e.g., use of version numbers) and develop proposed revisions to Sub-Volume V as appropriate. Reference WG2 documents include: WP520

18. Developed proposed revisions to Sub-Volume V as appropriate to define the ICS related system management requirements (i.e., through reference to Sub-Volume VI). Reference documents: draft Sub-Volume VI

19. Develop proposed revisions to the ICS guidance material to reflect the additions and changes to the ICS technical provisions and for topics where additional guidance is considered useful for clarifying an existing technical provision. Reference WG2 documents include: WP409 (i.e., implications associated with the current regime of downgrading or upgrading routes).