Report of the 15th Meeting of ATNP Working Group 2
29 June – 1 July 1998
Utrecht, Netherlands

0. Meeting Organizational Issues

Mr. Jones of the FAA, and rapporteur of WG2, welcomed the ATNP working group members to the meeting. Mr. Jones noted that Mr. Hagenberg, the panel member from Netherlands and the host for the working group meeting, had provided the facilities for the meeting. Mr. Jones provided information on the office support and other arrangements for the meeting. After introductions of the WG2 participants, the working papers were collected and assigned working paper numbers.

1. Approval of the Agenda

Mr. Jones, Rapporteur of WG2, presented WP-449 (Attachment 1 to this report), the proposed agenda for the meeting. The agenda was approved.

2. Review and Approval of the report of 14th Meeting of WG2 (Rio de Janeiro)

Mr. Jones introduced WP-448, the Report of the 14th Meeting of WG2. The report was approved with minor editorial corrections.

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

A joint session was conducted with WG3. Mr. Paydar provided inputs on the status of the ATN SARPs and Doc 9705. He indicated that both documents are scheduled for publication by the end of August 1998. He also noted that 3 changes from the CCB have been incorporated into Doc 9705 subsequent to the Rio de Janeiro working group meetings. These changes produced, in effect, an edition 2.3 of the draft document. However, the actual published document will simply be identified as the 'first edition'. Mr. Paydar noted that one reference to the term 'CNS/ATM-1 Package' is included in beginning of Doc 9705. He indicated that the intent is to have yearly updates, if needed, to Doc 9705 to incorporate CCB approved changes. He noted that the CAMAL is still being edited by ICAO with no firm publication date. He noted that the ATNP JWG requested the secretary to reserve a slot in February 2000 for ATNP/3. He raised an issue on coordination between panels. He reminded the working groups that all coordination between panels, and working groups of the panels, must be via the secretariat. He stressed this is especially important because we now have firm baselines for the ATN SARPs, Doc 9705, Doc 4444, etc. Therefore no PDR should be generated based solely on verbal inputs from other ICAO panels or working groups.

He noted that ICAO needs some better mechanism for dealing with the technical provisions (e.g., Doc 9705) rather than as a traditional manual. This will be discussed at the ICAO assembly in September 1998.

Mr. Van Trees presented WP 458 providing the report on the CCB activities. The paper summarized the PDRs processed since June 1997 including the status of all PDRs submitted as of 26 June 1998. A total of 141 PDRs had been submitted since the formation of the CCB. He reported that the guidance material is still under the control of the ICAO secretary and would be placed under configuration control by the CCB once the updated version is provided by the secretary.

4. Review Status of Action Items from the 14th Meeting of WG2

ACTION ITEM 14/1: Mr. Crenais to attempt to obtain a copy of the SICASP TSG working paper on "the DTE ISO 8208 interface" and attach this to WG2 Flimsy 6. He will e-mail this to the WG2 rapporteur who will provide it to the panel secretary.

Closed: The SICASP TSG information was provided as part of the communiqué to the panel secretary.

ACTION ITEM 14/2: Mr. Tamalet to prepare a defect report against the ATN SARPs to address the ISO 8208 interface issued identified as a result of the SICASP input.

Closed: A defect report was prepared and accepted by the CCB (i.e., PDR 98040003).

ACTION ITEM 14/3: Mr. Jones to provide the communiqués developed by WG2 (Flimsies 5, 6, 7 and 8) to the ATNP secretary for delivery to the specified ICAO panels (i.e., AMCP and SICASP).

Closed: The communiqués to AMCP and SICASP were provided to the panel secretary.

ACTION ITEM 14/4: Mr. Moulton, the WG2 Point of Contact for ICS security, will coordinate with WG1/SG2 and WG3/SG3 to ensure the development of ICS security requirements consistent with the system level requirements and the definition of X.500/X.509 services being defined by these groups.

Open: Coordination has been initiated and the WG1/SG2 SARPs and GM are aligned with the view of WG2 on IDRP security. However the WG3 on the X.500 is just getting started and additional coordination with WG3/SG3 will be needed.

ACTION ITEM 14/5: Mr. Tamalet, will organize the work programme of WG2 subgroup 1 consistent with the subgroup's terms of reference.

Closed: SG1 work program being organized consistent with the overall ATN system management tasks.

ACTION ITEM 14/6: Mr. Hennig to provide input to next WG2 meeting on IATA expectations for remotely managing airborne resources.

Open: Although WP 452 provided IATA inputs on the subject, the working group was informed that this material was still in draft and additional revisions will likely be forthcoming.

ACTION ITEM 14/7: Mr. Whyman, with support from Mr. Moulton, Mr. Tamalet and Mr. Hennig to coordinate with other WG2 members for the further development of ATN ICS multicasting services. Coordination with related WG3 activities will be accomplished via coordination with Mr. Kerr. Mr. Moulton to disseminate ISO 10747 (IDRP) relevant material to WG2 members.

Closed: contributions were received from Mr. Moulton and Mr. Whyman.

ACTION ITEM 14/8: Mr. Adnams will serve as the point of contact with WG2 for the development of SARPs and guidance material to incorporate ATM ground networks as subnetworks of the ATN. The updated draft SARPs (proposed by version 1.0 of the SARPs) will be posted to the CENA server in mid-May.

Closed: Mr. Whyman presented a WP 460 providing proposed material that could be incorporated into the Package-2 ICS SARPs.

5. Package-1 ICS Documentation

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

Mr. Moulton presented WP 455 raising a potential issue with how IDRP exchanges are handled given the way the ICS SARPs has specified traffic classes. This working paper raised the issue of how IDRP traffic is handled by the BIS in the case where a subnet supports only an ATSC traffic type. In this case the subnet could not carry the IDRP traffic which is specified to use a systems management traffic type. The CCB had already discussed this issue and had agreed to add a note to the SARPs to explain the situation where 'ATSC only' is specified for a subnet the BIS would be precluded from forwarding of IDRP traffic over this subnet. Thus a subnet intended to support only ATSC should also be allowed to support system management traffic type. Mr. Graf raised a potentially related issue with 'coloring' the end-to-end path to handle both ATSC and systems management traffic types. After some investigation it appeared that this was not a real problem.

Mr. Graf, the subject matter expert for the ICS SARPs, presented WP 457 providing a status report of the defect reports that have been submitted against the ICS SARPs (i.e., Doc 9705, Sub-Volume 5). He reviewed, for the working group, the status of defects reported against the ICS SARPs. He reported that there are currently 8 PDRs that have been accepted by the CCB that are awaiting final resolution. He presented each of the PDRs and a small group was formed to work the issues associated with PDRs for which the working group could not initially support a recommended change to the ICS SARPs.

> **Attachment A** raised technical issues against the ICS SARPs related to the proposed way that SICASP has defined how the Mode S subnet would solve an addressing problem, as described by the Mode S subnet guidance material that was reviewed by WG2 at its Rio de Janeiro meeting. WP457 presented two alternatives for revising the ICS SARPs. The working group supported adding a note(s) to the ICS SARPs to describe the two approaches (i.e., the one proposed by SICASP and an alternative approach) that could be used with 8208 mobile subnet implementations. The breakout group drafted the proposed notes which were subsequently reviewed and approved by the working group after minor editorial revisions.

Attachment B described a defect in the IDRP APRL (para. 5.8.3.5.5) and proposed to change item INCONS from 'M' to 'INT:O' in the column for the airborne router. The working group agreed with the proposed change.

Attachment C reported a defect against APRL tables 5.6.4.14 and 5.6.4.15 of the ICS SARPs concerning supported DT parameters and supported ER parameters respectively. The current entries for one item in each of these APRL are inconsistent and a predicate appears to have been omitted. The working group agreed with the proposed changes to correct the identified defects.

Attachment D reported an defect where routers supporting the optional non-use of IDRP that would be required by item b) in 5.2.4.1.2 of the ICS SARPs to support IDRP. The working group agreed with the proposed change to correct this defect by excluding route class 7 from router categories required to support IDRP.

Attachment E reported a defect where the predicate 'giOragSubnet' had been omitted from several places in the APRLs and other minor ARPL defects. The breakout group reviewed the proposed changes and suggest one correction. The working group subsequently agreed with the modified proposal.

Attachment F reported on a defect related to the use of ATSC traffic types/classes. The mechanism in the current ICS SARPs does not work as intended to convey the ATSC traffic class support by a given mobile subnet. However the current mechanism would not allow an airborne router to retain knowledge of the ATSC traffic class supported over each mobile subnet based on information received dynamically from the air-ground BIS, as had been the intent of the ICS SARPs. No specific correction to the ICS SARPs was recommended, rather some possible approaches for fixing the problem were offered. A breakout group produced Flimsy 3, which was presented by Mr. Graf. The flimsy proposed a mechanism to convey to the airborne router the ATSC traffic class supported by a mobile subnet. This would be a change to the ICS SARPs that could not be introduced until the 1999 amendment. The proposal was to use the 3 spare bits in the ATSC Class Security Tag Set to convey the mobile subnet traffic class. The flimsy proposed a symmetrical use of the air/ground subnetwork security tag (i.e., provided both uplink and downlink). There was some discussion on this as the problem only exists in the uplink direction. However, defining this as an asymmetrical mechanism would have more serious impact on the ICS SARPs. The discussion came down to defining appropriate rules for route aggregation. The group agreed that the proposed mechanism needs to be localized for the air-ground routing and should minimize the impact on existing implementation activities. Based on the group discussions, Mr. Graf updated Flimsy 3 (as flimsy 3A) to modify the proposal to reflect the asymmetrical requirements. With the revised proposal the changes are isolated to the airborne and air-ground routers. The working group approved the proposal contained in revision A of flimsy 3 and felt that it is important that the proposed changes are incorporated into an amendment to Doc 9705 such that Package-1 ICS implementations support the revised capabilities.

Attachment G reported the APRL for mobile SNDCF assumes symmetric operation where either end can initiate the connection. However with certain mobile subnets

only one end can initiate the connection. Thus the ICS SARPs places unnecessary requirements on the SNDCF for those subnets that are asymmetrical in their connection establishment. The breakout group reviewed the PDR and revised the proposed change to the ICS SARPs. The working group supported the revised proposal with one minor correction.

Attachment H reported a defect on the IDRP exchanges over subnets identified to handle ATSC-only traffic class. The working group supported adding a note to highlight the proper configuration of a BIS. This is the same issue as covered by WP 455. The breakout group drafted a note that was approved by the working group. The group also felt that guidance material was needed on the subject for inclusion in the CAMAL.

5.2 Additional Validation Results

Mr. Schade reported that DFS, with support from Eurocontrol, has executed joint ATN ground-ground trails.

The main objectives of the trials are to:

a) Collect experiences, regarding to configuration and handling on the Trials ATN Router (TAR) and the RMCDE (Radar Message Conversion and Distribution Equipment) used as an ATN End System.

b) Investigation of different ATN Internet architectures with a focus on

- their influence on the DFS owned private X.25 network
- data integrity
- protocol overhead
- delay time (whereas the delay time must be handled with care due to the fact that the TAR is a pre-operational trials router)

The trials results are:

- Neither the inclusion of additional ATN routers nor different routing environments respective to Routing information exchange protocols (Intra- or Inter Domain) had any effects on the data integrity
- Detailed information on protocol overhead, delay time and re-routing behaviour were achieved
- The fact that the RMCDE doesn’t provide the possibility to its users to configure TP4 parameters, all time-critical data packets (which were very small) were confirmed individually by the system, resulting in an enormous increase in the amount of data transferred.

DFS is conducting the Demonstration ATN Research Project that includes including comparisons of Mode S with AMSS subnetworks. This project began in 1995.

5.3 Implementation Plans

Mr. Whyman reported that AEEC has been working on what they refer to as 'ATN-1'. ACARS is quickly running out of capacity in both parts of Europe and North America. There is an airline activity to move to VDL Mode 2 for AOC services. SITA is proposing to use VDL Mode 2 as an X.25 network. The other proposal, put forward by ARINC, is to use an ATN based solution where ACARS messages are sent over a connectionless transport protocol. He reported that American Airlines actively supporting the ATN based solution as part of the Petal II trials. It now appears that the ATN avionics be available before the X.25 avionics.

Mr Crenais reported on the progress of the ACCESS Project which involves NATS, DFS and STNA. The aim of the project is to define an ATN Implementation plan for the European Core Area. The first ACCESS interim deliverable was delivered early June 98. This initial result defines a target ATN network for Western Europe in Year 2010, including a proposed routing architecture, a review of potential ground/ground and air/ground D/L services, choices on ground and air/ground subnetworks, etc. Work is now focusing on other implementation issues, such as network management and security as well as on a transition plan. Work in ACCESS is coordinated with the work performed by the Eurocontrol Implementation Task Force and will be completed by the end of 1998. Results are publicly available and will be distributed on the ATNP electronic Archive.

Eurocontrol is working on the Euro-VDL project. It is an industry/European Commission funded project to support the implementation of VDL Mode 2 and ATN over VDL Mode 2.

Pro-ATN deployment of the router has started. It is not yet SARPs compliant, but will be upgraded by the end of 1998. End Systems will use applications including CPDLC, ADS, etc developed under the European pre-Operational Data Link Applications (EOLIA) program and integration with the Pro-ATN end system communications software. The routers and end systems will be integrated to begin system tests by the end of 1998.

6. Package-2 ICS Documentation

The working group discussed the need to begin the development of the 'Package-2' ICS SARPs. The following conclusions were reached.

a) The first edition of ICAO Doc 9705 will be the baseline for creating the Package 2 ICS SARPs.

b) The draft Package-2 ICS SARPs will be developed and maintained as red-line/strikeout of the baseline.

c) Approved amendments to the first edition of the baseline will also be incorporated into the draft Package-2 ICS SARPs

ACTION 15/1: Mr. Jones to develop for review of the Bordeaux WG2 meeting, a proposed outline for the Package-2 ICS SARPs based on additions/revisions to the first edition of Doc 9705.

ACTION 15/2: ALL Submit nominations for an editor for the Package-2 ICS SARPs for confirmation by WG2 at the Bordeaux meeting.

6.1 Security Mechanisms

Mr. Bigelow reported to the joint session of WG2 and WG3 on the status of the ATN security SARPs and GM. He reported that a first draft of the security GM has been prepared but was not ready for WG1 review. There was a discussion on the need to consolidate the security related GM for introduction into the CAMAL. The working groups supported the consolidation of the security related GM. However, it was also recognized that there will also be a need for some duplication or overlap of the information related to security within the other areas of the GM (e.g., within the applications guidance).

Mr. Jones presented WP 450 on IDRP security. The paper reviewed the provisions of ISO 10747 and the areas of the ICS SARPs that would be impacted by adding authentication support for IDRP exchanges. The working paper noted that while the IDRP standard allows for the exchange of authentication data it provides no means to allow peer BISs to negotiate the use of authentication. Therefore, ATN specific features will be needed to allow for a mix of BISs that are support security or not (i.e., a mix of Package-1 and Package-2 equipped users). Mr. Whyman pointed out that IDRP supports sequence numbers to prevent replay. However, these are intended to be incremented for each IDRP exchange over the life of the certificate. This could be an issue with ATN mobile users where a reset of the sequence number would probably be preferred for each flight or perhaps at each re-connect to a given air-ground BIS. Mr. Bigelow noted that IDRP replay was not one of the security threats that had been identified by WG1 that we would need to protect against. Further investigation will be needed to determine the best approach for the use of IDRP sequence numbers.

Mr. Whyman pointed out that the ISH PDU includes an extension parameter field that could be used to indicate support for security and the cryptographic algorithm/version. Mr. Tamalet indicated the same selector mechanism as used to indicate non-use of IDRP would be another alternative. The group felt that the use of the ISH to indicate support for security services, prior to generation of the IDRP OPEN PDU, would be worth additional investigation. A breakout group discussed this alternative and developed Flimsy 2, which was subsequently presented to the working group. The flimsy proposed a general framework for using the ISH extensions for conveying subnetwork specific or peer router specific information. The working group agreed to pursue the approach proposed by Flimsy 2.

Mr. Jones introduced WP 453 providing feedback from WG1 on the need for security and systems management for multicast and connection upper layer service. The group felt that it was not appropriate to do authentication at the network layer for multicast, therefore WG3 should be looking at perhaps doing this at the application layer. Also WG2 has no direct role related to the connectionless upper layer service. Therefore this is also only a WG3 activity. The working group did agree that it would need to define the MOs associated with the multicast service. The WG2 expressed its position on the subject in flimsy 4 (Attachment 5 to this meeting report), a communiqué to WG1 and WG3.

6.2 Systems Management

Mr. Tamalet reported on the two joint system management meetings since Rio. The first in Annapolis in May and the second in Utrecht prior to the WG2 meeting. The focus has been on the operational concept. It has not yet been determined if management information will be required to be passed between systems managers.

A joint session was held with WG3 at which the activities of the systems management subgoups were reported. Mr. Moulton, as chairman of WG1/SG3, reported that there is now general agreement on the systems management concept of operations. There has been continuing discussions on what is SARPs vs. GM. The subgroup has decided for the short term to go ahead and develop the definitions of the managed objects and decide later what of this material will go into SARPs and what will go into guidance.

Mr. Moulton presented WP 454 which summarized the status of the subgroup progress on systems management and requested the following specific inputs from WG2:

a) specific requirements for internet management information; and
b) specific requirements for internet configuration data.

These were not specifically addressed in the joint WG2/WG3 session, but were subsequently addressed in the WG2 meeting.

Mr. Moulton noted that there will be a meeting of the systems management subgroup in conjunction with the working group meetings in October.

There was a discussion for a need for the previously proposed systems management joint subgroup (SM-JSG). The consensus of the WG2/WG3 meeting was that a joint systems management subgroup should take the inputs of WG2 & WG3, in terms of MOs requirements, and then have the subgroup progress the MIB definition including the ASN.1 definitions. A common template should be used for the other subgroups to define the MOs. Mr. Kerr noted that such a template already exists. WG2 and WG3 agreed to support the proposal to form the SM-JSG. It was agreed that Mr. Moulton would serve as the interim chairman for the SM-JSG. The SM-JSG will prepare a proposed terms of reference for review/approval at the next JWG meeting. Also the JWG will confirm the permanent chairperson for the SM-JSG. WG2 confirmed that the work of WG2/SG1, created at the WG2 Rio de Janeiro meeting, will be taken over by the SM-JSG. Mr. Tamalet will be the WG2 focal point for the work of the SM-JSG.

Mr. Hennig presented WP 452, an information paper presenting the ATN Network Management Concept of Operations as produced by ATNSI. The document was still in draft from and he indicated a final version would be submitted to the WG2 meeting in Bordeaux. The working group noted the contents of the paper.

6.3 Multicast/Broadcast Functions

Mr. Moulton presented WP 456 discussing internet multicast. The paper included the text of RFC 1768 which had been prepared by one of the first users of multicast. He reported that the ISO editor for the multicast standards also participated in the Internet community. The ISO multicast editor produced an RFC that provides a roadmap of the changes necessary to support multicast. Mr. Moulton provided a high-level summary of the changes that are needed

for multicast. A new CLNP PDU type is required. ES-IS requires changes to, in effect, allow the joining of a multicast group. The needed changes to IDRP have not yet been defined by ISO.

Mr. Whyman presented WP 460 discussing the status of ISO multicasting. He had reviewed the status of ISO standards. He noted that ISO has an underlying assumption that more than one end system in the multicast group can generate multicast data. He noted that his previous working paper, presented at the Rio de Janeiro WG2 meeting, had proposed a simpler model for the ATN where there would be only a single data source for a multicast group. Mr. Moulton noted that there are many possible models. The group agree that coordination would be required with WG1 to select the most appropriate model before WG2 can develop the multicast standards.

ACTION 15/3 Mr. Moulton will prepare a working paper describing the alternative models for multicasting and distribute it to WG2 and WG1 members by September 1. This working paper will be reviewed at the Bordeaux WG2 meeting and will be coordinated with WG1 at their meeting in Bordeaux.

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

R. Jones presented WP 451 proposing that WG2 send a communiqué to AMCP requesting information on new mobile subnetworks for which AMCP is developing SARPs. A draft communiqué was attached to the working paper. Mr. Paydar provided some minor editorial comments that were accepted. The draft communiqué was updated, reviewed by the working group (Attachment 4 to this meeting report) and provided to the panel secretary to deliver to the AMCP.

There was a discussion on adding a SNDCF for Gatelink. However it was noted that Gatelink is an industry standard (i.e., AEEC) and not subject to either ICAO or RTCA/Eurocae standards. Mr. Paydar indicated that AEEC standards cannot be referenced within SARPs. However the working group wanted to learn of the current status of the Gatelink standards and Mr. Bigelow accepted an action to provide a status report on Gatelink to the next WG2 meeting.

ACTION 15/4: Mr. Bigelow will provide information to the Bordeaux WG2 meeting on the status of Gatelink AEEC standards and industry implementation plans.

Mr. Whyman presented WP 459 on the proposed SNDCF for Asynchronous Transfer Mode (ATM) subnetworks. The paper was an update of WP 443 presented to WG2 in Rio de Janeiro. The main change from the previous proposal was to allow for variable bit rates over permanent virtual circuits. He noted that the proposed SARPs will need to be validated. The draft SARPs and GM contained in the working paper was accepted by the group

6.5 QoS management functions

No working papers were presented under this agenda item.

6.6 ATN ICS Subsets

No working papers were presented under this agenda item.

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

No working papers were presented under this agenda item.

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

No working papers were presented under this agenda item.

7. Future Work Plan

7.1 Plans for 16th meeting of WG2

The 16th meeting of WG2 will be hosted by the General directorate de Civil Aviation (DGAC-France) at the Holiday Inn in Bordeaux, France. WG2 will meet 30 September – 2 October (Wednesday through Friday). The phone/fax number for the hotel are:

phone: +33 55 692 21 21
fax: +33 55 691 08 06

The overall working group, CCB and subgroup schedule for meetings in Bordeaux is:

CCB	28 September (afternoon only)
WG3	29 September through 2 October
WG2	30 September through 2 October
WG1	5 – 6 October
JWG	7 October (morning only)

Subgroups

WG1/SG2	7 (afternoon) – 8 - 9 (morning) October
SM-JSG	7 (afternoon) – 8 October (Systems Management Joint Subgroup)

The tentative arrangements for subsequent ATNP working group and panel meetings are:

18 – 29 January 1999 Working Groups in Honolulu, Hawaii, USA
17 – 28 May 1999 Working Groups in Vancouver, Canada
27 September – 8 October 1999 Working Groups in Spain
February 2000 - ATNP/3 in Montreal, Canada

The tentative schedule for ATNP/2 is February 2000.

8. Any Other Business

No working papers were presented under this agenda item.

9. Conclusions and Action List

The following action items were assigned during the meeting.

ACTION 15/1: Mr. Jones develop for review of the Bordeaux WG2 meeting, a proposed outline for the Package-2 ICS SARPs based on additions/revisions to the first edition of Doc 9705.

ACTION 15/2: ALL Submit nominations for an editor for the Package-2 ICS SARPs for confirmation by WG2 at the Bordeaux meeting.

ACTION 15/3 Mr. Moulton will a working paper describing the alternative models for multicasting and distribute it to the WG2 and WG1 members by September 1. This working paper will be reviewed at the Bordeaux WG2 and will be coordinated with WG1 at their meeting in Bordeaux.

ACTION 15/4: Mr. Bigelow will provide information to the Bordeaux WG2 meeting on the status of Gatelink AEEC standards and industry implementation plans.

ATTACHMENT 1

Agenda for the 15th Meeting of ATNP WG2
29 June – 1 July 1998 (Monday throughWednesday)
Utrecht, Netherlands

Meeting Hours: 0900-1700

0. Meeting Organizational Issues

1. Approval of the Agenda

2. Review and Approval of the report of 14th Meeting of WG2 (Rio de Janeiro) – WP448

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

4. Review Status of Action Items from the 14th Meeting of WG2

5. Package-1 ICS Documentation

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

   5.2 Additional Validation Results

   5.3 Implementation Plans

6. Package-2 ICS Documentation

   6.1 Security Mechanisms

   6.2 Systems Management

   6.3 Multicast/Broadcast Functions

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

   6.5 QoS management functions

   6.6 ATN ICS Subsets

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

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

7. Future Work Plan

   7.1 Plans for 15th meeting of WG2

8. Any Other Business

9. Conclusions and Action List

ATTACHMENT 2

WG2 15th Meeting Attendance

Utrecht, Netherlands – 29 June – 1 July 1998

INITIAL	NAME	ORGANIZATION	ADDRESS	PHONE/FAX	E-MAIL ADDRESS
	Adnams, Martin	EUROCONTROL	96 Rue de la Fusée 1130 Brussels, Belgium	32-2-729-3328 32-2-729-9085	martin.adnams@eurocontrol.be
	Antonucci, John	Lockheed-Martin	600 Maryland Ave. SW Suite 500 Washington, DC 20024 USA	+1 202-651-3941 +1 202-651-3940	john.antonucci.lmco.com
	Bigelow, Michael	ARINC	MS-4213 2551 Riva Rd. Annapolis, MD 21401 USA	1-410-266-4378 1-410-266-2820	mpb@arinc.com
	Cecere, Francesco	SICTA	Via Circ. Ne Esterna di Napoli, Loc. Pontericcio, 80014 Giugliano (NA) ITALY	39-81-818 0278 39-81-818 0795	fcecere@sicta.it
	Chiawarcheep, Sukluer	Aerothai	102 Ngamduplee, Tungmahamek Sathorn Bangkok 10120 Thailand	662 2859402 662 2859175	
	Crenais, J Michel	STNA	1 Av Du Dr M Grynfogel B.P.1084 31035 Toulouse, Cedex, FRANCE	33-5-62-14-54-88 33-5-62-14-54-01	crenais_jean-michel@ccmail.dgac.fr
	Graf, Klaus-Peter	ESG (for DFS)	Einsteinstr. 174 81675 Muenchen, Germany	+49/89/6004-4123 +49/89/6807-3513	Klaus.graf@unilbw-muenchen.de

INITIAL	NAME	ORGANIZATION	ADDRESS	PHONE/FAX	E-MAIL ADDRESS
	Hennig, Paul	Staff Engineer IATA (United)	United Airlines WHQKO 1200 Algonquin Rd Elk Grove IL 60007	1-847-700-4312 1-847-700-4477	paulhennig@aol.com
	Jones, Ron	FAA	AND-720 800 Independence Ave. SW Washington, DC 20591 USA	1-202-493-4705 1-202-493-5022 *effective 30 March 1998*	ronnie.jones@faa.dot.gov
	Moulton, James	ONS.	22636 Glenn Drive, Suite 305 Sterling, VA 20164 USA	1-703-481-9590 1-703-481-9509	moulton@ons.com
	Nunes, Waldir	DEPV	AEROPORTO SANTOS Dumont--DEPV Rio De Janeiro, Brazil	+5521 2125236 +5521 2125688	Wnunes@openlink.com.br
	Paydar, Masoud	ICAO	999 University St. Montreal, QC, Canada H3C 5H7	1-514-954-8210 1-514-954-6759	mpaydar@icao.org
	Phrukkumwong, Chanyut	AEROTHAI	102 S01 Ngamduplee, Thungmahamek, Sathorn Bangkok 10330 Thailand	+662 285 9250 +662 285 9253	scfrd@email.egat.or.th
	Tamalet, Stephane	STNA	1 Av Dr M Grynfogel B.P.1084 31035 Toulouse, Cedex, FRANCE	33-5-62-14-54-83 33-5-62-14-54-01	tamalet_stephane@ccmail.dgac.fr
	Schade, Thomas	DFS	Paul-Ehurlich-Str. 37-39 D-63225 Langen, Germany	+49 6103 707 783 +49 6103 707 742	schade@se.dfs.de
	Whyman, Tomy	Eurocontrol – MWA	21 Orchard Alresford HANTS, S024 9PY UK	+44 1962 735580 +44 1962 735581	whyman@mwassocs.demon.co.uk

ATTACHMENT 3

ATNP WG2 15h Meeting
29 June – 1 July 1998
Utrecht, Netherlands

LIST OF WORKING PAPERS

WP No.	Agenda Item	Presenter	WP Title
448	2	R. Jones	Report of the 14th meeting of ATNP WG2, Rio de Janeiro, Brazil
449	1	R. Jones	Proposed agenda for 15h meeting of ATNP WG2
450	6.1	R. Jones	IDRP Security
451	6.4	R. Jones	CNS/ATM-2 Package SARPs Enhancements for Additional Mobile Subnets
452	6.2	P. Hennig	IATA Expectations for Remotely Managing Airborne Resources
453	3	P. Hennig	WG1 response to WG2 flimsy on security
454	6.2	J. Moulton	Request for Systems Management Requirements
455	5.1	J. Moulton	IDRP Defect Report
456	6.3	J. Moulton	Internet Multicast
457	5.1	K. Graf	SME V (ICS) Status Report
458	5.1	S. Van Tree	CCB Report
459	6.4	T. Whyman	Proposed SNDCF for use with Asynchronous Transfer Mode (ATM) Networks
460	6.3	T. Whyman	Response to WG2/WP444 on Status of ISO Multicast Networking Standards
461			
462			
463			
464			
465			
466			
467			
468			
469			
470			
Flimsy No.			
1	5.1		Proposed SARPs Amendment for ICS PDRs
2	6.1		Providing for Future Extensions to Internet Routing Protocols
3	5.1		Proposed SARPs Amendment for ICS PDR 9806006
4	6.1		Communiqué to ATNP WG1 & WG3

ATTACHMENT 4

Communiqué to AMCP

ATNP WG2
Utrecht, Netherlands
29 June – 1 July 1998

Coordination for Additional Mobile Subnetworks

Work Group 2 of the ATN Panel at its 15th meeting identified a pressing need to coordinate with the AMCP to align the contents of the second set of the ATN SARPs (i.e., CNS/ATM-2 Package) with the ongoing work of the AMCP regarding the development of SARPs for additional ATN mobile subnetworks.

The first set of the ATN SARPs and the referenced technical provisions (Doc 9705) will be published in 1998. These SARPs and referenced Doc 9705 define the technical provisions for the subnetwork dependent convergence functions (SNDCF) for the AMSS, Mode S, and VDL Mode 2 mobile networks. The ATNP working groups are now developing the proposed "Package 2" enhancements for the ATN SARPs and Doc 9705. ATNP WG2 desires to incorporate the technical provisions associated with accommodating any additional mobile subnetwork(s) for which the AMCP will have developed, and approved at the panel level, SARPs by January 2000. This corresponds to a tentative date for approval of the "Package 2" ATN SARPs at ATNP/3 in February 2000. Since the development of the "Package 2" ATN SARPs will be occurring concurrently with the AMCP's development of the mobile subnetwork SARPs, it is important that the working groups of the two ICAO panels closely cooperate in order to not delay ultimate approval of all related SARPs.

WG2 of ATNP requests that the working groups of the AMCP responsible for the development of SARPs for ATN mobile subnetwork(s) provide, at the earliest opportunity, draft materials that would be useful in allowing ATNP WG2 to commence drafting the technical provisions that must be addressed in the ATN SARPs and related documents. Such information would include the technical definition of the subnetwork access protocol, the subnetwork priority scheme and desired mapping between CLNP and subnetwork priority levels, any restrictions on the traffic types (e.g., AOC, ATSC, etc.) allowed to be carried over the subnetwork, and predicted performance of the subnetwork in terms of transit delay at 95% probability.

ATTACHMENT 5
ATNP WG2/FLIMSY 4
1 July 1998

Communiqué to ATNP WG1 and WG3

Working Group 1 of ATNP at its meeting in Utrecht produced a communiqué to WG2 and WG3 (JWG/WP-04 and WG2/WP453) as a response to the previous WG2 Flimsy 1 from Rio de Janeiro. WG1 in their working paper indicated their support for incorporating systems management and security provisions in the SARPs enhancements for the multicast service and the connectionless upper layer services being developed for approval at ATNP/3. WG1 also agreed that: "They request a schedule impact and technical feasibility analysis for the Bordeaux meeting."

Working Group 2, at its 15th meeting in Utrecht, considered the request from WG1 and reached the following conclusions:

a) WG2 has no direct role in the development of the connectionless upper layer SARPs and GM provisions and therefore feels that WG3 will need to address this aspect of the WG1 request; and

b) the multicast service, as now envisioned by WG2, will involve adding enhancements to the ATN network layer. The only security provisions applicable to this layer under the security model developed by WG1 are related to the exchange of routing information and the introduction of multicast services has no impact on these security requirements. However, it is assumed that it is appropriate for WG3 to address the applicability of security at the application layer for users of the multicast services. WG2 accepts that it will support the System Management Joint Sub-Group (SM-JWG) in the definition of managed objects applicable to the multicast features that are proposed to be introduced into Doc 9705 at ATNP/3. WG2 does not believe this would impose significant additional work on the SM-JSG and thus should not increase the risk on having the systems management technical provisions and guidance material ready for approval at ATNP/3.