

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL
SECOND MEETING

Montreal 4th - 15th November 1996

Agenda Item 3: Development of the CNS/ATM-1 Package (SARPs and Guidance Material)
ATN Internetwork Working Group (WG2) - Report of Progress
since ATNP/1
(Presented by ATNP WG2 Rapporteur)

WORKING PAPER

SUMMARY

ATNP/1 created three Working Groups (WG1, WG2 and WG3) to, inter alia, progress the development of SARPs and guidance material for the ATN. This paper presents an overall summary of the progress made by WG2 (the ATN Internet WG) since ATNP/1 towards completing its assigned objectives. Each of the primary WG2 deliverables are briefly introduced, additional Working Papers introduce each of these deliverables in greater detail.

REFERENCES

1. Introduction

1.1 ATNP/1 created three Working Groups to further the work of the Panel as defined below:

Working Group 1 - Systems Planning and Concept Working Group

Working Group 2 - ATN Internet Working Group

Working Group 3 - Applications and Upper Layers Working Group

1.2 This paper summarises the progress made by WG2 towards completing its assigned objectives, these being derived from the terms of reference for WG2 agreed as ATNP/1 and reproduced below:

7.3.3 ATN Internet Working Group

7.3.3.1 The ATN Internet Working Group (WG/2) would conduct the following activities, in a manner consistent with the working strategy defined above:

- a) development of draft SARPs and guidance material for the ATN Internet (i.e. the network and transport layers of the ATN) to support both fixed and mobile aeronautical data communications;
- b) development of draft SARPs and guidance material for the ATN Internet management features, including the definition of lower layers (up through transport) managed objects (already contained in the ATN Manual), within the framework of the systems management concepts defined by the Working Group 1;
- c) development of draft SARPs and guidance material for the ATN Internet security features within the framework of the security concepts defined by the Working Group 1;
- d) over-all assessment of the on-going activities supporting the validation of the ATN Manual, second edition (i.e. ATN Internet draft SARPs); and
- e) development and validation of draft SARPs for encoding rules and data compression functions, where appropriate.

1.3 Since ATNP/1 WG2 has held ten one week meetings to progress its assigned tasks, these being in October 1994 (USA), January 1995 (USA), March 1995 (France), May 1995 (USA), July 1995 (Italy), October 1995 (Canada), February 1996 (Australia), April 1996 (EUROCONTROL), June 1996 (Germany) and finally in October 1996 (USA).

1.4 In general, the meetings have been attended by on average 20 to 25 participants representing Panel Members from ARINC, Australia, Brazil, Canada, Egypt, EUROCONTROL, France, Germany, IATA, Inmarsat, Ireland, Italy, Japan, SITA, Spain, UK, and the USA.

1.5 Based upon its terms of reference the WG has concentrated its efforts on the development of three primary deliverables, these being:

draft SARPs for the CNS/ATM-1 Package "Internet Communications Service" (i.e. Appendix A.5);

draft guidance material for the CNS/ATM-1 "Internet Communications Service" (i.e. Appendix A.5); and a

Validation Report documenting the strategy, validation objectives and results of the global validation of the "Internet Communications Service" (i.e. Appendix A. 5) draft SARPs.

1.6 In developing these deliverables it should be noted that there has been close co-operation with both ATNP Working Groups 1 and 3. This co-operation has taken place through joint meetings, through the exchange of material between the WGs and presentation of progress reports to Working Group 1. In addition, the Rapporteurs of each of the WGs have maintained close co-operation throughout the period since ATNP/1. There has also been close co-operation with the Panel Secretary which has included issues related to inter-Panel co-ordination, e.g. with the AMCP.

1.7 In addition, it should be noted that significant use of the commercial "Internet" to exchange e-mail and files containing the latest versions of the draft SARPs and Working Papers which has enormously facilitated the exchange of information between members of the individual Working Groups and the dissemination of the latest information to the aeronautical industry. Significant use has been made of the services of a "Server" offered for use by one State which has been used to archive all available versions of the draft SARPs and Working Papers that have been presented to the Working Groups. Without the availability of such tools it is considered that the progress made to date would not have been achieved.

1.8 The remainder of this paper summarises the progress made by the WG in the development of each of these deliverables and references additional ATNP/2 Working papers which specifically introduces each of these deliverables in additional detail.

2. Discussion

2.1 Draft SARPs for the Internet Communications Service

2.1.1 The development of draft Internet Communications Service SARPs (Appendix A. 5) introduced in ATNP/2-WP Internet Communications Service Draft SARPs has, as agreed at ATNP/1 been based upon the proposed Second Edition of the ATN Manual. The WG has reviewed and agreed all changes that have been introduced in the ATN Manual through review of Working Papers presented by individual members and the WG2 Configuration Control Board (CCB).

2.1.2 Prior to submission of the draft SARPs material to ICAO for language translation the WG endorsed the results of a detailed editorial review of the material the objective of which was to ensure consistent use of terminology with respect to the document itself, other components of the draft SARPs (i.e. Appendix sections 1 to 4), and Annex 10 to the extent practicable.

2.2 Guidance Material for the Internet Communications Service

2.2.1 The development of draft guidance material for the draft Internet Communications Service SARPs, introduced in ATNP/2-WP Proposed Guidance Material, has also been based upon the guidance material agreed at ATNP/1. A significant amount of additional guidance has additionally been developed and incorporated. The WG considers the material introduced in ATNP/2-WP Proposed Guidance Material as both complete and stable to facilitate the implementation of the Internet Communications Service SARPs.

2.3 Validation Report for the Internet Communications Service

2.3.1 Working Group 2 developed a comprehensive Validation Strategy to support and co-ordinate the overall global SARPs validation. In summary the WG agreed on a set of ATN Validation Objectives (AVOs) which collectively provide a total and complete coverage of the draft ATN SARPs. In addition an ATN Requirements Database (ATNRDB) at the functional level was developed which provided coverage of the total functionality of the draft SARPs. The results of the Validation initiatives have been reported against the applicable AVOs and the ATNRDB. Based upon these results, the WG has concluded that the draft ATN Internet SARPs have been validated to a sufficient level of confidence deemed necessary to recommend their incorporation into Annex 10.

2.3.2 ATNP/2-WP SARPs Validation Report introduces the approach for the overall Validation Strategy that has been adopted for the validation of the entire set of draft ATN SARPs. Appendix I to that Working Paper documents the detailed results of the Validation of the draft ATN Internet Communications Service SARPs.

3. Future Work

3.1 In addition to the development of the above referenced deliverables the Working Group identified a number of areas of functionality that potentially require standardisation. In addition to these potential areas of standardisation the Working Group agreed on the principle of a top down approach to the development of additional draft Internet Communications Service SARPs. One of the key areas of future work related to supporting operational implementations of the draft SARPs recommended at ATNP/2. Details on the approach to future work, potential functions requiring standardisation and overall future work programme are detailed in ATNP/2-WP Proposed Strategy and Approach for the Future Development of SARPs and Guidance Material for the Internet Communications Service.

4. Recommendation

4.1 The Panel is invited to note the progress made by WG2 in discharging its tasks and responsibilities as agreed at ATNP/1.