

**AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL(ATNP)**  
**WORKING GROUP 3 - APPLICATIONS AND UPPER LAYERS**

**Bordeaux, 29 September - 3 October 1998 (fourteenth meeting)**

**Agenda Item 9 : Any Other Business**

**Proposed amendment to the ATN Lexicon**

**Prepared by Thomas Belitz**

**Presented by the author**

**Summary**

The 13<sup>th</sup> ATNP WG3 meeting (Utrecht) asked the author for the development of a proposal on the creation and further maintenance of an ATNP lexicon. Already existing material by ADSP should be taken into account.

The ATNP lexicon is meant to assist in the SARPs development process and in any SARPs related application development activities.

This WP seeks for comments and contributions by the working group.

## 1 INTRODUCTION

When dealing with technical matters, the usage of specific terms with clearly defined meanings becomes a vital necessity. Communication works almost perfect as long as a closed group of experts uses a language that was established within the group. This of course has nothing to do with real life, where several bodies deal with adjacent and cross related topics or the same topics from different points of view. Without any kind of dedicated management, confusion of language is an inevitable result correlating with the progress of the experts work.

Since the mentioning above is not a new finding, CAMAL already includes an "ATNP lexicon"-section<sup>1</sup>.

## 2 DISCUSSION

During the Utrecht WG3 meeting new misunderstandings arose due to the mixture of same terms with different meanings (e.g. "version" -of software, dependent on edition/ -of software, dependent on supplier/ - of document). Resulting from this as well as from earlier emerged reasons the WG encouraged the author to give an approach to the systematic development of an ATNP lexicon.

The Author has knowledge about the existence of several relevant lists of acronyms, abbreviations and explanations to designated terms and he assumes the existence of even more such gatherings under the control of closed groups of experts. The simple merge of all these material seems not to be a reasonable solution to the problem because this would create a need for very time consuming discussions about concurrent used terms in different environments. That's why he proposes, to include mainly those terms that are important for the communication among a wider scope of experts. In this sense he intends to revitalize the work that lead in the past to the ATNP lexicon section in the CAMAL.

In order to do this, it seems quite reasonable to apply principles that already were accepted by ADSP-experts in their work with material<sup>2</sup>, compiled by the German ADSP-member. The terms including their explanations are compiled in a continuously updated Document. Detailed references enable the reader to track the origin and the status of the mentioned definitions.

In order to enable progressive discussions on terms and definitions, the author proposes further to distinguish three stages of definition stability (early draft/ draft/ defined). These stages would change dependent on the discussion. They would further make it possible to indicate a need for definition on certain terms, that were not discussed yet. The discussion on terms and definitions does not necessarily have to be held during the WG-meetings. Electronic exchange of information may save valuable meeting time. The meeting than should only be used for the final shift of the associated stage of definition stability.

In order to give an impression on the possible appearance of the ATNP lexicon, the attachment to this WP lists a few terms and definitions in the proposed manner.

The useful and comprehensive compilation of relevant terms depends on contributions of the

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<sup>1</sup> ICAO Comprehensive ATN Manual, Version 0.3, Page I-38 ff

<sup>2</sup> ADSP Lexicon on ATS Data Link Applications, Explanation of Terms in Support of ADSP Work, Draft Version 0.4, March 1998, Heribert Lafferton (DFS Germany)

different experts. Since every new entry of the lexicon will be marked as "early draft", their initial detail depends on the contributor.

### **3 CONCLUSION**

The group is invited to comment on this WP and give their recommendation.

# **ATNP Lexicon**

## Explanations of Terms in Support of ATNP Work

DRAFT Version 0.1

The material presented here is based on already established definitions within ATNP- and ADSP- working groups and derived from other sources. It is meant to illustrate a proposed shape that could be helpful in a continued maintenance and extension of the ATNP Lexicon as part of the CAMAL.

Contributions and comments to this WP are welcomed by [tbelitz@compuserve.com](mailto:tbelitz@compuserve.com) .

## REFERENCES

/CAMAL/

ICAO Comprehensive ATN Manual

/A2\_96/

International Standards, Rules of the Air, Annex 2 to the Convention on International Civil Aviation, Ninth Edition, Amendment 32, 4/96

/4444\_96/

Procedures for Air Navigation Services, Rules of the Air and Air Traffic Services, Doc 4444-RAC/501, Thirteenth Edition, 11/96

/A10-3\_97/

International Standards and Recommended Practices, Aeronautical Telecommunications, Annex 10 to the Convention on International Civil Aviation, Volume 3, First Edition, Amendment 72, 11/97

/ADSP\_Manual\_d0.4\_96/

Draft ICAO Manual of Air Traffic Services (ATS) Data Link Applications, draft version 0.4, ICAO ADS Panel, 20 September 1996

[DG\_ADS] = (Message) Data Glossary ADS

[DG\_ADS-B] = (Message) Data Glossary ADS-B

[DG\_AIDC] = (Message) Data Glossary AIDC

[DG\_ATIS] = (Message) Data Glossary ATIS

[DG\_CPDLC] = (Message) Data Glossary CPDLC

[DG\_DLIC] = (Message) Data Glossary DLIC

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
<p><b>Addressing (logical) /CAMAL/</b></p> <p>Logical addressing means that the address defined in the addressing plan and used to locate the addressed object is a virtual address which is a substitute of the actual (physical) address of an object. Address mapping functions have to fulfill this substitution, carefully maintaining unambiguity of identification of objects.</p>			✓
<p><b>Addressing (physical) /CAMAL/</b></p> <p>Physical addressing means that the address defined in the addressing plan and used to locate the addressed object is the physical, i.e. hardwired, hard-coded, or configured address of the object. An example of a physical address is the ICAO 24-bit Aircraft Address used for the SSR Mode S Transponder.</p>			✓
<p><b>Air Applications /ADSP_Manual_d0.4_96/ [DG_DLIC]</b></p> <p>An indication of 1 - 256 airborne data link applications. Consists of <i>Application Name</i>, <i>Version Number</i>, and, when required for ground initiated applications, <i>Application Address</i> data.</p>		✓	
<p><b>Air Traffic Services Unit /A2_96/</b></p> <p>A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.</p>		✓	
<p><b>Aircraft Address /A10-3_97/ /ADSP_Manual_d0.4_96/ [DG_DLIC][DG_AIDC]</b></p> <p>A unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications navigation and surveillance.</p>		✓	
<p><b>Aircraft Identification /4444_96/</b></p> <p>A group of letters, figures or a combination thereof which is either identical to, or the coded equivalent of, the aircraft callsign to be used in air-ground communications, and which is used to identify the aircraft in ground-ground air traffic services communications.</p>		✓	
<p><b>Aircraft Identification /ADSP_Manual_d0.4_96/ [DG_DLIC][DG_ADS][DG_ADS-B] [DG_CPDLC][DG_AIDC]</b></p> <p>A group of letters, figures or a combination thereof which is identical to or the code equivalent of the aircraft callsign. It is used in Field 7 of the ICAO Model flight plan.</p>		✓	
<p><b>ATN Communication Services /CAMAL/</b></p> <p>The ATN communication services are provided to ATN users that require ground-ground or air-ground data communication. The ATN accomodates different grades of services which can be expressed by Quality of Service parameters and by communication priorities.</p>			✓
<p><b>ATN System Applications /CAMAL/</b></p> <p>System Applications support the operation of the ATN communication services and are either not directly or not at all used by ATN users but rather by the service providers, operators or other ATN applications. Typical examples of ATN system applications are the ATN directory service, ATN context management or ATN systems management.</p>			✓
<p><b>Congestion /CAMAL/</b></p> <p>In the ATN Internet sense, congestion describes the state where the network is overloaded. Typical effects of congestion are extended transit delays, drastically reduced throughput, and the loss of data packets.</p>			✓
<p><b>Congestion Avoidance /CAMAL/</b></p> <p>Techniques that regulate the data flow into the network in order to <u>prevent</u> the</p>			✓

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
network from getting overloaded. These encompass both open-loop techniques which ensure that a traffic contract specified by the source is respected, and closed-loop techniques which monitor signals generated by the network and adapt the traffic generated by the sources accordingly.			
<b>Congestion Management</b> /CAMAL/  This term refers to a set of rules and techniques which prevent congestion , e.g. by monitoring actual network load. Co-operative interaction of <u>all</u> end systems is required in order to prevent individual end-systems taking up the throughput saved by well-behaving systems.			✓
<b>Congestion Recovery / Congestion Control</b> /CAMAL/  This term refers to a mechanism which reacts to congestion after it has occurred in order to remove the overload condition. Congestion Recovery can be initiated only after congestion has been experienced, and is not able to safely prevent congestion in the network.			✓
<b>Directory Service</b> /CAMAL/  The ATN Directory Service provides the ATN user with the addressing information which is associated with the application process title or application entity title used as input to the directory. The addressing information provided by the directory service includes the network address as well as further technical addresses on the layers above, as required or applicable. Furthermore, the ATN Directory Service resolves generic application process titles or application entity titles, i.e. names which may be incomplete or contain "don't care" elements, into the corresponding (list of) non-generic application process titles or application entity titles.			✓
<b>Engineering Trials</b> /CAMAL/  In contrast to operational trials, engineering trials may be based on pre-operational, prototype or experimental equipment. Aim is to demonstrate the technical feasibility and correctness of applied techniques, concepts and specifications.			✓
<b>Institutional Issues</b> /CAMAL/  Issues related to ownership, control and responsibility for correct implementation and operation of systems which involve more than one state or organization.			✓
<b>Operational Trials</b> /CAMAL/  Operational trials are based on operational environment. This includes operational systems and operational equipments, e.g. routinely scheduled flights in an operational ATS environment. Aim is to demonstrate the operational acceptance and correctness of applied mechanisms, applications and concepts.			✓
<b>Version</b>	✓		