ATNP/WG3

W3WP17-08
softcopy

27/09/99

AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL(ATNP)

WORKING GROUP 3 - APPLICATIONS AND UPPER LAYERS

Gran Canaria/ Spain; 28.09.-01.10.1999 (seventeenth meeting)

Agenda Item: ATNP Lexicon

Proposed amendment to the ATN Lexicon

Ver. 04

Prepared by Thomas Belitz (Germany)

Presented by the author

Summary

As endorsed by the 14th meeting of WG3, this WP is periodically issued and reflects only updates to the already existing ATN lexicon (see w3wp14-09). The WP that is verbally presented to WG3 during the meeting does only include updated and new entries to the lexicon.

The latest version of the whole existing ATN-lexicon can always be retrieved from the electronic archive of WG3 working papers, generated after the meeting.

This WP seeks for comments and contributions by the working group, the author especially welcomes written comments and contributions (write to tbelitz@compuserve.com).

ATNP Lexicon

Explanations of Terms in Support of ATNP Work

DRAFT Version 0.4

27. September 1999

The material presented here is based on established definitions within ATNP- and ADSP-working groups and derived from other sources.

As endorsed by the 14th meeting of ATNP-WG3 (see w3wp14-09), an updated version of this document is periodically issued. The draft ATN lexicon contains definitions that are still under discussion as well as widely agreed definitions of terms.

The "stages of stability" (see table) reflect the solidity of a certain definition. Once a listed definition has passed a review (-a WG3-meeting), the "stage of stability" drops down to a more stable status until the definition automatically becomes agreed.

Contributions and comments to this document are welcomed by tbelitz@compuserve.com.

Contents

REFERENCES

/4444_96/

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

/9705_Sv1_1.0/

Doc 9705 – AN/956, Manual of Technical Provisions for the ATN, Subvolume 1 - Introduction and System Level Requirements, 1st edition, ICAO 1998

/A10_CoreATN_0.1/

Amendment 73 to ATN-SARPs, Annex 10 to the Convention On International Civil Aviation, Vol III, Part I – Digital Data Communication Systems; *Draft/ inofficial version*

/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

/A2_96/

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

/ACCESS_225/

ATN Compliant Communications European Strategy Study, WP225 “Accomodation of FANS1/A”, UK NATS, January 99

/ADSP.WGB.WP127.F/

ADSP WG/B WP127 Appendix F, Manual on Required Communications Performance, Draft Revision 0.6

/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

/ATNI2_d1/

Report for the DG7, European Commission, Deliverable 1; "ATNI2-report" Scenarios for the ATN - Non-technical Implementation Issues, ver 1.2, Annex 2, June 1998, SIRIUS

/ATNI2_d2/

Report for the DG7, European Commission, Deliverable 2; ”The Introduction of ATN in Europe: A Regulatory Framework”, Annexes, ver 1.2 Feb99; SIRIUS/ L'Informatique Communicante/ ISTEV

/CAMAL_99.01/

ICAO Comprehensive ATN Manual, editors draft, January 99

/ET1.ST03_v0.8/

EATCHIP OPR.ET1.ST03.1000-ORD-02-00, Working draft ver. 0.8

/ET1.ST05_v1.0/

EATCHIP OPR.ET1.ST05.1000-ORD-01-00, OPERATIONAL REQUIREMENTS FOR AIR TRAFFIC MANAGEMENT (ATM) AIR/GROUND DATA COMMUNICATIONS SERVICES, version 1.0; ODIAC January 1998

/SM_CONOPS_1.0/

ATN System Management Concept Of Operations, Ver.1.0, ATNP/WG1.SG3/11, Stephane Tamalet, April 99

/WG3.WP14.19/

ATNP WG3 WP 14-19, Proposed PDUs for package 2 CM server considerations, G.Saccone, 09/30/98

/W1S2WP8-9/

ATNP WG1/SG2 WP 8-9, Proposed Definitions for Security Guidance, M.Bigelow, 08/28/98

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Addressing (logical) /CAMAL_99.01/ 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.			☺
Addressing (physical) /CAMAL_99.01/ 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.			☺
Administrative/ Regional Domain /SM_CONOPS_1.0/ The owner and/or operator of an ATN network is defined by the term *Administrative Domain*. An Administrative Domain is the set of resources under the administrative control of a single authority. In some instances, a group of *Administrative Domains*, e.g., all the CAAs within an ICAO Region, may join together into a *Regional Domain*.		😐	
Administrative/ Regional Systems Management Domain /SM_CONOPS_1.0/ The Administrative Management Domain consists of the management of an entire Administrative Domain. The Administrative Management Domain is the central building block for ATN Systems Management. It is within this domain that management information is gathered, reduced, and analyzed to determine the operational state of that portion of the ATN. Most importantly, this is the central source of management information shared with other domains. For the efficient management of the ATN, the operators of groups of Administrative Management Domains may agree to consolidate some aspects of management thereby forming a Regional Management Domain. An Administrative Management Domain may be contained in one or more Regional Management Domains.		😐	
Air Applications /ADSP_Manual_d0.4_96/ [DG_DLIC] An indication of 1 - 256 airborne data link applications. Consists of *Application Name*, *Version Number*, and, when required for ground initiated applications*, Application Address* data.			☺
Air Traffic Services Unit (ATSU) /A2_96/ A generic term meaning variously, air traffic control unit, flight information center or air traffic services reporting office.			☺
Aircraft Address /A10-3_97/ /ADSP_Manual_d0.4_96/ [DG_DLIC][DG_AIDC] A unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications navigation and surveillance.			☺
Aircraft Identification /4444_96/ 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. /ADSP_Manual_d0.4_96/[DG_DLIC][DG_ADS][DG_ADS-B][DG_CPDLC][DG_AIDC] 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.			☺
Application Information /WG3.WP14.19/		😐	

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Refers to the application names (e.g. ADS, CPDLC), version numbers, and addresses (the long or short TSAP, as required) of each applications. *Note:* If no applications are supported or the application information is not available, then the application information field will be null.			
ATN (Aeronautical Telecommunications Network) /ACCESS_225/ The Aeronautical Telecommunications Network (ATN) is the future ICAO specified data communications network. The ATN is an internetwork that will use existing and developing networks to support the end to end communication of ATS and AOC data between end systems. The connectivity between the 'individual' networks is provided by ATN routers. The protocols used by the ATN are ISO OSI bit oriented protocols, unlike ACARS which is character based. The ATN is a fully scaleable network offering prioritized end-to-end communications, routing procedures that are policy based and a high service availability to meet the stringent performance and safety requirements needed for ATC.		😐	
ATN Communication Services /CAMAL_99.01/ 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.			☺
ATN Manual Edition 2 /CAMAL_99.01/ The second edition of the ATN Manual approved at the SICASP/5 Meeting (not to be published by ICAO). The ATN Manual Edition 2 is derived from the material developed by the SICASP in the form of the ATN Manual (Version 2) and recommended for publication at the fifth meeting of this panel.			☺
ATN Organizaiton /SM_CONOPS_1.0/ What distinguishes an organization as an ATN organization is that it administratively controls a set of ATN resources. For example, an organization that controls the assignment of NSAP addresses for a portion of the ATN can be considered an ATN organization. ATN organizations consist of, for example, CAAs, IATA aircraft operating agencies, or ATN service providers.		😐	
ATN System Applications /CAMAL_99.01/ 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.			☺
Audit /W1S2WP8-9/ A procedure used to validate that controls are in place and adequate for their purposes. Includes recording and analyzing activities to detect intrusions or abuses into an information system. Inadequacies found by an audit are reported to appropriate management personnel.	😐		
Authentication /W1S2WP8-9/ A process used to confirm the identity of a person or to prove the integrity of specific information. Message authentication involves determining its source and verifying that it has not been modified or replaced in transit. (Cf., Verify (A Digital Signature))	😐		
Availability /W1S2WP8-9/ The extent to which information or processes are reasonably accessible and usable, upon demand, by an authorized entity, allowing authorized access to resources and timely performance of time-critical operations.	😐		
Availability (RCP-Parameter) /ADSP.WGB.WP127.F/ RCP availability expresses the probability that the communication system is ready for			☺

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
operation at the start of a transaction. It is anticipated that a system indicator, which informs the user that the system is available for use, will be available to system users. Availability is the ratio of actual operating time to specified operating time. Availability is defined between end users. RCP availability includes all elements within the end systems, networks, intermediate systems and subsystems.			
Certificate (Public Key Certificate) /W1S2WP8-9/ A message (see definition for Message) that, at least, states a name or identifies the IA, identifies the subscriber, contains the subscriber's public key, identifies the certificate's operational period, contains a certificate serial number, and is digitally signed by the IA	😐		
Certificate Authority (CA) /W1S2WP8-9/ A person (see definition for Person) authorized to issue certificates. (Cf., Trusted Third Party)	😐		
Certificate Chain /W1S2WP8-9/ An ordered list of certificates containing an end-user subscriber certificate and IA certificates (See Valid Certificate)	😐		
Certificate Expiration /W1S2WP8-9/ The time and date specified in the certificate when the operational period ends, without regard to any earlier suspension or revocation.	😐		
Certificate Extension /W1S2WP8-9/ An extension field to a certificate that may convey additional information about the public key being certified, the certified subscriber, the certificate issuer, and/or the certification process. Standard extensions are defined in Amendment 1 to ISO/IEC 9594-8:1995 (X.509).	😐		
Certificate Management /W1S2WP8-9/ Certificate management includes, but is not limited to storage, dissemination, publication, revocation, and suspension of certificates. An IA undertakes certificate management functions by serving as a registration authority for subscriber certificates. An IA designates issued and accepted certificates as valid by publication.	😐		
Certificate Revocation List (CRL) /W1S2WP8-9/ A periodically (or exigently) issued list, digitally signed by an IA, of identified certificates that have been suspended or revoked prior to their expiration dates. The list generally indicates the CRL issuer's name, the date of issue, the date of the next scheduled CRL issue, the suspended or revoked certificates' serial numbers, and the specific times and reasons for suspension and revocation.	😐		
Certificate Serial Number /W1S2WP8-9/ A value that unambiguously identifies a certificate generated by an IA.	😐		
Certification Practice Statement (CPS) /W1S2WP8-9/ A statement of the practices that a certificate authority follows in issuing certificates.	😐		
CIDIN (Common ICAO Data Interchange Network) /ATNI2_d2/ CIDIN is one part of the aeronautical fixed service which uses bit-oriented procedures and packet switching techniques. CIDIN is a protocol designed for data transmission over AFTN, up to layer 4 (transport) and using network layer X 25 packet protocol associated with a CIDIN network layer.		😐	
CM Server /WG3.WP14.19/ This is an ATS Facility that is capable of providing *application information* relating to other ATSUs to requesting aircraft or ATSUs.		😐	

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Collaborative Decision Making /ATNI2_d1/ Both the collective requirements of all airspace users and the individual aircraft operator's preferences will be taken into account in determining solutions to events. The open systems environment and better information management will allow a permanent dialogue between the various parties (ATM, aircraft operations centers, pilots and airport operations) before departure, and as the flight processes through the ATM system. This exchange of information will enable the various organizations to continuously update each other on relevant events in real-time and provide the basis for more efficient decision making. Aircraft operators will have up-to-date and accurate information on which to base decisions about their flights, and will be able to apply factors which are not known to ATM, such as fleet management priorities, fuel consumption figures and other aircraft operating parameters, when determining solutions.		😐	
Communications Front End placeholder; definition needed	☹		
Compromise /W1S2WP8-9/ A violation (or suspected violation) of a security policy, in which an unauthorized disclosure of, or loss of control over, sensitive information may have occurred. (Cf., Data Integrity)	😐		
Confidentiality /W1S2WP8-9/ The condition in which sensitive data is kept secret and disclosed only to authorized parties.	😐		
Confirm /W1S2WP8-9/ To ascertain through appropriate inquiry and investigation. (Cf., Authentication; Verify A Digital Signature)	😐		
Confirmation of Certificate Chain /W1S2WP8-9/ The process of validating a certificate chain and subsequently validating an end-user subscriber certificate.	😐		
Congestion /CAMAL_99.01/ 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.			☺
Congestion Avoidance /CAMAL_99.01/ Techniques that regulate the data flow into the network in order to prevent the 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.			☺
Congestion Management /CAMAL_99.01/ This term refers to a set of rules and techniques which prevent congestion , e.g. by monitoring actual network load. Co-operative interaction of all end systems is required in order to prevent individual end-systems taking up the throughput saved by well-behaving systems.			☺
Congestion Recovery / Congestion Control /CAMAL_99.01/ 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.			☺
Continuity of Function (RCP-Parameter) /ADSP.WGB.WP127.F/ RCP continuity of function expresses the probability of the successful completion of a transaction, assuming the transaction has been initiated.			☺

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Cross-Certification /W1S2WP8-9/ The issuance of a certificate by a CA having another CA as the subject of that certificate.	😐		
Cryptographic Algorithm (CA) /W1S2WP8-9/ A clearly specified mathematical process for computation; a set of rules that produce a prescribed result.	😐		
Cryptography (Cf., Public Key Cryptography) /W1S2WP8-9/ (i) The mathematical science used to secure the confidentiality and authentication of data by replacing it with a transformed version that can be reconverted to reveal the original data only by someone holding the proper cryptographic algorithm and key. (ii) A discipline that embodies the principles, means, and methods for transforming data in order to hide its information content, prevent its undetected modification, and/or prevent its unauthorized uses.	😐		
Cryptomodule /W1S2WP8-9/ A trustworthy implementation of a cryptosystem which safely performs encryption and decryption of data.	😐		
Data Integrity /W1S2WP8-9/ A condition in which data has not been altered or destroyed in an unauthorized manner. (See also Threat; cf., Compromise)	😐		
Digital Signature /W1S2WP8-9/ A transformation of a message using an asymmetric cryptosystem such that a person having the initial message and the signer's public key can accurately determine whether the transformation was created using the private key that corresponds to the signer's public key and whether the message has been altered since the transformation was made.	😐		
Directory Service /CAMAL_99.01/ 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.			☺
Distinguished Name /W1S2WP8-9/ A set of data that identifies a real-world entity, such as a person in a computer-based context.	😐		
Edition placeholder, definition needed Edition of SARPS	☹		
Encryption /W1S2WP8-9/ The process of transforming plain text data into an unintelligible form (ciphertext) such that the original data either cannot be recovered (one-way encryption) or cannot be recovered without using an inverse decryption process (two-way encryption).	😐		
Engineering Trials /CAMAL_99.01/ 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.			☺

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
gate to gate /ATNI2_d2/ Characteristic of the future CNS/ATM service, starting from the first interaction of a flight with ATM to switch-off of the aircraft engines, including charging processes. A flight will be considered as a continuum from the departure gate to final destination gate. The primary objective will be for flights to operate as much close to their preferences, from first interaction with the ATM system and throughout the flight.		😐	
Hash (Hash Function) /W1S2WP8-9/ An algorithm that maps or translates one set of bits into another (generally smaller) set in such a way that: 1. A message yields the same result every time the algorithm is executed using the same message as input. 2. It is computationally infeasible for a message to be derived or reconstituted from the result produced by the algorithm. 3. It is computationally infeasible to find two different messages that produce the same hash result using the same algorithm.	😐		
Identification/Identity /W1S2WP8-9/ The process of confirming the identity of a person. Identification is facilitated in public key cryptography by means of certificates.	😐		
Implementation placeholder, definition needed	☹		
Institutional Issues /CAMAL_99.01/ Issues related to ownership, control and responsibility for correct implementation and operation of systems which involve more than one state or organization.			☺
Integrity (RCP-Parameter) /ADSP.WGB.WP127.F/ RCP integrity is the quality which relates to the trust that can be placed in the correctness of the message delivered for an intended operation. RCP integrity is the probability that a message received by the intended recipient contains an undetected, system induced error. In other words, it is the ratio of good messages to total messages received.			☺
Interoperability placeholder, definition needed	☹		
Issuing Authority (IA) /W1S2WP8-9/ The CA that issues, suspends, or revokes a certificate. IAs are identified by a distinguished name on all certificates and CRLs they issue.	😐		
Key Generation /W1S2WP8-9/ The trustworthy process of creating a private key/public key pair. The public key is supplied to an IA during the certificate application process.	😐		
Key Pair /W1S2WP8-9/ A private key and its corresponding public key. The public key can verify a digital signature created by using the corresponding private key. In addition, depending upon the type of algorithm implemented, key pair components can also encrypt and decrypt information for confidentiality purposes, in which case a private key uniquely can reveal information encrypted by using the corresponding public key.	😐		
Maximum Dialogue Time (T_{MD}, RCP-Parameter) /ADSP.WGB.WP127.F/ The Maximum Dialogue Time (T_{MD}) specifies the maximum time for the completion of a two-way dialogue between the originating user and the receiving user. T_{MD} is the primary RCP parameter. This parameter is an indication of the time criticality of the message transactions to which it is applied. It serves to qualify a communications			☺

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
method for use in a particular procedure in a given airspace. It will immediately separate less time critical communications services such as FIS, from very time critical services such as CPDLC in the terminal area. It is a goal for the RCP concept to include the minimum number of T_{MD} parameter values, consistent with the proper characterization of the operational requirements of the various applications.			
Message /W1S2WP8-9/ A digital representation of information; a computer-based record. A subset of Record. (Cf., Record)	😐		
Naming /W1S2WP8-9/ Naming is the assignment of descriptive identifiers to objects of a particular type by an authority that follows specific issuing procedures and maintains specific records pertinent to an identified registration process. (Cf., Naming Authority)	😐		
Naming Authority /W1S2WP8-9/ A body that executes naming policy and procedures and has control over the registration and assignment of primitive (basic) names to objects of a particular class. (Cf., Naming)	😐		
Nonrepudiation /W1S2WP8-9/ Provides proof of the origin or delivery of data in order to protect the sender against a false denial by the recipient that the data has been received or to protect the recipient against false denial by the sender that the data has been sent. Note: Only someone with the authority to resolve disputes can make an ultimate determination of nonrepudiation. A verified digital can provide proof in support of a determination of nonrepudiation but does not by itself constitute nonrepudiation.	😐		
Operational Trials /CAMAL_99.01/ Operational trials are based on operational environment. This includes operational systems and operational equipment, 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.			☺
Package placeholder, definition needed	☹		
Person /W1S2WP8-9/ A human being or an organization (or a device under the control of a human being or organization) capable of signing or verifying a message, either legally or as a matter of fact. (A synonym of Entity.)	😐		
Private Key /W1S2WP8-9/ A mathematical key (kept secret by the holder) used to create digital signatures and, depending upon the algorithm, to decrypt messages or files encrypted (for confidentiality) with the corresponding public key. (See also Public Key Cryptography; Public Key)	😐		
Public Key /W1S2WP8-9/ A mathematical key that can be made publicly available and which is used to verify signatures created with its corresponding private key. Depending on the algorithm, public keys are also used to encrypt messages or files which can then be decrypted with the corresponding private key. (See also Public Key Cryptography; Private Key)	😐		
Public Key Cryptography (cf. Cryptography) /W1S2WP8-9/ A type of cryptography that uses a key pair of mathematically related cryptographic keys. The public key can be made available to anyone who wishes to use it and can encrypt information or verify a digital signature; the private key is kept secret by its holder and can decrypt information or generate a digital signature.	😐		

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Public Key Infrastructure (PKI) /W1S2WP8-9/ The architecture, organization, techniques, practices, and procedures that collectively support the implementation and operation of a certificate-based public key cryptographic system.	😐		
Record /W1S2WP8-9/ Information that is inscribed on a tangible medium (a document) or stored in an electronic or other medium and retrievable in perceivable form. The term "record" is a superset of the two terms "document" and "message". (Cf., Document; Message)	😐		
Repudiation (See Also Nonrepudiation) /W1S2WP8-9/ The denial or attempted denial by an entity involved in a communication of having participated in all or part of the communication.	😐		
Required Communication Performance (RCP) /ADSP.WGB.WP127.F/ RCP specifies the operational characteristics of the communications means used to support a service or procedure. RCP-parameters comprise (1) the Maximum Dialogue Time T_{MD}, (2) the RCP integrity, (3) RCP availability and (4) the RCP continuity of function.			☺
Revoke A Certificate /W1S2WP8-9/ The process of permanently ending the operational period of a certificate from a specified time forward.	😐		
Root /W1S2WP8-9/ The IA that issues the first certificate in a certification chain. The root's public key must be known in advance by a certificate user in order to validate a certification chain. The root 's public key is made trustworthy by some mechanism other than a certificate, such as by secure physical distribution.	😐		
SARPs (Standard and Recommended Practices, ICAO) /ATNI2_d2/ Art. 37 – Chicago Convention: "Each contracting State undertakes to collaborate in securing the highest, practicable degree of uniformity in regulations, standards, procedures, and organisation in relation to aircraft, personnel, airways, and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation. To this end, the ICAO shall adopt and amend from time to time, as may be necessary, international standards and recommended practices (SARPs) and procedures". The domains concerned with SARPs are described in the annexes of the Chicago Convention.		😐	
Security /W1S2WP8-9/ The quality or state of being protected from unauthorized access or uncontrolled losses or effects. Absolute security is impossible to achieve in practice and the quality of a given security system is relative. Within a state-model security system, security is a specific "state" to be preserved under various operations.	😐		
Security Services /W1S2WP8-9/ Services provided by a set of security frameworks and performed by means of certain security mechanisms. Such services include, but are not limited to, access control, data confidentiality, and data integrity.	😐		
Service /ET1.ST05_v1.0/ An abstract noun which is used to designate functions, or a service rendered. In the context of this document, 'Service' refers to a set of actions, both system supported and manual, which have a clearly defined operational goal and which begin and end on an operational		😐	

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
event			
Subject (of a Certificate) /W1S2WP8-9/ The holder of a private key corresponding to a public key. The term "subject" can refer to both the equipment or device that holds a private key and to the individual person, if any, who controls that equipment or device. A subject is assigned an unambiguous name which is bound to the public key contained in the subject's certificate.	😐		
Subset of ATN SARPS placeholder, definition needed	☹		
System capability placeholder, definition needed Operational Technical	☹		
Systems Management (SM) /SM_CONOPS_1.0/ SM provides mechanisms to monitor, control and coordinate communications, applications and other resources with the goal of achieving a seamless communications service in support of air traffic operations. To achieve this goal, specific management information functions and protocols are designed and built into supporting communications networks in order to provide deterministic and controllable network behaviour.		😐	
Systems Management Domain /SM_CONOPS_1.0/ In the context of ATN Systems Management, a *Domain* is a generic term that is used to define a set of resources under the control of a single entity. A <*name*>*Domain* defines the particular set of resources characterized by the value of <*name*> (e.g. administrative domain, management domain, address domain).		😐	
Threat /W1S2WP8-9/ A circumstance or event with the potential to cause harm to a system, including the destruction, unauthorized disclosure, or modification of data and/or denial of service.	😐		
Trajectory /ET1.ST03_v0.8/ A trajectory is a representation of the path of an aircraft, describing the horizontal and vertical profile over time. The representation may also allow identification of points on the route such as sector boundaries and penetration of special use airspace. Typical ATM systems may represent trajectories as a sequence of annotated 4-D points, although this is not the only representation.		😐	
Trust /W1S2WP8-9/ Generally, the assumption that an entity will behave substantially as expected. Trust may apply only for a specific function. The key role of this term in an authentication framework is to describe the relationship between an authenticating entity and an IA. An authenticating entity must be certain that it can trust the IA to create only valid and reliable certificates, and users of those certificates rely upon the authenticating entity's determination of trust.	😐		
Trusted Third Party /W1S2WP8-9/ In general, an independent, unbiased third party that contributes to the ultimate security and trustworthiness of computer-based information transfers. A trusted third party does not connote the existence of a trustor-trustee or other fiduciary relationship. (Cf., Trust)	😐		
Trustworthy System /W1S2WP8-9/ Computer hardware, software, and procedures that are reasonably secure from intrusion and misuse; provide a reasonable level of availability, reliability, and correct operation; are reasonably suited to performing their intended functions; and enforce the applicable security policy. A trustworthy system is not necessarily a "trusted system" as recognized in classified government nomenclature.	😐		

mark legend: ☹ – definition under construction/ 😐 – definition complete but not full agreed/ ☺ – agreed definition

Terms and Explanations	Stability of Definition		
	Early Draft	Draft	stable
Validate A Certificate (i.e., Of an End-User Subscriber Certificate) /W1S2WP8-9/ The process performed by a recipient or relying party to confirm that an end-user subscriber certificate is valid and was operational at the date and time a pertinent digital signature was created.	😐		
Validate A Certificate Chain /W1S2WP8-9/ For each certificate in a chain, the process performed by the recipient or relying party to authenticate the public key (in each certificate), confirm that each certificate is valid, was issued within the operational period of the corresponding IA certificate, and that all parties (IAs, end-user subscribers, recipients, and relying parties) have operated in accordance with the ATN CPS as to all certificates in the chain.	😐		
Validation (Of Certificate Application) /W1S2WP8-9/ The process performed by the IA following submission of a certificate application as a prerequisite to approval of the application and the issuance of a certificate. (Cf., Authentication; Software Validation)	😐		
Verify (A Digital Signature) /W1S2WP8-9/ In relation to a given digital signature, message, and public key, to determine accurately that (i) the digital signature was created during the operational period of a valid certificate by the private key corresponding to the public key contained in the certificate and (ii) the associated message has not been altered since the digital signature was created. (Cf., Authentication; Confirm)	😐		
Version placeholder, definition needed General definition Criteria for the update of Version Nmb	☹		

DEFINITIONS

The aim of this WP is the maintenance of the ATN-lexicon. In order to achieve this it incorporates material that is already comprised by the CAMAL /CAMAL_99.01/, the ATN SARPs Sv1 /9705_Sv1_1.0/ and the Core ATN SARPs /A10_CoreATN_0.1/. The table “Explanations of Terms” (above section) contains supplementing material, derived from ATNP WG working papers and further ATN related sources (see references). The CAMAL-structure distinguishes abbreviations, definitions and ATNP-lexicon entries. In order to have both established definitions and terms under discussion in one document the established CAMAL- ,SV1 and Core SARPs definitions are repeated in the following table.

Abstract service interface. The abstract interface between the application entity (AE) and the application user.	/9705_Sv1_1.0/
Abstract syntax notation One (ASN.1). Abstract syntax notation One is defined in ISO/IEC 8824-1. The purpose of this notation is to enable data types to be defined, and values of those types specified, without determining their actual representation (encoding) for transfer by protocols.	/9705_Sv1_1.0/
Address Domain. An Address Domain is a set of address formats and values administered by a single address authority. Under the ISO plan, any address authority may define subdomains within its own domain, and delegate authority within those subdomains.	/CAMAL_99.01/
Addressing Authority. An Addressing Authority defines formats and/or values of NSAP addresses within its jurisdiction.	/CAMAL_99.01/
Addressing plan. A plan that provides common address syntax and management of global addresses for the unambiguous identification of all end and intermediate systems in accordance with the rules prescribed in ISO/IEC 7498-3 and ISO/IEC TR 10730.	/9705_Sv1_1.0/
Administrative Domain. A collection of end systems, intermediate systems, and subnetworks operated by a single organization or administrative authority. An administrative domain may be internally divided into one or more routing domains.	/CAMAL_99.01/ /9705_Sv1_1.0/
ADS application. An ATN application that provides ADS data from the aircraft to the ATS unit(s) for surveillance purposes.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
ADS Contract. An agreement between the ADS ground-user and the ADS air-user that the latter will provide reports to the former under the conditions specified in the contract.	/9705_Sv1_1.0/
ADS. The symbol used to designate automatic dependent surveillance.	/9705_Sv1_1.0/
Aeronautical administrative communication (AAC). Communication used by aeronautical operating agencies related to the business aspects of operating their flights and transport services. This communication is used for a variety of purposes, such as flight and ground transportation, bookings, deployment of crew and aircraft or any other logistical purposes that maintains or enhances the efficiency of overall flight operation.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/
Aeronautical administrative messages. Messages regarding the operation or maintenance of facilities provided for the safety or regularity of aircraft operation. Messages concerning the functioning of the ATN and messages exchanged between government civil aviation authorities relating to aeronautical services.	/9705_Sv1_1.0/
Aeronautical fixed telecommunications network (AFTN). A world-wide system of aeronautical fixed circuits provided, as part of the aeronautical fixed service, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communications characteristics.	/9705_Sv1_1.0/
Aeronautical industry service communication (AINSC). Communication related to aeronautical industry services including aeronautical operational control communication, aeronautical administrative communication, and aeronautical passenger communication. This communication involves one or more aeronautical industry service administrations. This term is used for purposes of address administration.	/9705_Sv1_1.0/

Aeronautical information service (AIS) messages. Messages concerning the aeronautical information service defined in ANNEX 15. /9705_Sv1_1.0/

Aeronautical Mobile Satellite Service (AMSS). AMSS provides packet-mode data and circuit-mode data and voice service to aircraft and ground users provided by a satellite subnetwork which comprises satellites, Aircraft Earth Stations (AESs), Ground Earth Stations (GESs), and associated ground facilities such as a network co-ordination center. /CAMAL_99.01/

Aeronautical mobile-satellite service (AMSS). The AMSS comprises satellites, aeronautical earth stations (AESs), ground earth stations (GESs) and associated ground facilities such as a network coordination center. It uses the satellite subnetwork to provide aeronautical communication services between aircraft and ground users. Technical requirements for the AMSS are contained in Annex 10, Volume III, Part I, Chapter 4. The ATN supports the packet-mode data exchange provided by the AMSS. /9705_Sv1_1.0/

Aeronautical operational control (AOC). Communication required for the exercise of authority over the initiation, continuation, diversion or termination of flight for safety, regularity and efficiency reasons. /A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/

Aeronautical passenger communication (APC). Communication relating to the non-safety voice and data services to passengers and crew members for personal communication. /A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/

Aeronautical Telecommunication Network (ATN). The Aeronautical Telecommunication Network is an internetwork architecture which allows ground, air-to-ground, and avionics data subnetworks to interoperate by adopting common interface services and protocols based on the International Organization for Standardization (ISO) Open Systems Interconnection (OSI) reference model. /CAMAL_99.01/

AFTN form address (AF-address). Either an AFTN addressee indicator as specified in Annex 10, Volume II, paragraphs 4.4.3.1.2 and 4.4.16.2.1.3 which is used to locate AMHS users, either direct or indirect, in the AFTN address space or a predetermined distribution addressee indicator (PDAI) as specified in Annex 10, Volume II, 4.4.14.
Note.— An AF-address (AFTN-form) is an ICAO AFTN 8-letter addressee indicator. /9705_Sv1_1.0/

AFTN. The symbol used to designate aeronautical fixed telecommunication network /9705_Sv1_1.0/

AFTN/AMHS gateway. An end system which provides bi-directional interworking between users of the ATS message service and users connected to the AFTN. /9705_Sv1_1.0/

AFTN/ATN Type A gateway. An end system which provides a bi-directional interface between the ATN and the AFTN for the purpose of conveying AFTN messages over the ATN by implementation of the ATN pass-through service. /9705_Sv1_1.0/

AIDC application. An ATN application dedicated to exchanges between ATS units (ATSUs) of air traffic control (ATC) information in support of flight notification, flight coordination, transfer of control, transfer of communication, transfer of surveillance data and transfer of general data. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

AIDC. The symbol used to designate ATS interfacility data communication. /9705_Sv1_1.0/

AINSC. The symbol used to designate aeronautical industry service communication. /9705_Sv1_1.0/

Air application service element (air-ASE). An abstract part of the aircraft system that performs the communication related functions of the application. /9705_Sv1_1.0/

Air traffic control (ATC) clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.
Note 1.— For convenience the term “air traffic control clearance” is frequently abbreviated to “clearance” when used in appropriate contexts.
Note 2.— The abbreviated term “clearance” may be prefixed by the words “taxi”, take-off”, “departure”, “en-route”, “approach” or “landing” to indicate the particular portion of flight to which the air traffic control clearance relates. /9705_Sv1_1.0/

Air traffic control (ATC) instruction. Directives issued by air traffic control for the purposes of requiring a pilot to take specific action. /9705_Sv1_1.0/

Air traffic control (ATC) service. A service provided for the purposes of:
a) preventing collisions:
1) between aircraft, and
2) on the manoeuvring area between aircraft and obstructions; and /9705_Sv1_1.0/

b) expediting and maintaining an orderly flow of traffic.

Air Traffic Control (ATC). ATC is a service operated by an appropriate authority to promote the safe, orderly, and expeditious flow of air traffic. /CAMAL_99.01/

Air Traffic Management (ATM). ATM consists of a ground and air part, both needed to ensure the safe and efficient movement of aircraft during all phases of operation. /CAMAL_99.01/

Air traffic services (ATS). A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service). /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Air Traffic Services Communications (ATSC). Communications related to air traffic services including air traffic control, aeronautical and meteorological information, position reporting, and services related to safety and regularity of flight. This communication must involve one or more air traffic service administrations. This term is used for purposes of address administration. /CAMAL_99.01/

Air user (air-user). The abstract part of the aircraft system that performs the non communication related functions of the application. /9705_Sv1_1.0/

Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders. /9705_Sv1_1.0/

Aircraft address. A unique combination of twenty-four bits available for assignment to an aircraft for the purpose of air-ground communications, navigation and surveillance. /9705_Sv1_1.0/

Aircraft flight identification. A group of letters, figures or a combination thereof which is either identical to, or the coded equivalent of, the aircraft call sign to be used in air-ground communication and which is used to identify the aircraft in ground-ground air traffic services communication. /9705_Sv1_1.0/

Air-ground application. An application that has one peer application on an aircraft and its other peer application on the ground. An air-ground application may require the use of ground-ground subnetworks. /9705_Sv1_1.0/

AMHS management domain. An AMHS management domain formed by an ATS organization for the management of that part of the AMHS which is under its responsibility. /9705_Sv1_1.0/

AMHS message. An instance of the category of information object defined as message in ISO/IEC 10021-2 and conveyed in the AMHS. It is composed of an envelope and of a content. /9705_Sv1_1.0/

AMHS probe. An instance of the category of information object defined as probe in ISO/IEC 10021-2 and conveyed in the AMHS. It is a class of message containing only an envelope which is conveyed by the message transfer agents (MTAs) from one user up to the MTA serving other users, used to determine the deliverability of messages. /9705_Sv1_1.0/

AMHS report. An instance of the category of information object defined as report in ISO/IEC 10021-2 and conveyed in the AMHS. It is generated by a message transfer agent (MTA) in order to report on the outcome or progress of a message or probe in the set of interconnected MTAs pertaining to the AMHS. /9705_Sv1_1.0/

AMHS. The symbol used to designate ATS message handling system. /9705_Sv1_1.0/

Application entity (AE) qualifier. That part of the AE title that unambiguously identifies the particular application entity. /9705_Sv1_1.0/

Application entity (AE) service interface. The interface between the application users and the application /9705_Sv1_1.0/

Application entity (AE) title. An unambiguous name for an application entity. /9705_Sv1_1.0/

Application entity (AE). Part of an application process that is concerned with communication within the OSI environment. The aspects of an application process that need to be taken into account for the purposes of OSI are represented by one or more AEs. /A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/

Application layer structure (ALS). The application layer structure refers to the internal architecture of the OSI application layer as described in ISO/IEC 9545. /9705_Sv1_1.0/

Application layer. The seventh layer of the OSI reference model that controls application user /9705_Sv1_1.0/

access to the communication system and provides services to perform a logical association to other applications.

Application process (AP). A set of resources, including processing resources, within a real open system which may be used to perform a particular information processing activity. /9705_Sv1_1.0/ /CAMAL_99.01/

Application protocol data unit (APDU). An Application protocol data unit is an (N) PDU where N refers to the application layer. An APDU is the basic unit of information exchanged between the airborne application and the ground application. /9705_Sv1_1.0/

Application service element (ASE) service interface. The abstract interface through which the ASE service is accessed.
Note.— In version 1 of the ADS application, the ADS-ASE service interface coincides with the ADS-AE abstract service interface. /9705_Sv1_1.0/

Application service element (ASE). The element in the communication system which executes the application specific protocol. In other words, it processes the application specific service primitive sequencing actions, message creation, timer management, error and exception handling. The application's ASE interfaces only with the application's CF. /9705_Sv1_1.0/

Application service object (ASO). An active element within (or equivalent to the whole of) the application-entity embodying a set of capabilities defined for the application layer that corresponds to a specific ASO-type (without any extra capabilities being used). An ASO is a combination of application service elements (ASEs) and ASOs that perform a specific function. An ASO that provides the functions of the establishment and data transfer phases is considered a complete protocol. /9705_Sv1_1.0/

Application service. The abstract interface between the (N) service and the (N) service user, where N refers to the application layer; thus it is the boundary between the AE and the application user. /9705_Sv1_1.0/

Application service. The abstract interface between the (N)-service and the (N)-service user, where N refers to the Application layer; thus it is the boundary between the ATN-App-AE and the Application-user. /CAMAL_99.01/

Application user. That abstract part of the aircraft or ground system that performs the non-communication related functions of the application. /9705_Sv1_1.0/

Application. Software providing services to its users, in the guise of a consistent set of functionality; example given, the ATC related functions implemented in the server(s) and/or controller work position host computers.(from EATCHIP Glossary of Terms/COPS/CWP Report) /CAMAL_99.01/

Application. The ultimate use of an information system, as distinguished from the system itself. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Association control service element (ACSE). The association control service element is the common mechanism in the application layer structure (ALS) for establishing and releasing application service object (ASO) associations. /9705_Sv1_1.0/

ATIS application. An ATN application that supports the ATIS. /9705_Sv1_1.0/

ATIS. The symbol used to designate automatic terminal information service. /9705_Sv1_1.0/

ATM/ATS Applications. These are applications supporting ATM or other ATS functions and do not necessarily correspond to ATN applications. The term is usually used to distinguish between ATM functions and other non-ATM functions using the same communication service. /CAMAL_99.01/

ATN application. Refers to an application that is designed to operate over ATN communication services. /9705_Sv1_1.0/

ATN Applications. Refers to applications that support ATM or aeronautical industry functions and that are designed to operate across an OSI communications system. ATN applications are always distributed applications, i.e. peer processes are hosted by different end systems which are interconnected. /CAMAL_99.01/

ATN communication services. Composed of the internet communications service and the upper layers communications service. /9705_Sv1_1.0/

ATN Environment. The term ATN environment relates to functional and operational aspects /9705_Sv1_1.0/

around the ATN as a complete end-to-end communication system. /CAMAL_99.01/

ATN Internet (ATNI). An implementation of the ISO OSI network layer services and protocols for support of interprocess data communication between aeronautical host computers. It is defined to be the collection of the connected internetwork routers and subnetworks that conform to ATN internetwork requirements. /CAMAL_99.01/

ATN Network Operating Concept. An ATN Network Operating Concept will address the administrative, operational, institutional, and policy issues and additional (non-SARPs) technical aspects to enable the efficient and correct operation of the ATN. /CAMAL_99.01/

ATN profile requirement list (APRL). APRLs identify, in a tabular form, requirements together with the options and parameters for protocols used in the ATN. The supplier of an ATN protocol implementation claiming to conform to the ATN technical requirements must indicate conformance to those requirements by preparing a protocol implementation conformance statement (PICS) based on the set of APRLs. /9705_Sv1_1.0/

ATN Router. The communication element that manages the relaying and routing of data while in transit from an originating ATN host computer to a destination ATN host computer. In ISO terms, an ATN router comprises an OSI intermediate system and an end system supporting a systems management agent. /CAMAL_99.01/

ATN Routing Domain Confederation(RDC). The ATN RDC is the set of interconnected routing domains that together form the ATN internetwork. /CAMAL_99.01/

ATN Services. The ATN services are provided to ATN users that require ground-ground or air-ground data communication. The ATN internet service is provided at the transport layer (service access point). The ATN accommodates different grades of services which can be expressed by Quality of Service parameters. /CAMAL_99.01/

ATN Systems Management. The ATN Systems Management provides mechanisms for monitoring, control and co-ordination of resources necessary to provide ATN services. ATN Systems Management is based on OSI System Management principles and may be distributed, centralized, or local. /CAMAL_99.01/

ATN. The symbol used to designate the aeronautical telecommunication network. /9705_Sv1_1.0/

ATS communications (ATSC). Communication related to air traffic services including air traffic control, aeronautical and meteorological information, position reporting and services related to safety and regularity of flight. This communication involves one or more air traffic service administrations. This term is used for purposes of address administration. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

ATS interfacility data communication (AIDC). Automated data exchange between air traffic services units, particularly in regard to co-ordination and transfer of flights. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

ATS message handling service (ATSMHS). Procedures used to exchange ATS messages over the ATN such that the conveyance of an ATS message is in general not correlated with the conveyance of another ATS message by the service provider. There are two ATS message handling services, which are the ATS messaging service and the ATN pass-through service. /A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/

ATS message handling system (AMHS). The set of computing and communication resources implemented by ATS organizations to provide the ATS message service. /9705_Sv1_1.0/

ATS message protocol stack Type A. The protocol implemented between two ATN end systems which support the ATN pass-through service. /9705_Sv1_1.0/

ATS message server. An ATN end system which provides the relay function included in the ATS message service. It may also optionally provide the storage function included in the ATS message service. /9705_Sv1_1.0/

ATS message user agent. An ATN end system which provides an interface to the ATS message service for an ATS message service user. /9705_Sv1_1.0/

ATS message. A unit of user-data, coded in binary form, which is conveyed from an originator of the data to one or more recipients of the data. It is possible to associate a unique message identifier and a priority with each ATS message. /9705_Sv1_1.0/

ATS organization. An ICAO State or organization which administers one or more ATS end and/or intermediate systems. /9705_Sv1_1.0/

ATS unit (ATSU). A generic term meaning variously, air traffic control unit, flight information /A10_CoreATN_0.1/

centre or air traffic services reporting office.	/9705_Sv1_1.0/
ATS. The symbol used to designate air traffic services.	/9705_Sv1_1.0/
ATSC class. The ATSC class parameter enables the ATSC user to specify the quality of service expected for the offered data. The ATSC class value is specified in terms of ATN end-to-end transit delay at 95% probability.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
ATSC. The symbol used to designate air traffic services communication.	/9705_Sv1_1.0/
ATSMHS. The symbol used to designate ATS message handling services.	/9705_Sv1_1.0/
Authorized path. A communication path that the administrator(s) of the routing domain(s) has pre-defined as suitable for a given traffic type and category.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Automatic dependent surveillance (ADS). A surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position-fixing systems, including aircraft identification, four-dimensional position, and additional data as appropriate.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Automatic Dependent Surveillance (ADS). A technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position-fixing systems, including aircraft identification, four-dimensional position, and additional data as appropriate. ADS is a data link application.	/CAMAL_99.01/
Automatic terminal information service (ATIS). The provision of current, routine information to arriving and departing aircraft throughout the day or a specified portion of the day, via a data link or a continuous and repetitive voice broadcast.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Boundary intermediate system (BIS). An intermediate system that is able to relay data between two separate routing or administrative domains.	/9705_Sv1_1.0/ /CAMAL_99.01/
CM. The symbol used to designate context management.	/9705_Sv1_1.0/
Connectionless network protocol (CLNP). The protocol responsible for forwarding packets through the ATN internet communications service.	/9705_Sv1_1.0/
Context management (CM) application. An ATN application that provides a logon service allowing initial aircraft introduction into the ATN and a directory of all other data link applications on the aircraft . It also includes functionality to forward addresses between ATS units. Note.— Context management is a recognized OSI presentation layer term. The OSI use and the ATN use have nothing in common.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Context Management (CM). Refers to an ATN application. This application implements an ATN logon service allowing initial aircraft introduction into the ATN. The logon service also allows indication of all other data link applications on the aircraft. CM also includes functionality to forward addresses between ATC centres. Thus, CM is a logon and simple directory service. Note: “Context Management” is a recognised OSI presentation layer term. The OSI use and the ATN use have nothing in common.	/CAMAL_99.01/
Control function (CF). That abstract part of the AE that performs the mapping between the ASE service primitives, the association control service element (ACSE) service primitives and other elements within the application entity.	/9705_Sv1_1.0/
Controller pilot communication (CPC). In a controlled airspace, continuous listening watch on the appropriate radio frequency (either manual or automatic with signaling devices) and establishment of two-way communication with the appropriate air traffic control (ATC) unit.	/9705_Sv1_1.0/
Controller pilot data link communication (CPDLC). A means of communication between controller and pilot, using data link for ATC communications.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Controlling ATSU (C-ATSU). The air traffic control unit exercising legal authority over the initiation, continuation, diversion or termination of flights and providing air traffic control service to controlled flights in the control area under its jurisdiction.	/9705_Sv1_1.0/
CPDLC application. An ATN application that provides a means of ATC data communication between controlling, receiving or downstream ATS units and the aircraft, using air-ground and ground-ground subnetworks, and which is consistent with the ICAO phraseology for the current ATC voice communication.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/

CPDLC. The symbol used to designate controller pilot data link communication.	/9705_Sv1_1.0/
Current data authority. The ground system that provides for the establishment and maintenance of a transport connection for the purposes of conducting a CPDLC dialogue pertaining to the services of the C-ATSU.	/9705_Sv1_1.0/
Data authority. A ground system that provides for the establishment and maintenance of a CPDLC transport connection with an aircraft. The transfer of communication from the current data authority to the next data authority is prepared prior to the actual data link switch by designating a next data authority in a specific CPDLC message.	/9705_Sv1_1.0/
Data communications equipment (DCE). An interface between data terminal equipment and the transmission mechanism.	/9705_Sv1_1.0/
Data link layer. The second layer of the OSI reference model that manages the operations of the physical layer and may utilize special error detection or retransmission techniques to achieve acceptable error rates.	/9705_Sv1_1.0/
Demand contract (DC). A contract between a requestor and a provider of information service, such as ADS or FIS, to provide a single report to the requestor (vs. Continual reports to one request).	/9705_Sv1_1.0/
Dialogue service (DS). The lower service boundary of an ASE; the service allows two ASEs to communicate, such as a CM ground-ASE to communicate with a CM air-ASE.	/9705_Sv1_1.0/
Dialogue. A co-operative relationship between elements which enables communication and joint operation.	/9705_Sv1_1.0/
Directory. A facility that supports on request the retrieval of address information or the resolution of application names.	/9705_Sv1_1.0/
Distinguishing path attribute (DPA). Used to discriminate among multiple routes to a destination, based on differences in the quality of service between the routes (for example, expense, transit delay or residual error probability.)	/9705_Sv1_1.0/
Domain specific part (DSP). An addressing authority is responsible for its own addressing subdomain and network service access point (NSAP) addresses within that addressing domain are distinguished, where necessary, by the value of the DSP.	/9705_Sv1_1.0/
Domain. A set of end systems and intermediate systems that operate according to the same routing procedures and that is wholly contained within a single administrative domain.	/9705_Sv1_1.0/ /CAMAL_99.01/
Downstream ATSU (D-ATSU). D-ATSU handles the coordination of the conditions of transfer for a flight from the controlling ATSU (C-ATSU) which may notify the D-ATSU of a flight's cleared profile prior to its effective transfer to the receiving ATSU (R-ATSU).	/9705_Sv1_1.0/
Downstream clearance (DSC). Specific clearance request by an aircraft to an ATSU which is not the controlling ATSU. The initiation of the DSC service can only be initiated by an aircraft.	/9705_Sv1_1.0/
Downstream data authority. The ground system that is permitted to conduct a downstream CPDLC downstream clearance (DSC) dialogue with an aircraft.	/9705_Sv1_1.0/
DSC. The symbol used to designate downstream clearance.	/9705_Sv1_1.0/
Emergency contract. A contract to provide ADS reports at regular intervals during an emergency situation.	/9705_Sv1_1.0/
End routing domain (ERD). A routing domain (RD) that only routes protocol data units (PDUs) from/to its own RD.	/9705_Sv1_1.0/
End system (ES). A system that contains the OSI seven layers and contains one or more end user application processes.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/
End user. An ultimate source and/or consumer of information.	/9705_Sv1_1.0/
End-to-end. Pertaining or relating to an entire communication path, typically from (1) the interface between the information source and the communication system at the transmitting end to (2) the interface between the communication system and the information user or processor or application at the receiving end.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Entity. An active element in any layer which can either be a software entity (such as a process)	/A10_CoreATN_0.1/

or a hardware entity (such as an intelligent I/O chip).	/9705_Sv1_1.0/
Estimated time of arrival (ETA). For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.	/9705_Sv1_1.0/
Ethernet. Based on the local area network standard, ISO/IEC 8802-3, carrier sense multiple access with collision detection (CSMA/CD) access method, and physical layer specifications using broadcast technology which may connect as an ATN subnetwork.	/9705_Sv1_1.0/
Expense. The cost to perform some task. In the context of internetworking, expense is defined in terms of the incremental expense incurred for transfer of a single network service data unit (NSDU) of 512 octets in size.	/9705_Sv1_1.0/
Extended projected profile. A projected profile extended up to a number of way points.	/9705_Sv1_1.0/
Fast byte. The capability at any layer of the OSI reference model to negotiate out the capabilities of the base protocol.	/9705_Sv1_1.0/
Figure of merit (FOM). An indication of the level of accuracy of positional information given in an ADS report.	/9705_Sv1_1.0/
FIS application. An ATN application that provides to aircraft information and advice useful for safe and efficient conduct of flight.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
FIS contract. An agreement between a FIS air-user and a FIS ground-user that the latter will provide FIS reports under the conditions specified in the FIS contract.	/9705_Sv1_1.0/
FIS. The symbol used to designate flight information service.	/9705_Sv1_1.0/
Flight information region (FIR). An airspace of defined dimensions within which flight information service and alerting service are provided.	/9705_Sv1_1.0/
Flight information service (FIS). A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.	/A10_CoreATN_0.1/ /9705_Sv1_1.0/
Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft. Note.— Specifications for flight plans are contained in Annex 2. A model Flight Plan Form is contained in Appendix 2 to PANS-RAC (Doc 4444).	/9705_Sv1_1.0/
Flow control. A function that controls the flow of data to perform buffer management within a layer or between adjacent layers.	/9705_Sv1_1.0/
Forward contract. A contract to provide a ground ADS system with ADS reports.	/9705_Sv1_1.0/
Forwarding information base (FIB). The information base that is maintained by each router and contains the set of forwarding paths reflecting the various policy and QoS rankings available to reach each known destination.	/9705_Sv1_1.0/
Function. A coherent set of activities which fulfils, by itself or together with other functionality, a concept. Examples of functions: conflict free planning; electronic representation of the flight.	/9705_Sv1_1.0/
Functional Requirements. Operational requirements that determine what function a system should perform. They can usually be expressed by a verb applying to a type of data, e.g. display aircraft position.	/9705_Sv1_1.0/ /CAMAL_99.01/
Gateway. A system used to interconnect dissimilar networks. A gateway may contain all seven layers of the OSI reference model.	/9705_Sv1_1.0/ /CAMAL_99.01/
General communication. A category of communications which includes APC, public correspondence and other non-operational and non-administrative communication.	/9705_Sv1_1.0/
Ground application service element (ground-ASE). An abstract part of the ground system that performs the communication related functions of the application.	/9705_Sv1_1.0/
Ground earth station (GES). An earth station in the fixed satellite service, or, in some cases, in the aeronautical mobile-satellite service, located at a specified fixed point on land to provide a feeder link for the aeronautical mobile-satellite service.	/9705_Sv1_1.0/

Note.— This definition is used in the ITU's Radio Regulations under the term "aeronautical earth station." The definition herein as "GES" for use in the SARPs is to clearly distinguish it from an aircraft earth station (AES), which is a mobile station on an aircraft.

Ground forwarding function. The capability for a ground system to forward a CPDLC message to another ground system via a CPDLC message with an indication of success, failure or non-support from the receiving ground system. This function may be invoked by the current data authority in order to avoid retransmission of a request by an aircraft by forwarding the information to the next data authority. The downstream data authority may use this function in order to relay a message to the current data authority which then performs the actual transmission to the aircraft. /9705_Sv1_1.0/

Ground user (ground-user). The abstract part of the ground system that performs the non-communication related functions of the application. /9705_Sv1_1.0/

Ground-ground application. An application that has one both of its peer applications on the ground. /9705_Sv1_1.0/

ICAO Facility Designator (ICAO AFTN Addressee Indicator). An eight-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the ATS end system executing an application process. /9705_Sv1_1.0/

ICC. The symbol used to designate inter-centre communication. /9705_Sv1_1.0/

ICS. The symbol used to designate the internet communication services. /9705_Sv1_1.0/

IETF. The symbol used to designate Internet Engineering Task Force. /9705_Sv1_1.0/

Initial domain part (IDP). The addressing authority responsible for an addressing subdomain that assigned the network service access point (NSAP) address and that specified the abstract syntax and structure of the remainder of the NSAP address. /9705_Sv1_1.0/

Integrated Services Digital Network (ISDN). A public telecommunications network that supports the transmission of digitised voice and data traffic on the same transmission links. /CAMAL_99.01/

Inter-centre communication (ICC). ICC is data communication between ATS units to support ATS, such as notification, coordination, transfer of control, flight planning, airspace management and air traffic flow management. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Intermediate system (IS). A system which performs relaying and routing functions and comprises the lowest three layers of the OSI reference model. /A10_CoreATN_0.1/ /9705_Sv1_1.0/ /CAMAL_99.01/

International Alphabet No. 5 (IA5). International Alphabet Number 5 defined by ITU-T. Note.— ATN uses the "6 bit ASCII" subset of 1A5, as used in SSR Mode S specifications. /9705_Sv1_1.0/

Internet communications service (ICS). The internet communications service is an internetwork architecture which allows ground, air-to-ground and avionics data subnetworks to interoperate by adopting common interface services and protocols based on the ISO OSI reference model. /9705_Sv1_1.0/

Internet communications service. The internet communications service is an internetwork architecture which allows ground, air-to-ground and avionics data subnetworks to interoperate by adopting common interface services and protocols based on the ISO/OSI reference model. /A10_CoreATN_0.1/

Internetwork protocol (IP). A protocol that performs the basic end-to-end mechanism for the transfer of data packets between network entities. In the ATN internet communications service, the ISO/IEC 8473 internetwork protocol is used. /9705_Sv1_1.0/

Internetwork. A set of interconnected, logically independent heterogeneous subnetworks. The constituent subnetworks are usually administrated separately and may employ different transmission media. /9705_Sv1_1.0/ /CAMAL_99.01/

Interoperability. Describes the ability of the ATN to provide, as a minimum, a transparent data transfer service between end systems even though the ATN comprises various ground, air-to-ground and avionics subnetworks. The ability to interoperate between end systems can be extended to include commonality of upper layer protocols. /9705_Sv1_1.0/

ISO. The symbol used to designate International Organization for Standardization. /9705_Sv1_1.0/

ITU-T. The symbol used to designate International Telecommunication Union- /9705_Sv1_1.0/

Telecommunication Standardization Sector.

Long transport service access point (TSAP). Composed of the router domain part (RDP) and the short TSAP. /9705_Sv1_1.0/

Lower layers. The physical, data link, network and transport layers of the OSI reference model. /9705_Sv1_1.0/

Managed object. Data processing and data communication resources that may be managed through the use of the OSI management protocol. /9705_Sv1_1.0/

Management agent. Performs management operations on managed objects within its local environment as a consequence of management operations communicated from a manager. A management agent may also forward notifications emitted by managed objects to a manager. /9705_Sv1_1.0/

Management domain (MD). Resources that for systems management purposes are represented by managed objects. A management domain possesses at least the following quantities: a name that uniquely identifies that management domain, identification of a collection of managed objects that are members of the domain and identification of any inter-domain relationships between this domain and other domains. /9705_Sv1_1.0/ /CAMAL_99.01/

Manager. The term given to a system that requests or otherwise receives information about managed objects. /9705_Sv1_1.0/

Message element identifier. The ASN.1 tag of the ATCUplinkMsgElementId or the ATCDownlinkMsgElementId. /9705_Sv1_1.0/

Message element. A component of a message used to define the context of the information exchanged. /9705_Sv1_1.0/

Message handling system (MHS)-form address. An instance of the AMHS address form which is used to locate a direct or indirect AMHS user in the AMHS address space. /9705_Sv1_1.0/

Message header. The control information used to maintain synchronization between the two end systems. /9705_Sv1_1.0/

Message. Basic unit of user information exchanged between an airborne application and its ground counterpart or between two ground applications. Messages are passed in one or more data blocks from one end user to another through different subnetworks. /9705_Sv1_1.0/

Mobile routing domains. Formed from ATSC and AINSC systems onboard an aircraft (or any other mobile platform), within the aircraft operator's administrative domain. A mobile RD is characterized as an end routing domain (ERD). /9705_Sv1_1.0/

Mobile subnetwork. A subnetwork connecting a mobile system with another system not resident in the same mobile platform. These subnetworks tend to use free-radiating media (e.g. VHF/UHF radio, D band satellite or D band secondary surveillance radar) rather than contained media (e.g. wire or coaxial cable); thus they exhibit broadcast capabilities in the truest sense. /9705_Sv1_1.0/ /CAMAL_99.01/

Mode select (Mode S). An enhanced mode of secondary surveillance radar (SSR) which permits the selective interrogation of Mode S transponders, the two-way exchange of digital data between Mode S interrogators and transponders and also the interrogation of Mode A or Mode C transponders. /9705_Sv1_1.0/

Naming plan. A plan that provides common naming conventions and designations for the unambiguous identification of all end and intermediate systems in accordance with the rules prescribed in ISO/IEC 7498-3, ISO/IEC TR 10730 and ISO/IEC 9545. /9705_Sv1_1.0/

Network addressing domain. A subset of the global addressing domain consisting of all the NSAP addresses allocated by one or more addressing authorities. /9705_Sv1_1.0/

Network entity (NE). A functional portion of an internetwork router or host computer that is responsible for the operation of internetwork data transfer, routing information exchange and network layer management protocols. /9705_Sv1_1.0/

Network entity title (NET). The global address of a network entity. /9705_Sv1_1.0/

Network layer (NL). Provides a uniform service interface for the transfer of data among end systems and intermediate systems (ISs) utilizing the ISO protocol architecture. /9705_Sv1_1.0/

Network management (NM). The set of functions related to the management of various OSI resources and their status across the Network Layer of the OSI architecture. /9705_Sv1_1.0/

Network Management. The set of functions related to the management of various OSI resources and their status across the Network Layer of the OSI architecture. /CAMAL_99.01/

Network service access point (NSAP) address prefix. Used to identify groups of systems that reside in a given routing domain or confederation. An NSAP prefix may have a length that is either smaller than or the same size as the base NSAP address. /9705_Sv1_1.0/

Network service access point (NSAP) address. A hierarchically organized global address, supporting international, geographical and telephony-oriented formats by way of an address format identifier located within the protocol header. Although the top level of the NSAP address hierarchy is internationally administered by ISO, subordinate address domains are administered by appropriate local organizations. /9705_Sv1_1.0/

Network service access point (NSAP). Point within the ISO protocol architecture at which global end users may be uniquely addressed on an end-to-end basis. /9705_Sv1_1.0/

Network topology map. Provides an overall view of the global network connectivity and is used in path computations by the operative routing algorithm. /9705_Sv1_1.0/

Next data authority. The ground system that provides for the establishment and maintenance of a transport connection for the purposes of conducting a CPDLC dialogue pertaining to the services of the receiving ATS unit (R-ATSU). /9705_Sv1_1.0/

NOTAM. A notice containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations. /9705_Sv1_1.0/

Open systems interconnection (OSI) protocol architecture. A set of protocols used to implement the OSI reference model. /9705_Sv1_1.0/

Open systems interconnection (OSI) reference model. A model providing a standard approach to network design introducing modularity by dividing the complex set of functions into seven more manageable, self-contained, functional layers. By convention these are usually depicted as a vertical stack.
Note.— The OSI reference model is defined by ISO/IEC 7498-1. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Operating Concept. The technical functionality of a system and its inherent capabilities regarded from the system operator's point of view. This includes the interaction between user and system, the services provided by the system as well as the internal operation of the system. /CAMAL_99.01/

Operational Concept. Describes, from the user's point of view, the operational requirements, constraints, and prerequisites within which a technical system is supposed to work as well as the inherent capabilities of the system. It describes the interaction between the user and the system as well as the services the user may expect from the system. Broad outline of an operational structure able to meet a given set of high level user requirements. It comprises a consistent airspace organisation, general operational procedures, and associated operational requirements for system support. /CAMAL_99.01/

Operational requirement. A statement of the operational attributes of a system needed for the effective and/or efficient provision of air traffic services to users. /9705_Sv1_1.0/

OSI. The symbol used to designate open systems interconnection. /9705_Sv1_1.0/

Packed encoding rules (PER). Encoding rules as defined in ISO/IEC 8825-2 which have been designed to minimize the number of bits transmitted. /9705_Sv1_1.0/

Performance management. Enables the behavior of resources and the effectiveness of communication activities to be evaluated. Includes functions to gather statistical information, maintain and examine logs of system state histories, determine system performance under natural and artificial conditions and alter system modes of operation. /9705_Sv1_1.0/

Performance requirements. Requirements that define a function's characteristics, such as reliability, availability, response time, processing delay, integrity, that are necessary to meet the operational requirements for a specific application of the function. /9705_Sv1_1.0/

Performance Requirements. Requirements with respect to the performance of a system (e.g. reliability, availability, response time, processing delay, etc.) and are derived from Operational Requirements. In general, they describe the minimum performance figures that a system must /CAMAL_99.01/

provide in order to fulfil the operationally required functions.

Periodic contract (PC). A contract to provide ADS reports at regular intervals. /9705_Sv1_1.0/

Physical layer. The layer of the OSI reference model that controls access to the transmission medium which forms the basis for the communication system. /9705_Sv1_1.0/

Presentation address (PA). The presentation address must, as a minimum, include a network service access point (NSAP) address and a transport service access point (TSAP) selector and may include a presentation service access point (PSAP) selector and session service access point (SSAP) selector based on the addressing structure adopted within the end system (ES) and whether the application requires the OSI session or presentation protocol. /9705_Sv1_1.0/

Presentation data value (PDV). The unit of information specified in an abstract syntax, which is transferred by the OSI presentation-service (ISO/IEC 8822). /9705_Sv1_1.0/

Presentation layer. The layer of the OSI reference model that controls the coding, format and appearance of the data transferred to and from the application layer. /9705_Sv1_1.0/

Presentation service access point (PSAP) selector. The element of the presentation address that identifies the user of the presentation protocol entity. /9705_Sv1_1.0/

Priority (P). The relative importance of a particular protocol data unit (PDU) relative to other PDUs in transit and used to allocate resources which become scarce during the transfer process. /9705_Sv1_1.0/

Profile. Defines implementation conformance constraints on a set of reference specifications. /9705_Sv1_1.0/

Projected profile. An indication of where and when the aircraft anticipates it will be at the following two way-points. /9705_Sv1_1.0/

Protocol control information (PCI). Information included in a layer header which contains service primitives specific to that layer. /9705_Sv1_1.0/

Protocol data unit (PDU). (1) A unit of data transferred between peer entities within a protocol layer consisting of protocol control information and higher layer user data (i.e. service data units). (2) A unit of data specified in an (N) protocol and consisting of (N) protocol control information and possibly (N) user data, where N indicates the layer. /9705_Sv1_1.0/

Protocol implementation conformance statement (PICS). A protocol implementation conformance statement enables conformance testing of protocols. As recommended by ISO/IEC 9646-2, PICS proforma, tailored to ATN context, have been developed as ATN profile requirement list (APRLs) to provide an effective basis for conformance testing of implementations. /9705_Sv1_1.0/

Protocol. A set of rules and formats (semantic and syntactic) which determines the communication behavior between peer entities in the performance of functions at that layer. /9705_Sv1_1.0/

Quality of service (QoS). Information relating to data transfer characteristics (for example, requested throughput and priority) used by a router to perform relaying and routing operations across the subnetworks which make up a network. /9705_Sv1_1.0/ /CAMAL_99.01/

Receiving ATSU (R-ATSU). The next air traffic control unit which is the process of accepting the control authority and communication responsibility for a flight transferred by the controlling ATSU (C-ATSU). /9705_Sv1_1.0/

Relaying. The process of transferring packets across subnetworks including any necessary packet conversion. /9705_Sv1_1.0/

Requested QoS. The service characteristics desired by the service user. /9705_Sv1_1.0/

Reserved value. Legal values for the respective fields (have not yet been assigned specific meanings by ICAO). These values should be processed normally in order to allow future assignment. Meanings may be assigned in the future and are not available for local use. The allocation of these values requires no change in the version identifier. /9705_Sv1_1.0/

Residual error probability. Indicates the likelihood that a protocol data unit (PDU) will be lost, duplicated or corrupted. This probability is defined as the ratio of lost, duplicated or corrupted network service data units (NSDUs) to the total number of NSDUs transmitted by an ATN network service (NS) provider, normalized for an NSDU size of 512 octets. /9705_Sv1_1.0/

Residual error rate (RER). The ratio of messages mis-delivered, non-delivered or delivered with an error undetected by the system, to the total number of messages delivered to the system during a measurement period (adapted from ISO/IEC 8072).
Note.— For the ATN, detected mis-delivered and non-delivered messages are not included in the ratio. /9705_Sv1_1.0/

RFC. The symbol to designate Request for Comments. /9705_Sv1_1.0/

Route. The set of addresses that identifies the destinations reachable over the router and information about the route's path including the QoS and security available over the route. /9705_Sv1_1.0/

Router. The communication element that manages the relaying and routing of data while in transit from an originating end system to a destination end system. A router comprises an OSI intermediate system and end system supporting a systems management agent. /9705_Sv1_1.0/ /CAMAL_99.01/

Routing area (RA). A routing subdomain comprising one or more intermediate systems (ISs) and optionally one or more end systems (ESs). /9705_Sv1_1.0/

Routing domain (RD). A set of end systems and intermediate systems that operate the same routing protocols and procedures and that are wholly contained within a single administrative domain. A routing domain may be divided into multiple routing subdomains. /9705_Sv1_1.0/ /CAMAL_99.01/

Routing domain confederation (RDC). A set of routing domains and/or RDCs that have agreed to join together. The formation of a RDC is done by private arrangement between its members without any need for global coordination. /9705_Sv1_1.0/

Routing domain identifier (RDI). A generic network entity title (NET) as described in ISO/IEC 7498 and is assigned statically in accordance with ISO/IEC 8348. An RDI is not an address and cannot be used as a valid destination of an ISO/IEC 8473 PDU. However, RDIs are, like ordinary NETs, assigned from the same addressing domain as network service access point (NSAP) addresses. /9705_Sv1_1.0/

Routing information base (RIB). A data base that is maintained by each router and comprises the information regarding the connectivity and topology of the end systems (ESs) and intermediate systems (ISs) within a particular routing domain and path information pertinent to paths interconnecting routing domains. It is maintained by way of the information received by a routing information exchange protocol. Each routing information exchange protocol has its own RIB specification. /9705_Sv1_1.0/

Routing information exchange protocol. The protocol used to exchange subnetwork connectivity information between end systems and intermediate systems and between intermediate systems and intermediate systems. /9705_Sv1_1.0/

Routing Policy. A set of rules that control the selection of routes and the distribution of routing information by ATN Boundary Intermediate Systems (BISs). These rules are based on policy criteria rather than on performance metrics such as hop count, capacity, transit delay, cost, etc. which are usually applied for routing. There are two groups of routing policy in the ATN: (1) general routing policy specified in the ATN Internet SARPs in order to ensure necessary connectivity in the ATN at a reasonable routing information update rate and (2) user specified routing policy, i.e. individual policy rules which may be additionally implemented in ATN BISs by administrations and organizations to meet their specific operational and policy needs. The set of rules in a BIS that determines the advertisement and use of routes is known as a Routing Policy. Each organizational user of the ATN must determine and apply their own Routing Policy. /9705_Sv1_1.0/ /CAMAL_99.01/

Routing. A function within a layer that uses the address to which an entity is attached in order to define a path by which that entity can be reached. /9705_Sv1_1.0/ /CAMAL_99.01/

Runway visual range (RVR). The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line. /9705_Sv1_1.0/

Safety Case. An analysis presenting an overall justification for the declaration that a particular systems satisfies its safety requirements. /CAMAL_99.01/

Secondary surveillance radar (SSR). A surveillance radar system which uses transmitters/receivers (interrogators) and transponders. /9705_Sv1_1.0/

Security label. May indicate requirements for protection of a protocol data unit (PDU) and /9705_Sv1_1.0/

provide information used by network layer access control functions.

Security Management. To support the application of security policies by means of functions which include the creation, deletion and control of security services and mechanisms, the distribution of security-relevant information, and the reporting of security-related events. /CAMAL_99.01/

Service data unit (SDU). A unit of data transferred between adjacent layer entities, which is encapsulated within a protocol data unit (PDU) for transfer to a peer layer. /9705_Sv1_1.0/

Service primitive. A function of an application service element (ASE) that is not broken down further into subfunctions and is presented as part of the abstract service interface (i.e. request, indication, response or confirmation). /9705_Sv1_1.0/

service provider. /9705_Sv1_1.0/

Service provider. The ground and airborne application entities (AEs) for the application, all underlying data communication protocol entities and the physical media. As a consequence, it encompasses everything between the application-AE service interfaces of the end users of the application. /9705_Sv1_1.0/

Session layer. The layer of the OSI reference model that establishes the rules of dialogue between two end user entities. /9705_Sv1_1.0/

Session service access point (SSAP) selector. The element of the session address that identifies the user of the session protocol entity. /9705_Sv1_1.0/

Short transport service access point (TSAP). Composed of the administrative region selector (ARS), (Optional), the location identifier (LOC), the system identifier (SYS), the network selector (SEL), and the transport selector (TSAP selector). /9705_Sv1_1.0/

Stack (or protocol stack). A set of cooperating OSI protocols selected from different layers of the basic reference model. Hence, upper layer stack refers to session, presentation and application protocols, while lower layer stack refers to physical, data link, network and transport protocols. /9705_Sv1_1.0/

Subnetwork (SN) domain. The set of end systems and intermediate systems connected to the same physical network. /9705_Sv1_1.0/

Subnetwork (SN). An actual implementation of a data network that employs a homogeneous protocol and addressing plan and is under control of a single authority. /9705_Sv1_1.0/

Subnetwork access protocol (SNAcP). The actual protocol used to receive services for a particular sub-network. For example, the subnetwork access protocol to many public data networks is X.25. /9705_Sv1_1.0/

Subnetwork dependent convergence function (SNDCF). The set of rules and procedures needed to convert the data transfer needs of the subnetwork independent convergence protocol to the actual services provided by a subnetwork. /9705_Sv1_1.0/

Subnetwork independent convergence function (SNICF). The common protocol for all host computers and routers that is used for the transfer of data. The SNICF is the connectionless network protocol defined by ISO/IEC 8473. /9705_Sv1_1.0/

Subnetwork point of attachment (SNPA) address. Provides information used in the context of a particular real subnetwork to identify a SNPA. An SNPA address is a subnetwork address such as X.25 data terminal equipment (DTE) addresses, ethernet MAC addresses, etc. /9705_Sv1_1.0/

Subnetwork point of attachment (SNPA). The point at which a real end system, interworking unit or real subnetwork is attached to a real subnetwork and is a conceptual point within an end or intermediate system at which the subnetwork service is offered. /9705_Sv1_1.0/

Subnetwork. An actual implementation of a data network that employs a homogeneous protocol and addressing plan and is under control of a single authority. /A10_CoreATN_0.1/ /CAMAL_99.01/

Subset. An implementation of an application air or ground service conforming to the application SARPs which supports a defined, technically acceptable but not complete application functionality. /9705_Sv1_1.0/

Subsetting rules. Formal instructions relating to the requirement for combinations of elements within an application SARPs, constituting limited application functionality. /9705_Sv1_1.0/

System application. An application supports the operation of the air-ground applications, ground-ground applications, or communication services. A system application can take the form of either an air-ground application or a ground-ground application. /9705_Sv1_1.0/

System level requirement. The system level requirement is a high-level technical requirement that has been derived from operational requirements, technological constraints and regulatory constraints (administrative and institutional). The system-level requirements are the basis for the functional requirements and lower level requirements. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Systems management (SM). ATN systems management gives deterministic and controllable behaviour in support of the required communications service levels by providing facilities to control, co-ordinate and monitor the resources which allow communications to take place in the ATN environment. These facilities include fault management, accounting management, configuration management, performance management and security management. /9705_Sv1_1.0/

Systems Management. The set of functions related to the management of various OSI resources and their status across all layers of the OSI architecture. /CAMAL_99.01/

Traffic category. A subdivision of the operational communication traffic type used to distinguish between ATS communication and aeronautical operational control (AOC). /9705_Sv1_1.0/

Traffic type. A means used to distinguish different types of message traffic for the purposes of establishing communication paths to support operational and legal requirements. There are four traffic types: a) the operational communication traffic type is subdivided into two cateogries representing safety and regularity of flight communication:
1) ATS communication
2) Aeronautical operational control
b) administrative communication representing non-safety and regularity of flight communication sent by aircraft operating agencies and ATS administrations
c) general communication, representing APC, public correspondence and other non-operational and non administrative communication, and
d) systems management communication representing systems management information that is critical for support of network operations.
Note.— The differentiation of traffic types is required because different data traffic may have different access to subnetworks. The traffic type is conveyed in the ATN security label of ISO/IEC 8473 and ISO/IEC 10747. It is used to qualify connectionless mode network protocol (CLNP) data packets and (inter-domain) routes according to the class of traffic that they carry. Based on this qualification, access of subnetworks is controlled by the ATN internet communications service. /9705_Sv1_1.0/

Transit delay. In packet data systems, the elapsed time between a request to transmit an assembled data packet and an indication at the receiving end that the corresponding packet has been received and is ready to be used or forwarded. /A10_CoreATN_0.1/ /9705_Sv1_1.0/

Transit routing domain (TRD). A domain whose policies permit its boundary intermediate systems (BISs) to provide relaying for protocol data units (PDUs) whose source is located in either the local routing domain or in a different routing domain. /9705_Sv1_1.0/

Transport layer. The fourth layer of the OSI reference model which ensures that the data are reliably delivered to the correct destination regardless of which network layer protocol and underlying subnetworks are being used. /9705_Sv1_1.0/

Transport protocol class 4 (TP-4). Transport protocol class 4 is defined in ISO/IEC 8073 and profiled for ATN context to provide the connection mode transport service as described in ISO/IEC 8072. /9705_Sv1_1.0/

Transport service access point (TSAP) address. The complete communication address which unambiguously defines a transport service user. The TSAP address comprises the NSAP address and a TSAP selector. /9705_Sv1_1.0/

Transport service access point (TSAP). The logical access point to the transport layer. /9705_Sv1_1.0/

Transport service data unit (TSDU). The data presented to the transport layer for transmission over the ATN internet communications service. /9705_Sv1_1.0/

Update contract (UC). A contract to provide a piece of FIS information and any update of this information. /9705_Sv1_1.0/

Upper layers (UL) communications service. A term pertaining to the session, presentation /A10_CoreATN_0.1/

and application layers of the OSI reference model. /9705_Sv1_1.0/

User Requirements. A discription of what users expect to obtain from the system (not how the system should do it). They are usually expressed on a high level and do not include technical details. The direct user of the ATN is an application within an end system supporting Air Traffic Management or Aeronautical Industry functions. The Air Traffic Controller, other ground staff, or the Pilot are the human beings using directly, or indirectly, the ATN. The user may also be seen more on the abstract level as an organization, e.g. airline or air navigation service provider. /CAMAL_99.01/

User requirements. Requirements that are allocated to the user to ensure the interoperability of the communication services and application entities. /9705_Sv1_1.0/

User. That abstract part of the aircraft or ground system that performs the non-communication related functions of the application. The direct user of the ATN is an application within an end system supporting ATS or aeronautical industry services. The air traffic controller, other ground staff or the pilot are users of the ATN. The user may also be seen more on the abstract level as an organization, e.g. airline or service provider. /9705_Sv1_1.0/

UTC. The symbol used to designate coordinated universal time. /9705_Sv1_1.0/

Validation. In the ICAO context, a process that ensures that systems meet user requirements to an agreed level of confidence and can be produced from written SARPs and Guidance material. One has to distinguish between performance based and functional validation. Single subsystems of the ATN, like routers, may be validated on a functional basis; validation of the ATN's suitability with respect to network performance etc. requires definition of performance requirements. /CAMAL_99.01/

Very high frequency (VHF) digital link (VDL). Packet data communication to aircraft and ground users comprised of airborne VHF data radios (VDRs), VHF ground stations and connectivity to routers on the aircraft and the ground. /9705_Sv1_1.0/

X.25 packet switched data network (PSDN). A communication network that provides a network access service in compliance with CCITT recommendation X.25. /9705_Sv1_1.0/