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CNS/ATM-1 SARPs & Guidance Material

Part I - CNS/ATM-1 SARPs

Introduction and System Level Requirements for the CNS/ATM-1 Package

1. Introduction

The CNS/ATM-1 Package SARPs and Guidance Material is documented in 5 Parts as follows:

Part Reference	Title
Part I	Introduction and System Level Requirements for the CNS/ATM-1 Package
Part II	CNS/ATM-1 Air/Ground Applications
Part III	CNS/ATM-1 Ground/Ground Applications
Part IV	CNS/ATM-1 Upper Layer Architecture
Part V	CNS/ATM-1 Internet Communications Service

This document comprises Part I of the CNS/ATM-1 Package SARPs.

1.1 Overview of CNS/ATM-1 Package

The CNS/ATM-1 Package SARPs define the provisions for the following components of the CNS/ATM System:

Air/Ground Applications	(Part II)
Ground/Ground Applications	(Part III)
Upper Layer Architecture	(Part IV) and
Internet Communications Service	(Part V).

1.2 CNS/ATM-1 Air/Ground Applications

The following Air/Ground Applications are specified for the CNS/ATM-1 Package in Part II:

Automatic Dependent Surveillance	(ADS)
Controller Pilot Data Link Communications	(CPDLC)
Flight Information Services	(FIS)
Context Management	(CM)

Note. - The Aeronautical Industry may define additional AISC air/ground applications which will also rely on the use of the CNS/ATM-1 Internet Communications Service.

1.3 CNS/ATM-1 Ground/Ground Applications

The following Ground/Ground Applications are specified for the CNS/ATM-1 Package in Part III:

Message Handling Services	(MHS)
Inter Centre Co-ordination	(ICC)

Note. - The Aeronautical Industry may define additional AISC groundr/ground applications which will also rely on the use of the CNS/ATM-1 Internet Communications Service.

1.4 CNS/ATM-1 Upper Layers

The provisions for the Upper Layer Architecture for both the CNS/ATM-1 Package Air/Ground and Ground/Ground Applications are defined in Part IV.

1.5 CNS/ATM-1 Internet Communications Service

The provisions for the CNS/ATM-1 Internet Communications Service are defined in Part V.

2. CNS/ATM-2 and Beyond

The CNS/ATM-1 comprises the provisions for the initial implementation of the ICAO CNS/ATM System. It is expected that further air/ground and ground/ground applications will be standardised in the CNS/ATM-2 and subsequent Packages. It is further anticipated that the Upper Layer and Internet Communications Service will be enhanced in CNS/ATM-2 in order to provide meet any additional application and emerging overall system requirements.

3. CNS/ATM-1 System Requirements

3.1 Air/Ground Application Requirements

3.1.1 General Design Requirements

a. The allowable Transit Delay (TD) for each CNS/ATM-1 Application is specified in Table 1-1 below.

Note. - The transit delay requirements will be satisfied through appropriate network design.

b. The Residual Error Rate (RER) for each CNS/ATM-1 Application is specified in Table 1-1 below.

Note. - For the CNS/ATM-1 Package all applications have the same value and will be satisfied through appropriate network design.

c. The Service Loss Reporting period for each CNS/ATM-1 Application is specified in Table 1-1 below.

Note. - For the CNS/ATM-1 Package all applications have the same value.

d. The Availability for each CNS/ATM-1 Application is specified in Table 1-1 below.

Note. - Application availability requirements will be satisfied through appropriate network design.

e. The Service Restoration Time for each CNS/ATM-1 Application is specified in Table 1-1 below.

	Transit Delay (TD)	Residual Error Rate (RER)	Service Loss Reporting	Availability	Service Restoration Time
ADS	TBD	TBD	TBD	TBD	TBD
CPDLC	TBD	TBD	TBD	TBD	TBD
ATIS (FIS)	TBD	TBD	TBD	TBD	TBD
CM	TBD	TBD	TBD	TBD	TBD

Table 1-1: CNS/ATM-1 Air/Ground Application General Design Requirements

3.1.2 Message Sequencing

a. For CNS/ATM-1 Air/Ground Applications sequentially ordered message delivery capability shall be provided (e.g., where succeeding message delivery is dependent upon the successful delivery of preceding messages).

Note: - This requirement is satisfied through use of the ISO Connection Oriented Transport Protocol within the ATN Internet End Systems as specified in Part V of the SARPs.

Note. - The CNS/ATN Internet Communications Service also provides a connectionless transport service through use of the ISO Connectionless Transport Protocol which may be applicable for groud/ground applications such as radar data exchange.

3.1.3 Communication Service Termination

a. The communications service shall provide an orderly termination of service upon indication by the application (e.g. if messages have been passed to the communications service and then a termination of service is requested, the preceding messages are to be delivered as per normal operations before the service is terminated).

Note: - This requirement is satisfied through the service provided by the ATN Upper Layer Architecture as defined in Part IV of the SARPs.

b. Upon failure of orderly termination an indication shall be provided to the application.

Note: - This requirement is satisfied through the service provided by the ATN Upper Layer Architecture as defined in Part IV of the SARPS.

3.1.4 Priority

a. CNS/ATM-1 Air/Ground Applications shall use priority in a manner consistent with ICAO ANNEX 10 and ITU radio regulations. The priority relationship between CNS/ATM-1 Air/Ground Applications and the ITU categories is documented in Table 1-2 below.

b. There shall be a one-to-one relationship between application specified priority and any communication service priorities (e.g. transport layer, network layer, etc.).

Note. - The detailed provisions relating to priority handling within the internet are contained in Part V of the SARPs.

ITU Category	Description	CNS/ATM-1 Application
1	Distress calls, distress messages and distress traffic	
2	Communications proceeded by the urgency signal	
3	Communications relating to radio direction finding	ADS
4	Flight safety messages	CPDLC
5	Meteorological messages	
6	Flight regularity messages	FIS (ATIS) CM
7	Messages relating to the application of the United Nations Charter	
8	Government messages for which priority has been expressly requested	
9	Service communications relating to the working of the telecommunication service or to communications previously	

	exchanged	
10	Other aeronautical communications	

Table 1-2: CNS/ATM-1 Air/Ground Application Priority Allocation

3.1.5 Routing Policy

a. CNS/ATM-1 Air/Ground Applications shall specify routing policies based on the class of communications service required, each class being based on the transit delay of the available mobile subnetworks.

Note 1. - The detailed provisions relating to the above are defined in Part V of the SARPs.

Note 2: "Strong" ATSC routing policy means that routing decisions will be based upon the advertised capability of the route. If the route advertises the capability to provide the stated service, the route will be considered for use. "Strong" ATSC policy does not mean that a particular message will be "killed" if a particular route which advertises a particular capability does not actually provide that capability for a given message.

Note 3. - Routing policies shall be applied on a "best effort" basis this means that "Weak Routing " is required.

b. AOC Air/Ground applications shall specify routing policies based on mobile subnetwork selection and/or mobile sibnetwork preference lists.

Note 1. - The detailed provisions relating to the above are defined in Part V of the SARPs.

Note 2: "Strong" AOC routing policy means that air/ground path decisions will be based upon the stated policy. If applicable air/ground paths are not available at the time of message delivery, the particular message will be "killed".

c. Airlines have a further requirement that, for any air/ground subnetwork that supports multiple simultaneous router-to-router connections (e.g. as is possible via the Satellite data link), a mechanism must be defined whereby the correct ground-based air/ground router is selected based on local aircraft policy decisions.

3.1.6 Message Duplication

a. A message delivered to the communications service shall not be delivered more than once to its peer entity.

Note. - This requirement is satisfied through the use of the ISO Connection Oriented Transpiort protocol as defined in Part V of the SARPs.

3.1.7 QOS Based Routing

QOS based routing in the CNS/ATM-1 Package is prohibited on an inter-domain basis.

Note 1. - This does not preclude intra-domain QOS based routing which is considered to be a local matter.

Note 2. - QOS based routing may be a requirement for the CNS/ATM-2 Package.

3.1.8 QOS Monitoring

No QOS monitoring is required to be provided in the CNS/ATM-1 package.

Note. - Inclusion of this capability in future CNS/ATM packages is not precluded.

4. Systems Management

(Input from WG1 Deliverable WG1-07 - "Systems Management Concept (Package 1)")

5. Security

(Input from WG1 Deliverable WG1-10 - "QoS/Security Concept (Package 1)")

7. Addressing

(Input from WG1 Deliverable WG1-16 - "ATN Addressing Concept")

8. Formal Specification Techniques

Parts IV & V of the CNS/ATM-1 SARPs have adopted an ISO based technique to support the specification of requirements for both the Internet and Upper :Layer protocols. These requirements are documented in tabular fashion in "ATN Protocol Requirements Lists" (APRLs) . This section provides the background information necessary to correctly interpret these APRLs.

Text has long been recognized as being inexact and potentially ambiguous with regard to the specification of protocols and their profiling. In the CNS/ATM-1 SARPs, the decision was reached to conform the formal description techniques used for profiling within the ISO community. These techniques are defined by OSI Conformance Testing Methodology and Framework: Implementation Conformance Statements (ISO 9646-7) and are referenced and used by Framework and taxonomy of International Standardized Profiles (TR-10000). Within the SARPs , APRLs and MORTS are used to further specify or profile the standards as defined for use within the ATN.

8.1 Implementation Conformance Statements

Initial basis for APRLs and MORTS come from ISO 9646-7 which specifies the purpose and notational conventions for the writing of Implementation Conformance Statements (ICSs). ICSs consist of tables organized by individual features (questions, functions, PDUs, parameters, components, etc.) which define implementation conformance constraints on some reference specification. In the context of the SARPs these specifications are for protocols, profiles and information objects (such as managed objects). Features designate rows in these tables to a detailed enough level to allow conformance to the specification referenced to be verified or tested for conformance depending upon the purpose of the specific ICS.
No generic format or proforma for an ICS is provided by the standards because of the wide variety of specifications for which conformance requirements are stated. Nevertheless 9646-7 and the SARPs state general rules, guidance and notational conventions needed to allow the ICSs (APRLs and MORTs) to be defined and interpreted unambiguously.

8.2 PICS and PICS Proformas

The development of ICSs grew out of the introduction into ISO standards of conventions to allow conformance testing of protocols. ISO 9646-2 states that in order to provide an effective basis for conformance testing of implementations ISO protocol standards must include Protocol Implementation Conformance Statement (PICS) Proforma. A PICS Proforma is considered a necessary pre-condition for the generation of an abstract test suite for a standard and in general PICS

Proforma have been produced for all ISO protocol standards and are typically published as a normative part or annex to the protocol standard.
PICS Proformas are questionnaires or templates which cover all the known protocol features which apply to the process of static conformance testing for the standard. These templates contain one or more empty columns which indicate the support for and if appropriate the nature of support for the feature corresponding to that row. Once an implementor has filled in the support material for the support column(s), the PICS Proforma becomes simply a PICS which is specific to the implementation the conformance statement is created for.

8.3 Profiles, ISPs and Requirements Lists

As various regional and application profiles were developed to further constrain the options within the ISO standards, it was recognized that text was no better a specification tool for profiling than it was for the definition of the standards themselves. As efforts within ISO came together to harmonize and standardize the various functional sets of profiles in progress, the definition of ICS became broadened to include more than PICS Proforma and PICS.
Initially the effort to create PICS Proforma for profiles that further constrained the PICS Proforma for a standard, but were still not specific to an implementation was attempted. The theory was that a Proforma could be used to define PICS and conformance testing for the profiles being specified.
PICS Proformas are concerned with static conformance requirements (i.e. what capabilities have to be or are allowed to be implemented in a conforming system). Profiles are more concerned with the use of implemented capabilities in order to meet requirements for interworking. A PICS Proforma only defines static conformance and does not reflect dynamic behavior, but the standard and profiles can. In an effort to allow conformance and constraints on dynamic behavior to be specified, Requirements Lists (RLs) were defined as another of the ICS types.
As International Standardized Profiles (ISPs) were developed, ISP Requirements Lists (IPRLs) were developed to allow the requirements for interoperability in accordance with these profiles to be specified. In particular notation is added to the RL notation to specify both status of features for both implementation and use (e.g. optional for implementation, prohibited for use).
An RL expresses the constraints upon allowed answers in a corresponding PICS. Profile RLs are derived from the PICS Proforma of the base standard in question with its entries enabled, disabled, or pre-selected according to the profile's choices. Any special requirements that do not originate in the base standard should be documented in the profile RL.
It should be noted that ISO has prepared a copyright release with respect to all PICS Proforma stating that: "Users of this International Standard may freely reproduce this ICS Proforma so that it may be used for its intended purpose and may further publish the completed ICS."
Many variations exist in ICS Proforma format and conventions. Almost all contain the four columns in the following sections. These columns are generically identical in meaning, but often use differing headings to be more specific to the features or items contained in each specific table. The various names for these headings are called out below within the corresponding column section below. Other details which relate to the conventions (of the many options within ISO 9646-7) used in these SARPs are described within the sections specifically describing APRLs and MORTS.

83.1 Item

Usually the first column in an ICS Proforma, this entry contains a short mnemonic to indicate the feature for reference. This column is also referred to as index in some ICS Proforma.

83.2 Description

This column can have many names including Capability, Feature, Function, (N)PDU, Parameter, Dependency, Timer, etc. It is usually the second column in the ICS Proforma and specifies the row item in a longer and hopefully more common sense way than the item mnemonic. If the feature is a question the question is written out in this column.

8.3.3.3 Reference

This column references the feature back to the base standard (or other references, as appropriate). The entry should be as specific as possible and reference to the section number in the base standard. In some cases this column will contain references to specific sections in these SARPs, particularly for tables needed that are not based on ISO PICS Proforma tables.

8.3.3.4 ISO Status

This column indicates the ISO status of the feature in the base standard. Typically this uses a single character indicator for mandatory, optional, conditional, excluded, out of scope or not applicable.

8.4 ATN Profile Requirements Lists (APRLs)

Within these SARPs the conventions developed and used to specify IPRLs are used to define APRLs in appendices 8, 9, and 11. Most of the component tables in APRLs are produced by copying selected tables from the relevant base standards PICS Proformas, removing the column(s) to be completed by the supplier and adding a new column giving the CNS/ATM-1 requirements or support, both in terms of status and value ranges. Where appropriate ATN specific tables and features have been created to document what has been agreed to and is best documented in this form.
Both "ISO Status" and "CNS/ATM-1 Support/Requirement" columns should contain whether the feature indicated for that row is mandatory (M), conditional (C), optional (O), excluded (X), out of scope (I) or not applicable (-).
SARPs material has traditionally been divided into Standards containing mandatory features indicated by statements containing the word "shall", and recommendations which contain the word "recommended".
This approach is not completely consistent with ISO ICS notation. While Mandatory (M) is considered to be synonymous within the SARPs material to "shall" standard statement, the category Optional (O) contains both items that are recommended and options that are not precluded or recommended.
In order to maintain conformance to the ICS notation and provide information on the recommendations within the APRLs, tables of recommendations which are cross referenced to point to optional items elsewhere within the APRLs using the Item or Index value have been created. In order for users of these SARPs to take standards and recommendations into account, the appendix material should be read in conjunction with the APRLs, as there are both standards and recommendations which do not correspond to items in the APRLs.

8.4.1 Footnotes

Where explanations are needed they can be added at the bottom of the page, often referencing back to the item identifier in the table. Footnotes referencing status and support column items can be indicated by the status symbol immediately followed by an integer (e.g. C2). This notation is further extended for grouped items.
For groups of mutually exclusive or selectable options among a set, footnotes are created by placing after the "O" (for optional) a period followed by an integer. The following table shows an example of a group of three related options and means that the implementation shall support at least one of the group of options numbered 4.

Item	Feature	Reference	ISO Status	ATN Support
Item_1			O.1	
Item_2			O.1	
Item_3			C2	
Item_4			O.3	
Item_4			O.3	

Example wording below might be:
O.1: support for at least one of these options is required
C2: Item_2:M - If Item_2 is supported then Item_3 is mandatory.
O.3: support for exactly one of these options is required.

8.4.2 Dynamic Requirements

In the case where the static requirements differ from the dynamic requirements, ATN Support/Requirement columns can contain a two character notation that specifies the static (implemented) and dynamic (used) requirements. If static and dynamic requirements are identical, a single character should be used. The three simple cases shown below:

Item 1: optional to be implemented, optional to be used if implemented;
Item 2: mandatory to be implemented, optional to be used;
Item 3: optional to be implemented, prohibited for use if implemented;

are expressed in tabular form as:

Item	Feature	Reference	ISO Status	ATN Support
Item 1			O	O
Item 2			O	MO
Item 3			O	OX

Note that this two character representation only applies to the ATN Support column where dynamic requirements can be expressed. Note also that in the example above, the profile made Item 2 mandatory for implementation, while the ISO Status reflected in the PICS Proforma only had Item 2 optional.

8..4.3 Predicates

Within these SARPs a predicate is typically denoted using the item mnemonic associated with a feature in the same APRL. Predicates in general can grow in complexity from a simple YES/NO entry, to a relational expression involving a reference within the APRL which gives a value as an answer, or to a predicate expression (i.e. a Boolean expression involving multiple predicates). Whatever the nature of the predicate, it should resolve to a YES/NO or TRUE/FALSE value which can be used elsewhere in the APRL.

8.4.4 Conditional Requirements

Any conformance requirement in the base standard or APRL may be made conditional upon some predicate. If the base standard includes a conditional requirement, then the APRL must use the same predicate, but it may be possible to partially or fully evaluate it given the conditions that are known to apply in the APRL. If such a predicate is fully evaluated in the APRL, then the requirement becomes unconditional and should be specified as such in the ATN Support column.

8.4.5 Logical Negation

The logical negation symbol used in the SARPs is the circumflex symbol, "^", due to its wide availability in character sets. This symbol can also be used within predicates.

8.4.6 Flagging Predicate References

An asterisk may be used to prefix the mnemonic reference in the item column for any feature that is referenced by a predicate or conditional expression elsewhere in the APRL.

8.4.7 Conditional Expressions

A "c" followed by an integer can be placed in the status column, providing a reference to a conditional status expression defined elsewhere in the APRL. These conditional status expressions are "if .. then .. else" expressions depending on the predicate following the IF. If a conditional requirement does

not specify an "else" case, then the implied else case is optional. As an example, in the following table:

Item	Feature	References	ISO Status	ATN Support
P1			C1	C1
P2			C2	C2

footnotes C1 and C2 might be defined as:

C1: if P0 then M

C2: if P1 then (if (P4 AND ^P3) then M) else O

where c1 implies that for ^PO, P1 is optional. The use of AND and OR in predicate expressions should be consistent with boolean logic.

8.5 Managed Object Implementation Conformance Statements

ICSs for Managed Objects (MOs) are at a less mature state of standardization within ISO than the other ICSs discussed above. ISO 10165-6 provides some requirements and guidelines for the specification of Managed Object Conformance Statement (MOCS) proformas, and Management Information Definition Statement (MIDS) proformas. These proformas are applicable to standards for management information including definitions of managed objects and systems management functions. This material is based upon the conventions used in the Guidelines for the Definition for Managed Objects (GDMO) and the conventions for ICSs as described earlier and in ISO 9646.

A MOCS is a conformance statement to a managed object definition, whereas a MIDS is a definition statement for management information. MIDS can be used in the definition of both system management functions and managed objects as a questionnaire which is used in the construction of a MOCS proforma.

All ICS for management information contain date, identification of the base standard or profile being referenced and object class (status) and identifier (support) information. MOCS Proformas contain MO attribute tables which include index (mnemonic), status, and support columns. Also uniquely for MO attribute tables object identifier value and status for operations (get, replace, add, remove and set to default) indicating only M or X. Type, value(s), range(s), default value and constraints of each attribute where appropriate are also included.

The MOCS proformas also contain tables describing specific operations (actions and events) in a package. These indicate the support for operations and arguments within an operation supported.

8.5.1 Management Information Definition Statements

MIDS are broken up into attribute, attribute group, action and notification proformas. Each of these MIDS proformas contain the standard ICS columns.

Attribute proformas contain attribute object identifier values, as well as the conditions that can affect the status of these attributes (SetByCreate, Get, Replace, Add, Remove, SetToDefault). Default and permitted types for the attribute are specified as appropriate. Other constraints and ranges on values will also be in this proforma.

Attribute group proformas contain template label, group object identifier columns and status and support columns for get and SetToDefault notations as related to that attribute group.

MIDS action and notification proforma are very similar. The action types and values as well as arguments for each action are specified. Required, default and permitted types are specified and other explicit constraints on the argument values. Notification proforma are identical, except for notifications rather than actions.

8.5.2 Managed Object Requirement Template Specifications

MORTS are used within the SARPs as a generic tabular method for the specification of Managed Objects. Common elements between MORTS tables and other ICSs include columns for Index, Description, Reference and ATN Requirements and Recommendation (equivalent to ATN Support above). ISO Status columns are not included. The notation within ATN Status columns is adapted to SARPS in that while mandatory (M), optional (O), and excluded (X) are used, recommended (R) is also used which is an addition to the ISO terminology. Predicates can also be used for these column entries. MORTS have been further specified to contain only the four table types described below.

8.5.2.1 Operations on Object Classes (OOC)

An operation on an object shall only succeed if the invoking managing system has the access rights necessary to perform the operation and consistency constraints are not violated. An example OOC table (Table 1) is shown below.

Index	Operations on Object Classes	Reference	ATN Status
EG.1.1	e.g. CREATE object		
EG.1.1	e.g. DELETE object		

The OOC column specifies which of the following types of operation to apply to the class:

CREATE: create and initialize an instance of a managed object (always confirmed).
DELETE: delete an instance of a managed object (always confirmed).
ACTION: perform confirmed/ unconfirmed activity described in table.

Note 1.### The CREATE and DELETE operations exhibit the behavior defined in ISO/IEC 10165-2.
Notifications are generated whenever an instance of an object class is created or deleted.
Note 2.### ACTION operations may be defined to be either of the type that always requires confirmation of the type that allows the invoker to request a confirmation.
Note 3.### See ISO/IEC 10165-1 for standard definitions of these operations and confirmations and notifications.

8.5.2.2 Object Class Attributes (OCA)

Along with the column types for all MORTS (including the OCA which can be thought of as the description column) the OCA table (Table 2) contains Type and Operation columns.
Using the Type column attributes of managed objects are described as being of one (and only one) of the following types:

R: Read-only,
R/W: Read/Write,
C: Counter (read only),
T: Tidemark, i.e. high/low indicator (read only),
G: Gauge, i.e. current status assessment indicator (read only),
S: Write attribute at creation, read only after creation.

Note 1.### See ISO/IEC 10165-2 for standard definitions.
Using the Operations column attributes of managed objects are described as being of one (and only one) of the following types:

GET: read value,
DEFAULT: set to default value,
REPLACE: replace old value with new value,
ADD: add to set of possible values for a particular attribute,
REMOVE: remove members from the set of possible values for a particular attribute.

Index	Object Class Attribute	Ref.	Type	Operation	ATN Status
EG.2.1	e.g. Name of TEMO instance		S	GET	
EG.2.2	e.g. State of TEMO (available, not available)		R	GET	

Note 2.### See ISO/IEC 10165-1 for standard definitions.
Note 3.### Each operation may be confirmed as opposed to unconfirmed as selected by the invoker, this will be determined by communications, systems or policy requirements.
An operation on an attribute shall only succeed if the invoking managing system has the access rights necessary to perform the operation and consistency constraints are not violated.
Attributes of managed objects behave in a certain manner, where this behavior is not obvious an explanation will be given in the lists of attributes.
Note 4.### Constraints on the values of attributes, permitted ranges are implementation dependent and will not be specified in the SARPs.

8.5.2.3 Object Class Notifications (OCN)

Managers are made aware of events by Notifications that may be emitted by instances of managed object classes, these are specified in an OCN table (Table 3). The OCN column (description) specifies the Notification and its contents.

Index	Object Class Notifications	Reference	ATN Status
EG.3.1	e.g. Notification of a protocol error detected by the local TE		

Note 1.### Whether or not the notifications are transmitted externally in the protocol, or logged depends upon the management configuration of the system. In particular, it depends on whether or not it satisfies the criteria specified in an event forwarding discriminator as defined in ISO/IEC 10164-4.
Note 2.### Whether a notification results in a confirmed as opposed to unconfirmed event report is determined by communications, systems or policy requirements, including settings of event forwarding discriminators.

8.5.2.4 Object Class Name Bindings (OCNB)

OCNB tables (Table 4) specify the Name Bindings of an object class. For each object class defined, the attributes and superior object classes whose instances may be used in constructing the name of an object must be identified.
The Object Class Name Type column specifies the type of name to be used in the naming of class instances. The Superior column specifies the superior object classes whose instances may be used in constructing the name of an object.

Index	Object Class Name Type	Superior	Ref	ATN Status
EG.4.1	e.g. COTransportProtocolEntity_nb_1	e.g. Computer System		
EG.4.2	e.g. COTransportProtocolEntity_nb_2	e.g. Equipment		

Note.### The relationship that identifies the possible superior object class that may be used in naming is known as a name binding. The principles of Name Binding are described in ISO/IEC 10165-1.