



ATIS-0300097.2022

Structure for the Identification of  
Communications Connections for Information Exchange

AMERICAN NATIONAL STANDARD FOR TELECOMMUNICATIONS



As a leading technology and solutions development organization, the Alliance for Telecommunications Industry Solutions (ATIS) brings together the top global ICT companies to advance the industry's most pressing business priorities. ATIS' nearly 200 member companies are currently working to address the All-IP transition, 5G, network functions virtualization, big data analytics, cloud services, device solutions, emergency services, M2M, cyber security, network evolution, quality of service, billing support, operations, and much more. These priorities follow a fast-track development lifecycle — from design and innovation through standards, specifications, requirements, business use cases, software toolkits, open source solutions, and interoperability testing.

ATIS is accredited by the American National Standards Institute (ANSI). The organization is the North American Organizational Partner for the 3rd Generation Partnership Project (3GPP), a founding Partner of the oneM2M global initiative, a member of and major U.S. contributor to the International Telecommunication Union (ITU), as well as a member of the Inter-American Telecommunication Commission (CITEL). For more information, visit [www.atis.org](http://www.atis.org).

---

## AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

---

## Notice of Disclaimer & Limitation of Liability

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER, NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. ATIS SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN PAYMENT BY ATIS FOR THIS DOCUMENT, AND IN NO EVENT SHALL ATIS BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. ATIS EXPRESSLY ADVISES THAT ANY AND ALL USE OF OR RELIANCE UPON THE INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

NOTE - The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to whether use of an invention covered by patent rights will be required, and if any such use is required no position is taken regarding the validity of this claim or any patent rights in connection therewith. Please refer to [ <a href="http://www.atis.org/legal/patentinfo.asp">http://www.atis.org/legal/patentinfo.asp</a> ] to determine if any statement has been filed by a patent holder indicating a willingness to grant a license either without compensation or on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain a license.
---

---

## ATIS-0300097.2022, *Structure for the Identification of Communications Connections for Information Exchange*

Is an American National Standard developed by the ATIS **Telecom Management and Operations Committee (TMOC)**.

*Published by*

**Alliance for Telecommunications Industry Solutions**  
**1200 G Street, NW, Suite 500**  
**Washington, DC 20005**

Copyright © 2022 by Alliance for Telecommunications Industry Solutions  
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher. For information contact ATIS at 202.628.6380. ATIS is online at < <http://www.atis.org> >.

**ATIS-0300097.2022**

American National Standard for Telecommunications

# **Structure for the Identification of Communications Connections for Information Exchange**

**Alliance for Telecommunications Industry Solutions**

Approved July 29, 2022

**American National Standards Institute, Inc.**

## **Abstract**

This standard provides the code and format structures necessary for identification of communications connections and describes the code structures with various combinations of data units represented within those structures. This standard contains clauses that cover its purpose and scope, described format structures and data elements for message trunks and message trunk groups, special services circuits, and facilities. It also contains definitions and references. Its intended use is to provide a standard that facilitates information exchange among humans and machines.

## Foreword

---

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers and manufacturers. The Telecom Management and Operations Committee (TMOC) – formerly T1M1 – develops operations, administration, maintenance and provisioning standards and other documentation related to Operations Support Systems (OSS) and Network Element (NE) functions and interfaces for the communications networks – with an emphasis on standards development related to U.S.A. communication networks in coordination with the development of international standards.

These codes are recognized as the de facto industry standards for information exchange. The code structure and format portion of this standard is compatible with the CLCI™ MSG and CLCI™ S/S code designs for the identification of circuits as well as CLFI™ for the identification of facilities. They are embedded in records for inventory management, capacity management, network and traffic routing, and trouble management/resolution, among others. They are also in widespread use in information exchange on ordering, provisioning, billing, and service assurance records within the industry.

ANSI guidelines specify two categories of requirements; mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendation by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages.

This standard contains two annexes which are for information only and is not considered part of this standard.

Suggestions for improvement of this standard are welcome. These should be sent to the Alliance for Telecommunications Industry Solutions, TMOC, 1200 G Street NW, Suite 500, Washington DC 20005.

At the time it approved this document, TMOC, which is responsible for the development of this Standard, had the following leadership:

P. Galarza, TMOC Chair (iconectiv)

## Trademark Acknowledgments

---

**iconectiv**, Telcordia and Common Language are registered trademarks and EC and IAC are trademarks and the Intellectual Property of iconectiv, LLC.

**Table of Contents**

---

<b>1</b>	<b>SCOPE &amp; PURPOSE .....</b>	<b>1</b>
<b>2</b>	<b>NORMATIVE REFERENCES.....</b>	<b>2</b>
<b>3</b>	<b>DEFINITIONS, ABBREVIATIONS, &amp; ACRONYMS.....</b>	<b>2</b>
<b>4</b>	<b>GENERAL.....</b>	<b>3</b>
<b>5</b>	<b>DATA UNITS .....</b>	<b>3</b>
5.1	MESSAGE TRUNK DATA UNITS .....	3
5.1.1	Trunk Number .....	3
5.1.2	Traffic Class.....	3
5.1.3	Office Class.....	3
5.1.4	Traffic Use .....	4
5.1.5	Trunk-Type Modifier.....	4
5.1.6	Location A .....	4
5.1.7	Address Signaling.....	4
5.1.8	Location Z.....	4
5.2	SPECIAL SERVICE CIRCUIT DATA UNITS .....	4
5.2.1	Prefix .....	4
5.2.2	Service Code .....	4
5.2.3	Service Code Modifier .....	4
5.2.4	Numbering Plan Area (NPA).....	5
5.2.5	Central Office (CO) Code .....	5
5.2.6	Line Number.....	5
5.2.7	Extension Number/Trunk.....	5
5.2.8	Country Code Number.....	5
5.2.9	National (Significant) Number .....	5
5.2.10	Segment Name.....	5
5.2.11	Serial Number .....	5
5.2.12	Suffix .....	6
5.2.13	Assigning Company Identifier .....	6
5.3	FACILITY DATA UNITS .....	6
5.3.1	Facility Designation.....	6
5.3.2	Facility Type .....	6
5.3.3	Channel/Pair Number/Time Slot.....	6
5.3.4	Location A .....	6
5.3.5	Location Z.....	6
<b>6</b>	<b>FORMAT STRUCTURES.....</b>	<b>7</b>
6.1	MESSAGE TRUNK FORMAT .....	7
6.2	SPECIAL SERVICE CIRCUIT FORMATS.....	7
6.2.1	Serial Number Format.....	7
6.2.2	World Zone 1 Telephone Number Format.....	8
6.2.3	International ITU-T E.164 – Telephone Number Structure for Geographic Areas.....	8
6.2.4	International ITU-T E.164 – Telephone Number Structure for Global Services .....	9
6.2.5	International ITU-T E.164 – Telephone Number Structure for Networks .....	9
6.3	FACILITY FORMAT .....	10
6.3.1	Cable Facility Format .....	10
6.3.2	Cable Facility with Pair Identification Format.....	10
6.3.3	Carrier Facility Format .....	11
6.3.4	Carrier Facility with Channel/Time Slot Identification Format.....	11

**7 MAINTENANCE AGENT DUTIES ..... 11**

**A CONNECTION IDENTIFICATION EXAMPLES ..... 13**

**B MAINTENANCE AGENT..... 15**

**Table of Tables**

---

TABLE 6.1 - MESSAGE TRUNK FORMAT ..... 7

TABLE 6.2 – SERIAL NUMBER FORMAT ..... 8

TABLE 6.3 – WORLD ZONE 1 TELEPHONE FORMAT ..... 8

TABLE 6.4 – INTERNATIONAL ITU-T E.164 – TELEPHONE NUMBER STRUCTURE FOR GEOGRAPHIC AREAS ..... 9

TABLE 6.5 – INTERNATIONAL ITU-T E.164 – TELEPHONE NUMBER STRUCTURE FOR GLOBAL SERVICES ..... 9

TABLE 6.6 – INTERNATIONAL ITU-T E.164 – TELEPHONE NUMBER STRUCTURE FOR NETWORKS ..... 10

TABLE 6.7 – CABLE FACILITY FORMAT ..... 10

TABLE 6.8 – CABLE FACILITY WITH PAIR IDENTIFICATION FORMAT ..... 10

TABLE 6.9 – CARRIER FACILITY FORMAT ..... 11

TABLE 6.10 – CARRIER FACILITY WITH CHANNEL/TIME SLOT IDENTIFICATION FORMAT ..... 11

TABLE A.1 – EXAMPLE OF MESSAGE TRUNK FORMAT ..... 13

TABLE A.2 – EXAMPLE OF MESSAGE TRUNK FORMAT ..... 13

TABLE A.3 – EXAMPLES OF SERIAL NUMBER FORMAT ..... 13

TABLE A.4 – EXAMPLES OF CABLE FACILITY FORMAT ..... 14

TABLE A.5 – EXAMPLES OF CABLE FACILITY WITH PAIR IDENTIFICATION FORMAT ..... 14

TABLE A.6 – EXAMPLES OF CARRIER FACILITY FORMAT ..... 14

TABLE A.7 – EXAMPLES OF CARRIER FACILITY WITH CHANNEL/TIME SLOT IDENTIFICATION FORMAT ..... 14

American National Standard for Telecommunications –

# Structure for the Identification of Communications Connections for Information Exchange

## 1 Scope & Purpose

---

This standard addresses the code and format structures for both circuit connections as well as facility connections. Both types of connections are depicted through seven application specific combinations of data unit representation (four format structures). The seven format structures are:

- Message trunk circuits.
- Message trunk groups.
- Special services circuits.
- Cable facilities.
- Cable facilities with pair identification.
- Carrier facilities.
- Carrier facilities with channel/time slot identification.

This standard is intended to support various intercompany processes for both humans and machines as it relates to business supporting functions. Some example applications include:

- *Planning, Forecasting, and Reporting.*
- *Engineering and Inventory Management:* Circuit/Design Layout Records (CLR/DLR).
- *Ordering:* Access/Local Service Request (ASR/LSR), Firm Order Confirmation (FOC).
- *Service Order/Work Order Processing.*
- *Billing:* Carrier Access (CABS).
- *Trouble Administration.*

This standard also outlines the responsibilities of the maintenance agent.

## 2 Normative References

---

The following standard contains provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below.

47 CFR § 52.7, *Code of Federal Regulations, Numbering, Administration, Definitions*.<sup>1</sup>

ATIS-0300251, *Structure for the Representation of Service Providers for Information Exchange*.<sup>2</sup>

ATIS-0300253, *Structure for the Representation of Location Entities for Information Exchange*.<sup>3</sup>

CFR Recommendation ITU-T E.164 (11/2010), *The international public telecommunication numbering plan*.<sup>4</sup>

## 3 Definitions, Abbreviations, & Acronyms

---

For a list of common communications terms and definitions, please visit the *ATIS Telecom Glossary*, which is located at < <http://www.atis.org/glossary> >.

**3.1 Cable:** A bound or sheathed group of individually insulated optical or electrical conductors.

**3.2 Carrier Facility System:** A transmission facility that provides several communication channels over a single bidirectional path. A carrier facility system generally consists of multiplex function at two terminal locations and an interconnecting path consisting of: (1) a higher-level facility system; (2) a facility assembly; or (3) combinations of carrier facility systems and facility assemblies.

**3.3 Channel:** A unit of assignable inventory within a carrier facility system. Channels may sometimes be referred to as *assignment slots* or *time slots*.

**3.4 Code Structure:** The basic characteristics of a code; its length and generic representation.

**3.5 Data:** A representation of facts, concepts, or instructions that are collected, organized, recorded, processed, and stored in a retrievable form suitable for communication, interpretation, or processing by human or automated means. [This definition refers to a group of facts taken as a unit; thus it is used with a singular verb.]

**3.6 Data Composite:** A collection of data elements treated as a unit.

**3.7 Data Element:** A single unit of data that in a certain context is considered indivisible. It cannot be decomposed into more fundamental segments of data that have useful meanings within the business.

**3.8 Data Unit:** A single kind of data for which the identification and description are identical for all occurrences. It may be a data element or a data composite.

**3.9 Delimiter:** Values which provide a means to identify the beginning and end of adjacent fields for mechanized systems, and to simplify overall code readability. While the specific values may differ from system to system, acceptable values are either an asterisk (\*), virgule (/), or a period (.).

**3.10 Facility:** A physical or derived communications path between two locations, which can be intraoffice as well as interoffice. A facility is bounded by its transmission signal input to its equivalent transmission signal output, or its

---

<sup>1</sup> This document is available from the U.S Government Printing Office (GPO). < <http://www.ecfr.gov/> >

<sup>2</sup> This document is available from the Alliance for Telecommunications Industry Solutions (ATIS) at < <https://www.atis.org/docstore/product.aspx?id=26148> >.

<sup>3</sup> This document is available from ATIS at < <https://www.atis.org/docstore/product.aspx?id=25679> >.

<sup>4</sup> This document is available from the International Telecommunication Union (ITU). < <http://www.itu.int/rec/T-REC-E.164/en> >

point of termination. A facility has the same capacity at each end and normally carries assignable channels, pairs, or time slots.

**3.11 Facility Assembly:** A group of interconnected equipment and transmission media uniquely identified and dedicated to a specific type of service.

**3.12 Format Structure:** A combination of data units grouped in a prescribed sequence.

**3.13 Leg:** A loop termination of a multipoint circuit that links a bridge to the end user location.

**3.14 Open Wire:** Non-insulated metallic conductors that are tied to insulators usually on cross arms, which are bolted to poles.

**3.15 Pair:** Two conductors used to form a transmission path.

**3.16 Physical Facility:** A transmission facility that consists only of a real and tangible interconnecting link between its terminals, such as open wire, fiber optic, or metallic cable (not a derived path).

**3.17 Time Slot:** A cyclic time period that can be recognized and uniquely defined.

**3.18 World Zone 1:** Multiple countries which have an integrated numbering plan with the Country Code value "1", as per Recommendation ITU-T E.164.

## 4 General

---

Each data element shall consist of sequences of characters, each character being either an alphabetic (A-Z) or numeric (0-9). (See clauses 5.3.3 and 6.2.2 for additional requirements for symbols.) In the format structures of clause 6, designation is provided for character positions that require alphabetic, numeric, or either alphabetic or numeric characters. The alphabetic characters shall be considered as case insensitive; that is, there shall be no distinction made between upper and lower case letters. However, it is recommended that the code be represented with upper case letters.

Within Annex A, the indication of **p** is representative of blank positions within the depicted formats.

## 5 Data Units

---

Clause 5 of this standard describes data elements and data composites that are used to construct the message trunk, special services circuit and facility identification code formats of clause 6.

### 5.1 Message Trunk Data Units

#### 5.1.1 Trunk Number

A serial number type code that identifies a specific trunk in a trunk group. This data element shall consist of one to four numeric characters.

#### 5.1.2 Traffic Class

A standardized code that designates an engineering categorization – e.g., grade of service, alternate route. This data element consists of two alphabetic characters.

#### 5.1.3 Office Class

A standardized code that designates the highest level of switching performed by the traffic units or offices terminating the trunk or trunk group – e.g., grade of service, alternate route. This data element consists of two characters, one for each end of the trunk or trunk group, and where each character may be alphabetic or numeric.

#### **5.1.4 Traffic Use**

A standardized code that designates the type of traffic offered to the trunk group – e.g., inter-end office, tandem access, directory assistance. This data element consists of two alphabetic characters.

#### **5.1.5 Trunk-Type Modifier**

A standardized code that indicates specialized use of the trunk or trunk group – i.e., only a portion of traffic, or enhanced information, is carried over the trunk or trunk group, such as coin, non-coin, bit rate. This data element consists of one to seven characters, each of which may be alphabetic or numeric.

#### **5.1.6 Location A**

A standardized code that uniquely identifies the location of facility terminal A (i.e., lower in alphabetic sequence of the two facility terminal location codes), which is the physical site location at which communications equipment or personnel are located, the function of equipment or personnel at the site, or a customer's presence at a location at which network elements or network systems equipment exists. This data composite shall consist of either eight or eleven characters, as allowed by the requirements of ATIS-0300253. Complete definition of this data composite may be found in this standard.

#### **5.1.7 Address Signaling**

A standardized code that designates the type of signals used to direct a call to its destination – e.g., multi-frequency, common channel signaling, switching system 7. This data element consists of two characters, each of which may be alphabetic or numeric. The first character is the type of signaling outgoing from the Location A. The second character is the type of signaling outgoing from Location Z, or is a "-" (hyphen) for one-way groups.

#### **5.1.8 Location Z**

A standardized code that uniquely identifies the location of facility terminal Z (i.e., higher in alphabetic sequence of the two facility terminal location codes), for which the description is equivalent to that of the Location A in clause 5.1.6.

### **5.2 Special Service Circuit Data Units**

#### **5.2.1 Prefix**

A non-standard code populated according to the special services circuit coding methodology of each carrier or network operator assigning the circuit identification. This data element consists of two characters, each of which may be alphabetic or numeric.

#### **5.2.2 Service Code**

A standardized code that represents a service offering that requires special services circuit provisioning. This data element consists of two characters, each of which may be alphabetic or numeric.

#### **5.2.3 Service Code Modifier**

A standardized code that designates the jurisdiction, networking application, and additional technical information of the service identified in the service code of clause 5.2.2. This data element consists of two characters, each of which may be alphabetic or numeric.

#### **5.2.4 Numbering Plan Area (NPA)**

A standardized code that identifies the NPA (commonly called an area code) associated with the telephone number of a special services circuit. This data element is used in the telephone number format only, and consists of three numeric characters.

#### **5.2.5 Central Office (CO) Code**

A standardized code that identifies the CO (also called exchange, prefix, or NXX) number associated with the telephone number of a special services circuit. This data element is used in the telephone number format only, and consists of three numeric characters.

#### **5.2.6 Line Number**

A standardized code that identifies the line number associated with the telephone number of a special services circuit. This data element is used in the telephone number format only, and consists of four numeric characters.

#### **5.2.7 Extension Number/Trunk**

A non-standard code used to record extension numbers/trunk codes associated with the telephone number of a special services circuit. This data element is used in the telephone number format only, and consists of one to five characters, each of which may be alphabetic or numeric.

#### **5.2.8 Country Code Number**

The combination of one, two, or three digits used to identify a specific country, countries in an integrated numbering plan, or a specific geographic area, as prescribed in Recommendation ITU-T E.164.

#### **5.2.9 National (Significant) Number**

The National (Significant) Number or N(S)N consists of the National Destination Code (NDC) followed by the Subscriber Number (SN). The function and format of the National Significant Number is nationally determined. Recommendation ITU-T E.164 recommends that the maximum number of digits of the National Significant Number should be equal to 12, or 15-n, where n is the number of digits of the Country code. The National Destination Code identifies a numbering area within a country (or group of countries included in one integrated numbering plan or a specific geographic area) and/or network/services. The Subscriber Number identifies a subscriber in a geographic area. The structure and functionality of the Subscriber Number is determined by the network operator.

#### **5.2.10 Segment Name**

A serial value type code uniquely identifying each termination point of a special services circuit, when the circuit has more than two termination points – i.e., multipoint circuit. This data element consists of one to three characters, each of which may be alphabetic or numeric.

#### **5.2.11 Serial Number**

A serial number type code that uniquely identifies a special services circuit having the same prefix (clause 5.2.1), service code (clause 5.2.2), and service code modifier (clause 5.2.3) within a network operator or carrier assigning the circuit identification. This data element is associated with the serial number format only. It is used when no telephone number is associated with the special services circuit. This data element consists of one to six numeric characters.

### **5.2.12 Suffix**

A serial number type code that relates a group of special services circuits having the same service code (clause 5.2.2) for the same customer, and with similar termination equipment at each end. The suffix is also used on multipoint circuits when the number of legs to be coded exceeds the coding power of the segment number (clause 5.2.9), and is also used to identify terminations behind a leg. This data element is associated with the serial number format only, and consists of one to three numeric characters.

### **5.2.13 Assigning Company Identifier**

A standardized code that uniquely identifies the company assigning the special service circuit identification. This data element is associated with the serial number format only, and shall consist of two to four alphabetic characters, as allowed for Exchange Carrier Code and IAC Code (but not Company Code) by the requirements of ATIS-0300251. Complete definition of this data element may be found in ATIS-0300251.

## **5.3 Facility Data Units**

### **5.3.1 Facility Designation**

A value that uniquely provides identification for a facility. This data element shall consist of one to five characters, each of which may be alphabetic or numeric.

### **5.3.2 Facility Type**

A standardized code that describes the type of facility when it is other than cable. Identification of cable facilities does not require the use of this code. This data element shall consist of one to six characters, each of which may be alphabetic or numeric.

### **5.3.3 Channel/Pair Number/Time Slot**

A standardized value that uniquely identifies a specific assignable portion of a facility. This data element shall consist of one to five characters, each of which may be alphabetic or numeric. For open-wire, this field is used to identify the associated PIN numbers using a virgule (i.e., "/") to separate the two numbers.

### **5.3.4 Location A**

A standardized code that uniquely identifies the location of facility terminal A (i.e., lower in alphabetic sequence of the two facility terminal location codes), which is the physical site at which communications equipment or personnel are located, the function of equipment or personnel at the site, or a customer's presence at a location at which network elements or network systems equipment exists. This data composite shall consist of either eight or eleven characters, as allowed by the requirements of ATIS-0300253. Complete definition of this data composite may be found in this standard.

### **5.3.5 Location Z**

A standardized code that uniquely identifies the location of facility terminal Z (i.e., higher in alphabetic sequence of the two facility terminal location codes, for which the description is equivalent to that of the Location A in clause 5.3.4).

## 6 Format Structures

The data elements and data composites of clause 5 are combined in prescribed sequences to identify a message trunk, special services circuit, or facility. The possible data composite format structures are as described in the following subclauses.

Delimiters provide a means to identify the beginning and end of adjacent fields for mechanized systems, and to simplify overall code readability. Delimiters may differ from OSS to OSS, but are either an asterisk (\*), virgule (/), or a period (.).

### 6.1 Message Trunk Format

A standard code that uniquely identifies a message trunk. This data composite shall consist of a Trunk Number, Traffic Class, Office Class, Traffic Use, Trunk-Type Modifier, Location A, Address Signaling, and Location Z, resulting in a maximum length of 41 characters as shown in Table 6.1. Trunk number is used only when specific message trunks are identified, i.e., Trunk number is not used for message trunk group identification.

**Table 6.1 - Message Trunk Format**

	Message Trunk Identification								
	Trunk Number	Message Trunk Group					Location A	Address Signaling	Location Z
		Trunk Type				Trunk Type Modifier			
		Traffic Class	Office Class	Traffic Use					
<b>Character Position</b>	1 – 4	5 – 6	7 – 8	9 – 10	11 – 17	18 – 28	29 – 30	31 – 41	
<b>Character Set</b>	Numeric only	Alphabetic only	Alphabetic or numeric	Alphabetic only	Alpha, numeric, or alpha-numeric	Format according to ATIS-0300253	Alphabetic, numeric, or “-“ (hyphen)	Format according to ATIS-0300253	
<b>Data Unit Use</b>	Required	Required	Required	Required	Optional	Required	Required	Required	

### 6.2 Special Service Circuit Formats

Special services circuits shall be identified in three formats, Serial Number Format, World Zone 1 telephone number format (terminations within World Zone 1), and Non-World Zone 1 telephone number format.

#### 6.2.1 Serial Number Format

A standard format that uniquely identifies a special services circuit that is not associated with a unique telephone number. This format shall consist of a sequence of Prefix, Service Code, Service Code Modifier, Serial Number, Suffix, Assigning Company Identifier, and Segment Name, resulting in a maximum length of 22 characters as shown in Table 6.2. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.2 – Serial Number Format**

	Prefix	Service Code	Service Code Modifier	Serial Number	Suffix	Assigning Company Identifier	Segment Name
<b>Character Position</b>	1 – 2	3 – 4	5 – 6	7 – 12	13 - 15	16 - 19	20 - 22
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Numeric only	Numeric only	Format according to ATIS-0300251 (Exchange Carrier Code or IAC Code)	Alpha or numeric only
<b>Data Unit Use</b>	Optional	Required	Required	Required	Optional	Required	Optional

### 6.2.2 World Zone 1 Telephone Number Format

A standard format that uniquely identifies a special services circuit that is associated with a World Zone 1 telephone number. This format shall consist of a sequence of Prefix, Service Code, Service Code Modifier, NPA, Central Office, Line Number, Extension Number/Trunk and Segment Name, resulting in a maximum length of 24 characters as shown in Table 6.3. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.3 – World Zone 1 Telephone Format**

	Prefix	Service Code	Service Code Modifier	Telephone Number				Segment Name
				NPA	Central Office Code	Line Number	Extension Number or Trunk	
<b>Character Position</b>	1 – 2	3 – 4	5 – 6	7 – 9	10 – 12	13 - 16	17 - 21	22 - 24
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Alpha, numeric or alpha-numeric	Numeric only	Numeric only	Numeric only	Numeric only	Alpha or numeric only
<b>Data Unit Use</b>	Optional	Required	Required	Required	Required	Required	Optional	Optional

### 6.2.3 International ITU-T E.164 – Telephone Number Structure for Geographic Areas

A standard format that uniquely identifies a special services circuit that is associated with a non-World Zone 1 telephone number for geographic areas. This format shall consist of a sequence of Prefix, Service Code, Service Code Modifier, Country Code Number, National Significant Number (NSN), and Segment Name, resulting in a maximum length of 24 characters as shown in Table 6.4. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.4 – International ITU-T E.164 – Telephone Number Structure for Geographic Areas**

	Prefix	Service Code	Service Code Modifier	International ITU-T E.164 Telephone Number			Segment Name
				Country Code Number	National (Significant) Number		
					National Destination Code (NDC)	Subscriber Number	
<b>Character Position</b>	1 – 2	3 – 4	5 – 6	7 – 9	10 – 21		22 - 24
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Numeric only	Numeric only		Alpha or numeric only
<b>Data Unit Use</b>	Optional	Required	Required	Required	Required		Optional

### 6.2.4 International ITU-T E.164 – Telephone Number Structure for Global Services

A standard format that uniquely identifies a special services circuit that is associated with a non-World Zone 1 telephone number for global services. This format shall consist of a sequence of Prefix, Service Code, Service Code Modifier, Country Code Number, Global Subscriber Number, and Segment Name, resulting in a maximum of 24 characters as shown in Table 6.5. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.5 – International ITU-T E.164 – Telephone Number Structure for Global Services**

	Prefix	Service Code	Service Code Modifier	International ITU-T E.164 Telephone Number		Segment Name
				Country Code Number	Global Subscriber Number	
<b>Character Position</b>	1 – 2	3 – 4	5 – 6	7 – 9	10 – 21	22 - 24
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Numeric only	Numeric only	Alpha or numeric only
<b>Data Unit Use</b>	Optional	Required	Required	Required	Required	Optional

### 6.2.5 International ITU-T E.164 – Telephone Number Structure for Networks

A standard format that uniquely identifies a special services circuit that is associated with a non-World Zone 1 telephone number for networks. This format shall consist of a sequence of Prefix, Service Code, Service Code Modifier, Country Code, Identification Code, Subscriber Number, and Segment Name, resulting in a maximum of 24 characters as shown in Table 6.6. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.6 – International ITU-T E.164 – Telephone Number Structure for Networks**

	Prefix	Service Code	Service Code Modifier	International E.164 Telephone Number			Segment Name
				Country Code Number	Identification Code	Subscriber Number	
<b>Character Position</b>	1 – 2	3 – 4	5 – 6	7 – 9	10 - 13	14 - 21	22 - 24
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Alpha, numeric, or alpha-numeric	Numeric only	Numeric only	Numeric only	Alpha or numeric only
<b>Data Unit Use</b>	Optional	Required	Required	Required	Required	Required	Optional

### 6.3 Facility Format

#### 6.3.1 Cable Facility Format

A standard format which uniquely identifies a cable facility. This format shall consist of a sequence of Facility Designation, Location A, and Location Z data units, resulting in a maximum of 27 characters as shown in Table 6.7.

**Table 6.7 – Cable Facility Format**

	Facility Designation	Location A	Location Z
<b>Character Position</b>	1 - 5	6 - 16	17 - 27
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Eight or eleven character format according to ATIS-0300253.	Eight or eleven character format according to ATIS-0300253.
<b>Data Unit Use</b>	Required	Required	Required

#### 6.3.2 Cable Facility with Pair Identification Format

A standard code that uniquely identifies a pair in a cable facility. This format shall consist of a sequence of Facility Designation, Channel/Pair/Time Slot, Location A, and Location Z data units, resulting in a maximum of 32 characters as shown in Table 6.8. Any unused data elements shall be left justified, and the remaining unused spaces shall be left blank and substituted by a delimiter.

**Table 6.8 – Cable Facility with Pair Identification Format**

	Facility Designation	Pair Code		Location A	Location Z
		Number	Modifier		
<b>Character Position</b>	1 - 5	6 - 10		11 - 21	22 - 32
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Number or alpha-numeric only		Eight or eleven-character format according to ATIS-0300253.	Eight or eleven-character format according to ATIS-0300253.
<b>Data Unit Use</b>	Required	Required	Optional	Required	Required

### 6.3.3 Carrier Facility Format

A standard code that uniquely identifies a carrier facility. This format shall consist of a sequence of Facility Designation, Facility Type, Location A, and Location Z data units, resulting in a maximum of 33 characters as shown in Table 6.9.

**Table 6.9 – Carrier Facility Format**

	Facility Designation	Facility Type	Location A	Location Z
<b>Character Position</b>	1 - 5	6 - 11	12 - 22	22 – 33
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha-numeric only	Eight or eleven-character format according to ATIS-0300253.	Eight or eleven-character format according to ATIS-0300253.
<b>Data Unit Use</b>	Required	Required	Required	Required

### 6.3.4 Carrier Facility with Channel/Time Slot Identification Format

A standard code that uniquely identifies the channel or time slot within a carrier facility. This format shall consist of a sequence of Facility Designation, Facility Type, Channel/Pair/Time Slot, Location A, and Location Z data units, resulting in a maximum of 38 characters as shown in Table 6.10.

**Table 6.10 – Carrier Facility with Channel/Time Slot Identification Format**

	Facility Designation	Facility Type	Channel / Time slot		Location A	Location Z
			Number	Modifier		
<b>Character Position</b>	1 - 5	6 - 11	12 - 16		17 - 27	28 - 38
<b>Character Set</b>	Alpha, numeric, or alpha-numeric	Alpha-numeric only	Number or alpha-numeric only		Eight or eleven-character format according to ATIS-0300253.	Eight or eleven-character format according to ATIS-0300253.
<b>Data Unit Use</b>	Required	Required	Required	Optional	Required	Required

## 7 Maintenance Agent Duties<sup>5</sup>

The maintenance agent shall be the custodian of the CLCI MSG, CLCI S/S, and CLFI code sets and will be responsible for the following administrative duties:

- a) Provide for the assignment, definition, and administration of the following connection identification CLCI MSG, CLCI S/S, and CLFI data units:
  - Address Signaling.
  - Assigning Company Identifier (as per ATIS-0300251).
  - Facility Type.
  - Location A (as per ATIS-0300253).

---

<sup>5</sup> iconectiv, LLC. (“iconectiv”) or its equivalent is such a maintenance agent. At the time of approval of this standard, ATIS and the responsible ATIS Forum/Committee that developed the standard were aware of only one maintenance agent, **iconectiv**, for this requirement. If you are aware of an equivalent or an alternative maintenance agent, please provide this information to ATIS General Counsel. Your comments will receive careful consideration in a meeting of the responsible Forum/Committee, which you may attend for the purpose of this consideration.

**ATIS-0300097.2022**

- Location Z (as per ATIS-0300253).
  - Office Class.
  - Service Code.
  - Service Code Modifier.
  - Traffic Class.
  - Traffic Use.
  - Trunk Type Modifier.
- b) Develop and publish dictionaries of connection identification data units outlined in 7(a).
- c) Provide an industry procedure for obtaining knowledge of CLCI MSG, CLCI S/S, or CLFI information, through the obtaining of a COMMON LANGUAGE® Products CLCI MSG, CLCI S/S, or CLFI standard level license agreement with iconectiv, LLC.
- d) Provide services and materials under reasonable and nondiscriminatory terms.

Annex A  
(informative)

## A Connection Identification Examples

Table A.1 – Example of Message Trunk Format

	Message Trunk Identification							
	Trunk Number	Message Trunk Group						
		Trunk Type				Location A	Address Signaling	Location Z
		Traffic Class	Office Class	Traffic Use	Trunk Type Modifier			
Character Position	1 – 4	5 – 6	7 – 8	9 – 10	11 – 17	18 – 28	29 – 30	31 – 41
Example #1		DF	45	CA		CHCGILAADS0	77	CHCGILZZ07T

Table A.2 – Example of Message Trunk Format

	Message Trunk Identification							
	Trunk Number	Message Trunk Group						
		Trunk Type				Location A	Address Signaling	Location Z
		Traffic Class	Office Class	Traffic Use	Trunk Type Modifier			
Character Position	1 – 4	5 – 6	7 – 8	9 – 10	11 – 17	18 – 28	29 – 30	31 – 41
Example #1			54			KSCYMOEC01T	77	KSCYMODTDS0
Example #2	1015	DF	45	CA	bbbbbb	CHCGILAADS0	77	CHCGILZZ07T

Table A.3 – Examples of Serial Number Format

	Prefix	Service Code	Service Code Modifier	Serial Number	Suffix	Assigning Company Identifier	Segment Name
Character Position	1 – 2	3 – 4	5 – 6	7 – 12	13 - 15	16 - 19	20 - 22
Example #1	76	HC	GS	000526		BS	
Example #2	76	LG	GS	000012		SPNT	

**Table A.4 – Examples of Cable Facility Format**

	Facility Designation	Location A	Location Z
<b>Character Position</b>	1 - 5	6 – 16	17 – 27
<b>Example #1</b>	9605 <b>p</b>	ARTNVACK <b>ppp</b>	WASHDCSW <b>ppp</b>
<b>Example #2</b>	7788 <b>p</b>	IVTNNJESFM1	NWRKNJB1FM1

**Table A.5 – Examples of Cable Facility with Pair Identification Format**

	Facility Designation	Pair Code		Location A	Location Z
		Number	Modifier		
<b>Character Position</b>	1 - 5	6 - 10		11 - 21	22 - 32
<b>Example #1</b>	1024 <b>p</b>	51X <b>pp</b>		NWBKNJNB <b>ppp</b>	PSWYNJPI <b>ppp</b>
<b>Example #2</b>	788 <b>pp</b>	626 <b>pp</b>		IVTNNJESFM1	NWRKNJBIFM1

**Table A.6 – Examples of Carrier Facility Format**

	Facility Designation	Facility Type	Location A	Location Z
<b>Character Position</b>	1 - 5	6 - 11	12 - 22	22 - 33
<b>Example #1</b>	8101 <b>p</b>	T3 <b>ppp</b>	AUBNWAFAP <b>ppp</b>	TACMWAFAP <b>ppp</b>
<b>Example #2</b>	2111 <b>p</b>	T1 <b>ppp</b>	TOROON0107T	VANCBC0105T
<b>Example #3</b>	2201 <b>p</b>	OC03N <b>p</b>	ATLNGACSP <b>ppp</b>	ATLNGAPP <b>ppp</b>
<b>Example #4</b>	2201 <b>p</b>	OC03N <b>p</b>	ATLNGACSH01	ATLNGAPPH01

**Table A.7 – Examples of Carrier Facility with Channel/Time Slot Identification Format**

	Facility Designation	Facility Type	Channel / Time slot		Location A	Location Z
			Number	Modifier		
<b>Character Position</b>	1 - 5	6 - 11	12 - 16		17 - 27	28 - 38
<b>Example #1</b>	861 <b>pp</b>	T1 <b>pppp</b>	17C <b>pp</b>		LSANCA03 <b>ppp</b>	SHOKCA02 <b>ppp</b>
<b>Example #2</b>	8605 <b>p</b>	T6X1 <b>pp</b>	23 <b>ppp</b>		ARTNCAAR07T	WASHDCMT05T
<b>Example #3</b>	2201 <b>p</b>	OC03N <b>p</b>	2 <b>pppp</b>		CHRLNCCAP <b>ppp</b>	RLGHNCHOP <b>ppp</b>
<b>Example #4</b>	2201 <b>p</b>	OC03N <b>p</b>	23 <b>ppp</b>		CHRLNCCAHO1	RLGHNCHOH01

**Annex B**  
(informative)

## **B Maintenance Agent**

---

The maintenance agent assigned for this standard is:

iconectiv, LLC.  
COMMON LANGUAGE® Standards Customer Support Center  
100 Somerset Corporate Blvd.  
Bridgewater, NJ 08807  
Telephone: +1 (877) 699-5577  
Email: < [clsc@iconectiv.com](mailto:clsc@iconectiv.com) >  
Website: < <http://www.commonlanguage.com/> >