Telcordia™ Technologies

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# COMMON LANGUAGE® Location Codes (CLLI™ Codes) Description for Location Identification

Telcordia Technologies Practice
BR-795-100-100
Issue 18, February 2000



An SAIC Company

# COMMON LANGUAGE® Location Codes (CLLI™ Codes) Description for Location Identification

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Target audience: Licensed Clients

This document replaces: BR-795-100-100, Issue 17, February 1999

Related document: JA-18

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Project Funding Year: 2000

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# 1. Purpose and Scope

This Practice provides the basic rules and guidelines to use when assigning unique CLLI Codes to geographic locations and functional categories of equipment that are of interest primarily to the telecommunications industry. These rules and guidelines create an identification scheme used in manual and mechanized environments, and are an integral part of many centrally developed operations support systems and related applications. This Practice contains an overall description of the CLLI Code Set formats and their associated elements. This Practice is directed to those who need to know the COMMON LANGUAGE standard codes for assignment, description, and application interface requirements.

# 2. Reason for Issue

This Practice revises and replaces BR-795-100-100, Issue 17, in its entirety, and supersedes all other documents alleged to provide CLLI Code definitions or descriptions. It includes the following specific changes:

- The definitions for Network Entity Codes A(x)(x), D(n)(n), H(x)(x), M(x)(x), and Q(n)(n) were revised.
- The Network Entity Codes CA(x) for Call Agent, and RG(x) for repeaters were added.
- The Network Entity Codes E(x)(x), P(x)(x), S(x)(x), and T(x)(x) status was changed to retired.
- New Glossary definitions for Call Control Agent and Repeater/Regenerator were added.
- The definition of the Network Entity Code M(x)(x) (Table E) was changed to include the substance of the E(x)(x), P(x)(x), S(x)(x) and T(x)(x) codes.
- The creation of an addendum for retired CLLI Codes.
- The International Network Switching Entity Codes status was changed to retired.

# 3. General

The CLLI Code is a geographic identifier that uniquely identifies the location of sites within a geopolitical unit or unique location, e.g., high seas, satellites, etc. Its structure allows the CLLI Code to identify and pinpoint specific geographic locations that are of interest to a communications company or other type company where a need exists to uniquely associate inventories, work centers, customers, etc., to a CLLI Code location. For other details, the user must look beyond the CLLI Code Set to other code sets or databases, e.g., facility and trunk identification.

Understanding CLLI Code structure and applicability permits CLLI coordinators to ensure stability of codes and associated data in existing and future processes.

CLLI Codes provide the standard and consistency required for flow-through and network management. The CLLI Code development, administration, and maintenance process should include discussions with message trunk forecasting, transmission engineering groups, planners, access service provisioners, and operational support system developers. CLLI Code changes should be avoided because of the widespread use of CLLI Codes. They are embedded in a variety of operation support systems used in the communications industry for databases required for:

- Equipment and Facility Inventories, Investment, Forecasting and Planning
- Unique Client Interface Points
- Circuit and Facility Design, Routing and Restoration
- Tariff and Billing
- Work Force Administration
- FCC and PUC Inquiries
- Marketing and Sales.

The CLLI Code Set, used separately or in conjunction with other COMMON LANGUAGE Code Sets, uniquely identifies most of the elements of a communications network. Because they are mnemonic, the COMMON LANGUAGE Codes are easy to use and to remember. Not only do they identify a particular network element, they also convey information about it. Although they are used by people, the COMMON LANGUAGE Code Sets greatly aid in the mechanized transfer of information.

The CLLI Code assignment process should consider the requirements of the associated COMMON LANGUAGE Code Sets. For example, CLLI Codes identify specific locations that are used as terminal identities for Facilities (CLFI™ Code Set) and Message Circuits (CLCI™ MSG Code Set), and are referenced by Special Service Circuits (CLCI S/S Code Set). Refer to BR-795-450-100, BR-795-400-100, and BR-795-402-100, respectively, for descriptions of these code sets and their usage. The CLLI Code Set will satisfy ongoing requirements for identification of locations and certain entities at those locations. These codes are applicable in any manual or mechanized system. Therefore, no attempt should be made to embed operational information in the code.

**CAUTION!** Encoding schemes that reserve certain characters (or groups of characters) within the user assigned portion of the CLLI Code elements should be avoided. These schemes may lead to future coding problems such as exhaustion of the geographical code, necessitating additional geographical codes for a single place. Inconsistent client encoding schemes may hinder the automatic flow-thru of orders between companies having different meanings of reserved characters. Considerable care should be taken in the selection of proper CLLI Code format, including geographical code and Network Entity Code selection.

**NOTE:** It is not the intent of the CLLI Code to individually list, inventory, or identify every item of equipment, work group, or person, or thing at a particular location with a separate CLLI Code, although it is left to the discretion of CLLI Code users to determine what needs to be identified. The code should not be used to individually list or inventory all equipment, people, or things at a location.

All CLLI Codes are maintained in a secured on-line Master Location Database by the COMMON LANGUAGE® Products Business Unit, Telcordia, Piscataway, New Jersey. This is essential to maintain the uniqueness, to prevent duplication, and to preserve geographic and business data of CLLI Codes. For support level CLLI Code licensees, that company's CLLI Code coordinator is responsible for updating the master location database using procedures defined in this Practice and in the on-line entry system manual (BD-LS/CLONES-LSP-1). Descriptive information associated with the CLLI Code may also be found in Job Aid JA-18, CLLI Code Technical Advisory Group (TAG) meeting notes, COMMON LANGUAGE® Products Seminar student binder, or specialized client training material.

Questions concerning the COMMON LANGUAGE CLLI Code Set information contained in this Practice, and requests for new CLLI Code formats and network entities, or network support site codes, should be directed through the Telcordia customer CLLI Code coordinator, or directly to the COMMON LANGUAGE® Products Business Unit at Telcordia. Development of new codes and changes in coding procedures require approval of Telcordia and concurrence from Telcordia CLLI Code customers.

The Telcordia COMMON LANGUAGE® Products Business Unit provides the technical expertise to maintain the CLLI Code Sets. Input to this procedure is provided by the Language Standards Technical Advisory Group, in accordance with the procedure outlined in BR-751-000-102, *COMMON LANGUAGE® Abbreviation and Code Request Procedures.*

## 4. Code Description, Purpose, and Structure

**Code Description.** A CLLI Code is a standardized COMMON LANGUAGE Code that uniquely identifies a specific geographic site of interest to a communications company or other type of company where a need exists to associate certain functional categories of equipment, inventories, work centers, customers, etc., to the site.

**Code Purpose.** CLLI Codes are used to identify existing and proposed building locations that contain, or will contain, personnel, switching and nonswitching equipment, e.g., switching machines, switchboard and desk terminations, miscellaneous switching terminations, radio and carrier equipment, plant service centers, test rooms, frames, maintenance groups, customers, etc. CLLI Codes can also identify network support site type locations, such as controlled environmental vaults, manholes, utility poles, pads, pedestals, mini or Max huts containing communications equipment. These codes are also used to identify meet point type

locations, such as cable or facility junctions, end points, international or state boundary locations. In addition, CLLI Codes identify customers and/or customer-site locations. Customer location codes are also used to identify terminations for network interconnection, cable, fiber, carrier, and span facilities, and circuits.

**Code Structure.** The CLLI Code is a composite 11-character alphanumeric code utilizing four formats comprised of either three or four elements. Each element, in its entirety, can be used separately or collectively in a hierarchical manner. The standard business names for each of the formats and associated elements are as follows:

CLLI Code - **Network Site Format**

1. COMMON LANGUAGE Geographical Code.
2. COMMON LANGUAGE Geopolitical Code.
3. CLLI Network Site Code.

CLLI Code - **Network Entity Format**

1. COMMON LANGUAGE Geographical Code.
2. COMMON LANGUAGE Geopolitical Code.
3. CLLI Network Site Code.
4. CLLI Network Entity Code.

CLLI Code - **Network Support Site Format**

1. COMMON LANGUAGE Geographical Code.
2. COMMON LANGUAGE Geopolitical Code.
3. CLLI Network Support Site Code.

CLLI Code - **Customer Site Format**

1. COMMON LANGUAGE Geographical Code.
2. COMMON LANGUAGE Geopolitical Code.
3. CLLI Customer Site Code.

**NOTE:** The 8-character Network Site format may be used to identify facility terminations (e.g., cable, carrier, fiber, etc.) that are common to a building and are not dedicated to a customer or a switch. This would also apply to inventories of equipment that are not dedicated.

The following table depicts the CLLI Code elements and structure, character positions for each element, and the basic permitted character set for each element is represented by the lower case letters a, n, or x:

| Code Element/Character Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geographical Code | a | a | a | a | | | | | | | |
| Geopolitical Code | | | | | a | a | | | | | |
| Network Site Code | | | | | | | n | n | | | |
| | | | | | | | a | a | | | |
| Network Entity Code | | | | | | | | | x | x | x |
| Network Support Site Code | | | | | | | a | n | x | x | x |
| Customer Site Code | | | | | | | n | a | x | x | x |

**Basic Notation Notes.** Basic formats are prescribed throughout the following text for each code element. These formats are presented using a uniform system of notation, as follows:

- Parentheses enclose numbers and lower case letters, indicating user assigned values.
- (a) indicates any alpha A-Z may be used.
- (n) indicates any numeric 0-9 may be used.
- (x) indicates any alphanumeric A-Z or 0-9 may be used.
- The displayed upper case alpha is required for that position.
- Where specific characters are not permitted in certain character positions, they are identified by a superscript, i.e., $(a^1)$, $(a^2)$, $(x^1)$, $(x^2)$, and $(x^3$.
- $(a^1)$ indicates any alpha A-Z may be used, except alpha characters B, D, I, and O.
- $(a^2)$ indicates any alpha A-Z may be used, except alpha characters B, C, D, I, O, T, and W.
- $(x^1)$ indicates any alphanumeric A-Z or 0-9 may be used, except alpha characters B, D, I, and O.
- $(x^2)$ indicates any alphanumeric A-Z or 0-9 may be used, except alpha characters B and D.
- $(x^3)$ indicates alpha G cannot be used in this position.

# 5. Geographical Code

**Geographical Code Description.** A geographical code is a unique 4-character code that represents a valid locality (unique type location) within a country, state, or province in which it is located. A place name is the criteria for the selection of the geographical code. A place name is not unique and may be duplicated within geographical areas. However, when the geographical code is used in conjunction with the second element (COMMON LANGUAGE Geopolitical Code - character position 5 and 6) of the CLLI Code, that 6-character code is unique worldwide.

**Geographical Code Application.** The COMMON LANGUAGE Geographical Code is the first element of each CLLI Code Set format. CLLI Codes must be created using the proper geographical code in the first element (character positions 1-4) of each of the CLLI Code formats. The address of the site to be coded will determine the proper geographical code. The CLLI Code will identify the precise point within a place. Geographical Codes for Military Locations and International Airports are to be used if a site to be coded is located within the premises. Geographical Codes for Townships or Minor Civil Divisions (MCD) are to be used if the code exists and the site to be coded lies within the township outside the boundaries of an incorporated place.

**Place Description.** A place is generally described as a municipal locality or similar type area in the world. Such a locality may be referred to as a city, town, suburb, village, hamlet, municipality, or other types of incorporated places. When a required location lies outside the boundaries of an incorporated area, a geographical code will be assigned to identify that area. Some of these areas are identified as county, parish, township or minor civil division, census designated place, department or territorial subdivision, prefecture or district, region, canton, etc., depending upon its country and/or state. A geographical code requirement may also include government complexes (i.e., military locations), major international airports, geographic features, e.g., mountains, bodies of water, etc., and satellites. If a metropolitan area includes a suburban area, each locality requires its own geographical code.

Telecommunications exchange areas (BR-751-100-155, *COMMON LANGUAGE® Exchange Area Codes)*, and rate center areas (BR-751-100-150, *COMMON LANGUAGE® Rate Center Codes)*, are not considered to be valid locations for a CLLI Place (Geographical) Code.

**NOTE:** There can be *multiple* geographical codes within an exchange area. In addition, an exchange area can be a single wire center, or include multiple wire centers within a place, or have cross boundary capabilities into two rate center areas. All this indicates that a place, exchange area, and a rate center have a common bond. Although the CLLI Code Set does not prohibit such a plan, it is not a part of the CLLI Code definition that place is tied to any restriction such as an exchange area or rate center even though an exchange area or rate center may well fit the place description. Language Standards recognizes the right of its customers to restrict places within an

exchange area where the CLLI Code Set coordinator is kept informed, and suitable indicators are available for identifying place boundaries.

**Geographical Code Format.** The geographical code field is a 4-character code that accepts only alpha characters. If the place name contains fewer than four characters, Telcordia will assign a 4-character code by replicating the last letter(s) of the place name, if that code combination is available, e.g., ELY will become ELYY.

An (a) indicates any alpha A-Z may be used.

| | Positions 1-4 |
|---|---|
| Basic Edits | (a) (a) (a) (a) |

**Geographical Code Assignment Examples.**

1. **Geographical Codes.** When a place name contains four or more characters, the geographical code will be four characters.

| Place Name | Positions 1-4 |
|---|---|
| Newark | N W R K |
| Jacksonville | J C V L |

2. **Three- (or less) Character Geographical Codes.** All geographical codes created after November 8, 1995 will be 4-alpha character to facilitate electronic bonding. Prior to that date, when a place name contained fewer than four characters, the geographical code was left-justified, and the unused positions were blank-filled.

| Place Name | Positions 1-4 | Name |
|---|---|---|
| Rio | R I O | Wisconsin |
| Rye | R Y E | New York |

3. **Duplicate Place Names - Same Geographical Code.** Place names are not unique, and may appear in two or more states, provinces, and/or countries. For example, in the United States duplicated place names in different states should all have the same geographical code, if possible. The geopolitical code is the discriminating factor between two or more geographical codes.

| Place Name | Positions 1-4 | Name |
|---|---|---|
| Plainville | P L N V | New York |
| Plainville | P L N V | Ohio |
| Madrid | M D R D | Maryland |
| Madrid | M D R D | Spain |

4. **Duplicate Place Name - Different Geographical Codes.** When geographical names are duplicated within the same state, province, county, etc., a unique

geographical code will be created for each duplicated place name. The next political subdivision name (county in this example) is given in parenthesis in the place name field and incorporated into the new geographical code.

| Place Name | Positions 1-4 | Name |
|---|---|---|
| Jacksonville (Center) | J C C T | Pennsylvania |
| Jacksonville (Lehigh) | J C L H | Pennsylvania |

5. **Duplicate Geographical Code - Different Place Names.** The same geographical code may represent different place names in different states, provinces, countries, etc. In this instance, the COMMON LANGUAGE Geopolitical Code is required to provide a unique combination to identify each geographical code location.

| Place Name | Positions 1-4 | Geopolitical Code/Name |
|---|---|---|
| Lymansville | L Y V L | R I - Rhode Island |
| Lynnville | L Y V L | I N - Indiana |

6. **Unique Geographical Codes.** Unique Geographical Codes are provided to identify high seas locations (bodies of water) or to indicate a satellite in earth orbit as a valid place. See Table A under the heading *Unique Locations* for a complete listing of codes.

| Place Name | Positions 1-4 | Geopolitical Code/Name |
|---|---|---|
| Satellite | S T L T | E O - Earth Orbit |
| Atlantic Ocean | A T O N | H S - High Seas |

7. **Reserved Geographical Codes.** Geographical codes that have the word *Reserved* in the place name field of a Geographical Code Practice (BR-751-401-xxx) are not to be used as part of a CLLI Code. These codes are for internal use only for those companies that cannot use geographical codes having special characters in character position 4 and/or 3 and 4. They are marked *Reserved* to prevent new geographical code creation using that particular code combination.

| Place Name | Positions 1-4 | Name |
|---|---|---|
| Rio | R I O | Wisconsin |
| Reserved | R I O O | Wisconsin |

**Non-Licensee Guidelines for Requesting Geographical Codes**. Non-Licensees may request Geographical and Geopolitical codes through the American National Standard Institute, Inc. (ANSI) by contacting the following:

Telcordia
COMMON LANGUAGE® Products Business Unit
Customer Support Center
45 Knightsbridge Road, PY5 5A-235
Piscataway, NJ 08854
Tel: 1-877-699-5577

**Licensee Guidelines for Requesting Geographical Codes.** Licensees may either mail or submit a fax for Geographical and Geopolitical Codes to the Customer Support Center. All other requests should be made in accordance with procedures established in BR-751-000-102 via the LS2 process. Geographical and Geopolitical code requests should be addressed as follows:

| Standard Request (mail) | Expedited (fax) |
|---|---|
| Telcordia<br>COMMON LANGUAGE®<br>Products Business Unit<br>Customer Support Center<br>45 Knightsbridge Road, PY5 5A-235<br>Piscataway, NJ 08854<br>Tel: 1-877-699-5577 | Telcordia<br>COMMON LANGUAGE®<br>Products Business Unit<br>Customer Support Center<br>45 Knightsbridge Road, PY5 5A-235<br>Piscataway, NJ 08854<br>Fax: (732) 336-2778 |

**Geographical Code Response.** Telcordia will assign requested geographical code(s) the same day upon receipt of mail and will notify requestor via telephone or mail of assigned codes. Telcordia will assign requested geographical codes within two business hours upon receipt of a valid facsimile request during a normal work day (7:00 a.m. to 5:00 p.m. ET). The following eight fixed holidays are observed annually at Telcordia:

**New Year's Day** (January 1)
**President's Day** (First Monday after Lincoln's birthday)
**Memorial Day** (Last Monday of May)
**Independence Day** (July 4)
**Labor Day** (First Monday in September)
**Thanksgiving Day** (Last Thursday of November)
**Day after Thanksgiving Day** (Last Friday of November)
**Christmas Day** (December 25)

Within the two-hour time frame, Telcordia will notify the requester, **via telephone**, that processing of the request has been completed, or that a delay may be encountered.

**Geographical Code Request Requirements.** The following criteria must be followed when requesting geographical codes:

- Requirements for geographical code requests vary according to country. The next lowest geopolitical subdivision based upon the Country Code (CC), State Code (SC), or Geopolitical Code (GEOPC) is required for creation of the CLLI Code. See table below for additional information that may be required for a geographical code request.

| CC/GEOPC & Name | SC/GEOPC Subdivision Required | LATA | NPA | Country Code (Dialing Number) | City Code (Number) |
|---|---|---|---|---|---|
| US - United States | States & District of Columbia | Yes | Yes | Optional (1) | Optional |
| US Outlying & Pacific Ocean Territories | See Table A | No | Yes | Optional (1) | Optional |
| CN - Canada | Provinces & Territories | No | Yes | Optional (1) | Optional |
| MX - Mexico | States & the Federal District | No | No | Optional (52) | Optional |
| VE - Venezuela | States, Territories& the Federal District | No | No | Optional (58) | Optional |
| SP - Spain | Provinces | No | No | Optional (34) | Optional |
| NL - Netherlands | Provinces | No | No | Optional (31) | Optional |
| IT - Italy | Provinces (Do not enter region) | No | No | Optional (39) | Optional |
| GE - Germany | District or States | No | No | Optional (49) | Optional |
| All Other Countries | Yes | No | No | Yes | Optional |

On occasion, the following additional information may be required when requesting geographical codes:

- An official map showing where the place exists must be submitted upon request of Telcordia. Acceptable maps include Rand-McNally, County, State Department of Transportation, and Geographical (topography) Survey maps. In the United States, place names determined from the LocateIt™ System must be verified to insure that the requested place is proper, and that the postal place (ZIP Code® area) or greater metropolitan area is not selected.
- The map must indicate the “geopolitical entity” (state, province, country) and the geopolitical subdivision (county, parish, township, department, region, prefecture, canton, etc.) in which the place is located.

- A place name handwritten or typed on a map will not suffice.
- Exceptions to assignment of a Geographical Code to a location that does not appear on a map, e.g., settlements, wilderness areas, or other unincorporated and incorporated (found on the Internet) areas may be made by **Telcordia**, provided the requester has exhausted attempts to find a detailed map, and can provide the other characteristic traits of a place as outlined below.
- Telcordia will make the final determination for the assignment of a Geographical Code that may not appear on a valid map, i.e., settlements, wilderness areas, or other unincorporated areas, such as industrial parks, shopping centers, universities or colleges, county, federal, or state parks, prisons, hospitals, counties, and parishes.
- For remote areas, other supporting information should be provided, e.g., latitude and longitude, nearest city, and/or direction from nearest crossroads, and/or geographical features such as near rivers, lakes, mountains, etc.
- For antenna, transmitter and/or receiver type locations, latitude and longitude are required.
- On occasion, Telcordia may request additional information which will be used to validate a place name before a Geographical Code is assigned, or as a reference source for future requirements as follows:

  a. Postal information, e. g., ZIP Code.

  b. The address or direction from nearest crossroads for the required CLLI Code, and if other address information is available for that location, e.g., entrances facing onto another street, alias (highway name or number), or vanity type street names.

**REFERENCES.** The following sources can be used for reference:

- Rand-McNally Foreign Research Verification (1-800-333-0136).
- National Geographic Verification (1-800-638-4077).
- BR-751-100-050 for additional information concerning Geographical Codes.
- BR-751-100-055 for additional information concerning Geopolitical Codes.
- The LocateIt System and/or vendor GIS software.
- The Internet.

## 6. Geopolitical Code

**Geopolitical Name Description.** Unless a need is demonstrated, all countries are not broken down into their political and/or subdivision by the COMMON LANGUAGE® Products Business Unit. The geopolitical locations that have been subdivided are known as geopolitical codes. These include the States of

the United States, (including the District of Columbia, U. S. Outlying and Pacific Ocean Territories), States of Mexico and Venezuela (including their Federal District), Provinces or Territories of Canada, and Unique Locations, e.g., High Seas and Satellites. The remaining countries are identified by a code represented by their country name.

- **A State of the United States** is defined as one of the 50 states of the United States, the District of Columbia, or United States Outlying and Pacific Ocean Territories.
- **Province or Territory of Canada** is defined as one of the 10 administrative subdivisions of Canada, or 3 geographical territories (i.e., Yukon, Northwest, Nunavut) under jurisdiction of Canada.
- **A State of Mexico** is defined as one of the 31 states and the Federal District.
- **A State of Venezuela** is defined as one of the 20 states, 2 geographical territories, and the Federal District.
- **Country** is a territorial division usually defined as having independent national status, as well as a defined territory and government. In addition, some geographical areas such as provinces, territories, atolls, possessions, domains, or portions of a larger entity are also included in the listing of Geopolitical Codes. Additional information concerning the Language Standards Geopolitical Codes (and a complete listing of the codes) may be found in BR-751-100-055.

  **NOTE:** Each country is represented by a 2-character alpha code that corresponds to an International Dial Code (IDC). Examples of an IDC having two assignments per country are East Germany (GS) and West Germany (GE), North Korea (KR) and South Korea (KO). While Germany has been united, it still maintains two IDC Codes. Occasionally, more than one IDC is assigned to a country. When this occurs, a separate 2-character alpha COMMON LANGUAGE Geopolitical Code must be assigned for each additional IDC.

  The IDC Code is assigned by the International Telecommunications Union (ITU), also known as Union Internationale Des Telecommunications (UIT) under the United Nations.

  For North America, Telcordia recaps and publishes the IDC codes in the Local Exchange Routing Guide (LERG). Since the CLLI Code assignments were made before full code agreement between countries, we do conflict with the International Standards Organization (ISO) - ISO 3166 standard.

  Listed below are two IDC code conflict examples. Consideration was given to adopting the American National Standards Institute (ANSI) Country Code Standard (Z39.27-1984) and/or ISO 3166 as a Telcordia standard; however,

because of uniqueness requirements, neither the ANSI nor the ISO Standard could be adopted for use by Telcordia.

| Telcordia Standard | ISO Standard |
|---|---|
| CA = California, United States | CA = Canada |
| CN = Canada | CN = China |

**Geopolitical Code.** The geopolitical code is a unique code which represents a valid geographical entity as defined above. When the geopolitical code is used in conjunction with the geographical code (character positions 1-4), this 6-character code becomes a unique code worldwide.

**Geopolitical Code Format and Application.** The Geopolitical Code is a unique 2-character fixed length alpha code that represents a valid geographical entity. When the Geopolitical Code is used in conjunction with the Geographical Code (character positions 1-4), this 6-character code becomes a unique code worldwide. The Geopolitical Code, when used in any of the CLLI Code Formats, always occupies character positions 5 and 6 of an 11-character CLLI Code. The COMMON LANGUAGE Geopolitical Code is required to uniquely identify each COMMON LANGUAGE Geographical Code location.

| Geographical Code (Positions 1-4) | Geopolitical Code (Positions 5-6) | Remarks |
|---|---|---|
| **(a) (a) (a) (a)** | **(a) ( a)** | **< Basic Edits** |
| H R B G | P A | Harrisburg, Pennsylvania - (United States) |
| H L F X | N S | Halifax, Nova Scotia - (Canada) |
| A M S T | N L | Amsterdam, Netherlands |
| C E L Y | G J | Celaya, Guanajuato - (Mexico) |

**Geopolitical Code Requests.** Requests to modify or expand this code set must be submitted by a Telcordia customer CLLI Code Set coordinator to the COMMON LANGUAGE® Products Business Unit at Telcordia. Requests for Geopolitical Codes will be verified with either the United Nations or the State Department for validity as to country recognition.

See Geographical Code request instructions for Geopolitical Code requests.

**Unique Locations.** A unique location is defined as either a satellite in an earth orbit or body of water. Unique locations are assigned in the CLLI Code design system in the following way:

- **Earth Orbit.** When it is necessary to encode satellites in earth orbit, the 4-character COMMON LANGUAGE Geographical Code field is assigned the mnemonic code “STLT” (Satellite), and “EO” (Earth Orbit) is assigned in the 2-character COMMON LANGUAGE Geopolitical Code field.

**Example**:

| Unique Name | Geographical Code | Geopolitical Code |
|---|---|---|
| **Position >** | **1 2 3 4** | **5 6** |
| Satellite | S T L T | E O |

- **High Seas.** High Seas locations are off the land's edge without regard to the 3-, 12-, or 200-mile limit, etc., recognized by various countries. In assigning new codes, Telcordia will consider the International Overseas Regional Coordinator (client input) to determine where the land ends and the body of water begins and the use of the High Seas (HS) Code.
- **Ships at Sea.** When it is necessary to encode ships at sea, use the home port (port of registration) COMMON LANGUAGE Geographical and Geopolitical Code.
- **Underseas Cable or Repeaters**. When it is necessary to encode underseas cable or branching repeaters associated with cable, a unique 4-character COMMON LANGUAGE Geographical Code field identifies the body of water, and the mnemonic code “HS” (High Seas) is assigned in the 2-character COMMON LANGUAGE Geopolitical Code field. The composite 6-character code will uniquely identify bodies of water, such as seas, oceans, lakes, gulfs, straits, bays, etc.

| Unique Name | Geographical Code | Geopolitical Code |
|---|---|---|
| **Position >** | **1 2 3 4** | **5 6** |
| Bearing Sea | B R G S | H S |

**NOTE:** CLLI Network Entity Codes (for switching and/or nonswitching) or CLLI network support site codes may be assigned to a High Seas or Earth Orbit location, as appropriate. For a complete list of unique COMMON LANGUAGE Geographical and Geopolitical Codes associated with satellites and bodies of water, see Table A.

## 7. Network Site Format

**Network Site Code Format.** The Network Site Code Format is a composite 8-character code comprised of three elements. The first two elements are for the Geographical and Geopolitical Codes that occupy character positions 1 through 4, and 5 and 6 respectively. The third element denotes the Network Site Code that occupies character position 7 and 8.

**Network Site Code.** The CLLI Network Site Code is a 2-character fixed-length field comprised of either 2 alpha characters (a)(a) or 2 numeric characters (n)(n), e.g., RK or 32, and occupies character positions 7 and 8 of the 11-character CLLI Code. A Network Site Code is *never* an alphanumeric code, e.g., H5 or 3M.

**Network Site Code Development.** Network Site Codes are developed, assigned, and managed by Telcordia customer CLLI coordinators unless they choose to delegate authority. They are assigned to the geographical and geopolitical location in which they are physically located. When a building is outside the boundaries of an identified place, a Geographical Code should be requested to identify that place.

**Network Site Definition.** A network site is defined for CLLI Code purposes as any existing or proposed building structure, enclosure, (roofed and walled), or location where there is a need to uniquely identify one or more functional entities as described in Tables B, C, D, and E. For a building to qualify for a network site code, it must be large enough to allow a person to enter and move around inside. This includes central office buildings (exchange carrier and interexchange carrier) buildings, business and commercial offices (customer buildings), microwave radio relay buildings and earth stations (the radio tower is adjacent to or attached to the building), garages, headquarters buildings, sheds and small buildings, phone centers, controlled environmental vaults (may be underground and contain repeaters, pair gain terminals, integrated digital loop carriers, and/or remote switches, and building complexes). A building complex is defined as two or more buildings interconnected by walkways or tunnels, or sharing a common wall.

A building also has many names and labels. There is the label for each technology located within the building, a name for each application of service provided by the technology located within the building, industry pseudonyms and landmark names. In some cases, there is a name and address for each entrance into a building.

Network Support Site locations (e.g., repeaters, poles, manholes, etc.) are not to be identified through use of a Network Site and/or Network Entity Code. However, a structure on which or in which a non-building type location is located may be assigned a Network Site Code if it is absolutely necessary to identify Network Entities within it. Network Entities do not include those “things” that can or should be identified with Network Support Site Codes.

**Network Site Code Rules.**

- A network site code has a unique address within a geographical area.
- Only one network site code can be created at a specific address.
- A network site code must have only one primary address which is recorded in address field 1 in CLONES.
- Network sites having multiple addresses requiring only one 8-character network site code, must have all addresses (including vanity-type address and highway numbers) recorded in address fields 1-4 in CLONES, as required.
- A single building, under a single roof, with multiple addresses (suites, rooms, shops, floors, etc.) must have only one building (network site) code. Network Entity codes will be used to identify each suite, shop, room, floor, etc., using the indicated field (FL/STE/RM) in CLONES.

**Building Complex Definition.** A building complex is defined as two or more buildings interconnected by walkways or tunnels, or sharing a common wall.

- A building complex must be identified with a single network site code if it has one street address. Do not use suites, rooms, shops, or floors as part of the address.

**Guidelines.** When a single network site code for the building complex is used, all network entity designations within the complex must be unique. When the equipment and facilities in two (or more) buildings share a common frame, the equipment, facilities, and frame for all the building complex entities must be identified as being in only one of the buildings.

**Limitations.** Certain network entity codes have limited power, e.g., RS(n), RL(n), because a complex may have more than ten buildings. Complex coding requires equipment sharing and interconnection by tie or house cable.

- A building complex (universities, hospitals, military bases, or other government complexes) may contain many buildings, but if the complex has only one address, it will have only one network site code. See following bullet item.
- A building complex may qualify for unique network site codes for each building if each building also has a unique street address or identification. If there is a requirement to code more than one building in a complex having only one address, building numbers or names, e.g., 444 HOES LN (BLDG 1) must be entered into the address field using parenthesis to provide a unique address for that particular building.

**Guidelines.** When the equipment and facilities in each building are unique, or future additions indicate separate requirements, it is proper to code each building separately.

**Limitations.** Geopolitical code power is limited to 776 buildings for each place. When a company elects to code each building in a building complex using a separate building code for each building in the complex, all network entities common to two (or more) of the buildings must be assigned to only one of the network site codes. Note: A building with multiple addresses is not a complex.

**NOTE:** CLLI coders should follow procedures in this Practice, the Methods and Procedures document, and the CLONES User Guide for validating a place or address to prevent duplicate network site assignments.

**Coding Guidelines for Unknown Addresses.** CLLI Codes can be created for Network Site, Network Support Site, or Customer Site locations when the address of the site to be coded is unknown, e.g., for new subdivisions or locations where no address data is available due to new construction. To create any of the above CLLI Code Formats, the Geographical and Geopolitical Codes must be known and used. The address field in CLONES should contain the following wording:

> **2000-1 Planning.** (Anticipated year effective and site number [one for each location required within a specific geographical area] marked on plat or survey for tracking purposes.)
>
> The optional data field in CLONES should contain some type of information about that site, e.g., subdivision name. If the above guidelines are followed,

a CLONES report can be used to update CLLI code address data when information becomes available.

**Temporary Structure.** When telephone equipment (including a switching machine) and/or personnel are temporarily located in a mobile trailer (or any temporary structure), the trailer must be identified only when in service. The trailer may be identified and coded as a separate network site, or it may be included as part of an existing network site with which it is associated while in service. If this trailer includes a switching machine and requires a CLLI Code, the Network Entity Code should be developed in accordance with Network Entity Code Assignment Procedures in the following paragraphs.

**Duplicate Network Site Codes.** This paragraph refers to duplicate codes created after October 30, 1988. Incorrect codes created prior to the conversion to CLONES, that represent embedded records too expensive to convert, will be retired.

On occasion, a duplicate network site code will be created at a location where a code already exists. When a duplicate code is found to exist, the code with the oldest create date, as indicated in CLONES, will be considered the correct code (provided that the code is of correct CLLI Code format). The correct CLLI Code format implies the following:

- The assigned geographical and geopolitical codes must be correct based upon the address of the site to be coded.
- Addressing conventions must follow standard procedures as defined in the Methods and Procedures document.

The incorrect code must be marked for deletion or put in an inactive status by the record creator within sixty days after receipt of a formal notification from the record creator or (Telcordia) having the proper code.

**Non-Bell System Customer Building Code - (Grandfathered).** The retired definition for this code is that the alpha character “X” in character position 7 denotes central office buildings owned by non-Bell System customer local exchange carriers that are located in their franchise area and interconnect with Bell System customer facilities. Any location that has been coded with an “X” in character position 7 must not be changed.

## 8. Network Entity Format

**Network Entity Format.** The network entity format is a composite 11-character code comprised of four elements. The first three elements are for the geographical, geopolitical, and network site codes that occupy character positions 1 through 4, 5 and 6, and 7 and 8, respectively. The fourth element denotes the **network entity code** that occupies character positions 9 through 11.

**Network Entity Code.** A network entity code is a 3-character alphanumeric fixed-length field that occupies positions 9 through 11 of the CLLI Code network entity

format. A network entity code is unique within a building. A building may have many entities assigned.

**Network Entity Code Application.** The network entity format will uniquely identify certain entities within a network site location. The CLLI network support site and customer site formats are used to identify other types of locations for telecommunications purposes, including end-user locations. A network entity code can be used to describe functionality, groupings, equipment, circuits and/or facility terminations. Network entity codes may consist of any of the combinations of alpha and numeric characters described in the following paragraphs.

**Encoding Guidelines, Network Entity Codes.** Assignment of a CLLI Code to identify network entities is based on the function of that entity at its assigned location. An entity may have many switching functions, and each function should be identified.

See **Switch** definition in the Glossary to define a switching platform historically described as a "Core" switch, i.e., a switch used in an exchange area for the purpose of connection from a telephony subscriber to the Public Switched Telephone Network (PSTN). We have attempted to specifically identify an integrated system (one physical system) versus a modular system, where one or more specific switching functions are contained in two or more physical systems interconnected by open interfaces, for determination of a **switch**.

Network elements that have been referred to as "switches" by equipment vendors, that do not contain all the basic switching functions as described in the Glossary, should not be identified with a Network Switching Entity Code.

The following set of sample CLLI Code network switching entity codes have been developed to reflect the various functions and switching capabilities of a hypothetical central office configuration composed of the following functions and NXX codes:

- Foreign Exchange 922
- Tandem Switch
- Switching Entity 233
- Switching Entity 232

**Sample Codes:**

| Functions and Switching Capabilities | Entity Code | CLLI Code |
|---|---|---|
| 922, 233, 232 combined to MG1 from Marker Group No. 1 (all units trunked together less tandem) | MG1 | CITYSTBDMG1 |
| 233, 232 originating and terminating locations | MGA | CITYSTBDMGA |
| 922 foreign exchange switch | MGE | CITYSTBDMGE |
| Tandem-originating and terminating - tandem traffic only | 01T | CITYSTBD01T |
| 233 and 232 plus tandem, grouped (orig. and term.) | 02T | CITYSTBD02T |
| Terminating to 233 only | 233 | CITYSTBD233 |
| Terminating to 232 only | 232 | CITYSTBD232 |

**Network Entity Code Development.** Network entity codes are developed and maintained by the COMMON LANGUAGE® Products Business Unit at Telcordia. The CLLI Code Technical Advisory Group (TAG) provides input to the decision-making process. A new network entity code may be requested by submitting a LS2 form to the company CLLI Code coordinator for review by the TAG.

**Network Entity Code Definition.** A network entity is defined as any unique and functional category of the telecommunications classifications. The network entity code, when appended to the geographical, geopolitical, and network site code will provide a unique identification of its location for use in the telecommunications industry.

Typical examples of an entity would define a maintenance group functioning in a unique role, an interface point between an interexchange carrier and an exchange carrier, a specialized unit of equipment associated with a specific function, or the identification of a unit in a multi-unit environment. Within a specific location, multiple entities may exist to identify multiple customers, different types of equipment, administrative areas, etc. A CLLI Code record using network entity codes can be used to define unique customer premises, facility terminations, and circuit terminations. For convenience, refer to Job Aid JA-18 or Section 16 of this Practice for a general reference list of network entity codes. Network Entities are assigned to the following categories:

- Table B is used as a reference for network switching entities.
- Table C is used as a reference for network switchboard and desk entities.
- Table D is used as a reference for miscellaneous network switching entities.
- Table E is used as a reference for nonswitching network entities.

**Network Entity Code Considerations.** Tables B, C, and D describe switch terminations for switch functionality, switch fabric, or switch type and/or

equipment required for network support. Therefore, one entity code is required for switch type listed in Tables B, C, and D.

The network nonswitching entity terminations listed in Table E can be divided into two categories as follows:

| Multiple Entities | Single Entities |
|---|---|
| A, E, F, H, M, N, and S (one code for each customer, person, group, etc.) | D, K, L, P, Q, and T (one code for each category/grouping, etc. Same as for Tables B to E) |

The various entity classifications, as described in the following paragraphs, will uniquely identify a telecommunications location based upon their requirements.

## 9. Network Switching Entity Codes (Table B)

**Network Switching Entities - End Office.** The switching system in an end office may vary. It may have only end office function or provide multiple functions. It can be identified as a complete switching system, a multi-unit switching machine, or a single unit switching machine. An end office may be a host office or a remote switching office. It is the office providing dial tone and is considered the first line of switching. A variety of end office coding possibilities exists.

Network switching category examples for end office entity codes according to technology and/or local needs are as follows:

| Entity Type | Code |
|---|---|
| NXX entity (ANC/COC code) | (n)(n)(n/a) |
| Step-by-Step (sender group) | SG(n/a) |
| Crossbar (marker group) | MG(n/a) |
| Electronic Analog (control group) | CG(n/a) |
| Multi-function Switch (digital control) | DC(n) |
| Electronic Digital (digital switch) | DS(x) |
| Analog/Digital Remote (remote switch) | RS(n/a) |

**Network Switching Entity Code Considerations.** Use the identification categories for network switching entities and procedures discussed in the following paragraphs for end office coding. Table B summarizes the various switching system network entity codes that are allowable.

### A. Complete Network Switching Entity Method

The complete network switching entity codes are identified by a numeric character in position 11 [SG(n), MG(n), CG(n), DS(x), RS(n)] for an end office. This code represents all associated NXXs that are served by that particular switching

machine. Complete switching systems that indicate technology are identified by using this method. This method of uniquely identifying complete network switching entities for end offices is recommended because fewer code changes are required.

**NOTE:** The general rule has been to use the group number of the switch. See below.

| End Office Switch Type | CLLI Code |
|---|---|
| Step-by-Step (SXS) Central Office, Sender Group 1 (NXX units 223, 224) | ALSTNHLRSG1 |
| No. 5 Crossbar (5XB), Marker Group 400 (NXX units 542, 543, 671) | NWRKNJ23MG4 |
| Electronic Switching System (ESS™), Control Group 0 (NXX units 621-6, 867, 284, 463-4) | MILWWI13CG0 |
| Digital Switching System (NXX units 223, 265, 424, 523, 727) | NWRKNJBRDS0 |
| Remote Switch (NXX unit 555) | ATLNGADTRS0 |

### B. Single Network Switching Entity Method

Electro-mechanical, analog and digital switching systems may be identified by using their associated numeric 3-character all-number calling (ANC) or central office code (COC). The ANC/COC code is the part of the North American Numbering Plan (NANP) architecture referred to as the 3-digit office code of form NXX.

The application of network entity code (n)(n)(n) does identify a specific service termination. This method of identifying a single switching network entity code (n)(n)(n) is not preferred for several reasons. It does not identify the type of switch technology employed, and secondly when additional NXXs are added to the switching machine, new network entity codes will be required to identify these multiple NXX combinations. The preferred codes should be the appropriate SG, MG, CG, DS, and RS network switching type entity codes.

**NOTE:** The general rule has been to use the NXX code (sometimes referred to as COC - Central Office Code) of the switch - see examples below.

| End Office Switch Type | CLLI Code |
|---|---|
| Step-by-Step (SXS) Central Office, Sender Group 1 (NXX unit 223) | ALSTNHLR223 |

### C. Multiple Network Switching Entity Method

This method of uniquely identifying multiple network switching entities for end offices is identified by an alpha in character position 11. The multiple network switching entity codes [SG(a), MG(a), CG(a), RS(a)] for an end office identify various combinations or variations of complete switching systems used in the CLCI-MSG Code format. The network entity code (n)(n)(a) may also be used, but it is not recommended because the generic switch classification is not identified.

**Example 1.** This example provides guidelines for coding host/remote switching systems used in the CLCI-MSG Code format. When an end office becomes a host office for a remote switch, the CLLI Code coordinator may select the first two characters of the host office code and add an alpha code (observing the restrictions applied to character position 11) to identify the combination. The host and remote offices would retain their original codes. The NXX codes identify the units used in translations for trunk termination.

| End Office Combinations (Host & Remote) | CLLI Code |
|---|---|
| Before host/remote implementation (Analog) switch NXX units 223, 265, 424, 523, and 727 | NWRKNJBRCG0 |
| After host/remote implementation (Analog) switch NXX units 223, 265, 424, 523, 727, and 555 | NWRKNJBRCGA |
| Remote Switch (NXX Unit 555 Host (NWRKNJBRCG0) | NWRKNJDTRS0 |

**Example 2.** This example provides guidelines for coding switching systems used in the CLCI-MSG Code format when there is a requirement to create a code to represent an end office where not all the NXX codes are required for trunking applications. Use the following guidelines:

| End Office Code Variation | CLLI Code |
|---|---|
| Electronic Switching System (ESS), Control Group 0 (NXX units 623, 624, 625, 626, 867, 284, 463, 464) | MILWWI13CG0 |
| Electronic Switch System (ESS), Control Group 0 (NXX units 623, 624, 625, 626) | MILWWI13CGA |
| Electronic Switching System, (ESS) Control Group 0 (NXX units 463, 464) | MILWWI13CGE |
| Electronic Switching System, Control Group 0 (NXX units 876, 284) | MILWWI13CGF |
| Digital Switching System (NXX units 223, 265, 424, 523, 727) | NWRKNJBRDS0 |

### D. Network Switching Entities - Tandem Office

This Network Entity Code may be used to identify local tandem, toll tandem, or access tandem offices. A tandem office is defined as an intermediate switching office for interconnecting end offices and/or toll offices. Note that tandems (and combinations) always have alpha character “T” in character position 11. Examples of tandem office entity codes are as follows:

- **Individual Tandem-(n)(n)T**
  This Network Entity Code identifies a stand-alone tandem. It may be used to identify an interLATA or intraLATA tandem.
- **Tandem Combinations-C(n)T**
  This Network Entity Code is used to identify tandem combinations, multiple

tandems, or multiple tandem trunking terminations, i.e., tandems with common trunking.

- **Switchboard and Tandem Combination B(n)T**
  This Network Entity Code identifies an interLATA or intraLATA tandem multipled to an associated switchboard. This code may be used to identify the combination of a tandem at one location and a switchboard at another location. The place, state, and building code of the tandem should be used in character position 1 through 8 of the CLLI Code.
- **Other Tandem Combinations (n)GT**
  This Network Entity Code is used to identify combinations of a tandem and end offices and tandem with operator services. It indicates that operator service capabilities are associated with the tandem portion of the switch. Typical examples of vendor products are 5ESS with Operator Service Position System (OSPS), DMS®100/200 and DMS200 with Traffic Operator Position System (TOPS™), or Operator Concentrator (OC). The Operator System may or may not be collocated.
- **Electronic Tandem Private Network ET(n)**
  This Network Entity Code supports private network tandem functions in either a partitioned or stand-alone operation. This code identifies a corporate network switching machine for official use.

**Guidelines:**

- When there is dedicated trunking into or out of this tandem combination (n)GT, the tandem identification (n)(n)T must be used. When the code is intended to include only the end office function, use the appropriate end office network entity code [e.g., CG(n), DS(x)].
- When the code is intended to include only the tandem office function, use the network entity code (n)(n)T.
- When the code is intended to include the end office function and the local tandem office function, use the network entity code (n)GT.
- When the code is intended to include the end office function and the toll tandem office function, use the network entity code (n)GT.
- When the code is intended to include the tandem office function and its associated operator system, use the network entity code (n)GT.

### E. Multifunction Combination Network Entity Code - DC(n).

The multifunction network entity code DC(n) identifies a digital switching system that has end office and tandem functions. The DC(n) code was principally developed for use by companies who use the TIRKS® system and may only have applications as a location code for other companies where a facility terminates in a multifunction type switch. The DC(n) code serves as a master location code in the TIRKS system for the local (single, complete, or multiple network entity codes) and tandem network entity codes used in the central office. The DC(n) network entity code should be used to identify terminations of integrated carrier facilities in a

multifunction switch. In a TIRKS system environment, this code will also be used to maintain equipment inventories for those switches and mountings used for digital carrier facility plug-ins. *The DC(n) network entity code is not to be used to identify message or special service circuits; the network entity code will be used for the required function of the switch as appropriate, e.g., DS(x), (n)(n)T, (n)GT.*

**Example:**

| Multifunction Digital Switch | CLLI Code |
|---|---|
| Digital Switching System, e.g., 5ESS®, DMS100/200 (NXX units 223, 265, 424, 523, 727) | NWRKNJBRDC0 |
| Digital Switching System (NXX units 223, 265, 424, 727) | NWRKNJBRDS0 |

### F. Digital Packet Device - (n)(x)W

Packet switching is a transmission method by which data messages are broken down into segments called “packets.” Packet switches provide routing and switching, with network paths established only when data is actually being transmitted. The following examples identify types of packet devices identified by the (n)(x)W network entity code:

- Packet Switch (PS).
- Packet Switch Node (PSN).
- Access Concentrator (AC).
- Packet Assembler/Disassembler (PAD).
- Signal Transfer Point (STP).
- Signal Relay Point (SRP), e.g., A-link concentrator or consolidator.
- Protocol Converter.
- Datakit for CO-LAN
- Frame Relay, Routers, and Switched Multimegabit Data Service (SMDS).
- Synchronous/Asynchronous Multiplexers (SAMs).

### G. ATM Switch - BB(x).

The network switching entity code BB(x) identifies an Asynchronous Transfer Mode (ATM) switching system. An ATM switch will provide the transfer of fixed size 53 octet cells, capable of mixing a wide variety of traffic such as, voice, video, fax, and data. This transfer occurs using static or dynamic ATM connections, e.g., Permanent Virtual Circuits (PVCs), Switched Virtual Circuits (SVCs), Permanent Virtual Paths (PVPs), or Switched Virtual Paths (SVPs). An ATM switch provides network functions, such as multiplexing a number of ATM connections onto a single physical connection, manages congestion and flow control, Quality of

Service (QoS), and provides the management of signaling, routing and connectivity for point-to-point and point-to-multipoint connections.

**NOTE:** The overflow code is B(a)(n).

**H. Call Agent - CA($x^1$)**

The Call Agent Virtual Switch provides program control and call control software to manage distributed high performance network gateway equipment (hardware) using, but not limited to, Simple Gateway Control Protocol (SGCP). The Call Control Agent provides the intelligence to control call features, billing messaging and the overall node-to-node signaling for both on-net (IP) and off-net (PSTN) calls. Key features of this architecture include: open, standardized protocols to deliver broadband services including video, fax, voice (including VoIP) and data traffic. Traffic may be transported by any physical layer technology.

$x^1$ indicates any alpha A-Z (except B, D, I and O) or numeric 0-9 may be used.

**I. Video Analog/Digital Switch - VS(n).**

This network entity code is used to identify an analog or digital video switch. Analog switches may switch a baseband or bandpass signal and remodulate an RF (Radio Frequency) signal. Digital switches will switch between ports of like bit rates, or variable bit rates with ATMs (Asynchronous Transfer Mode).

- Television Operations Center (TOC) - Video Matrix.
- Digitally controlled video switches.
- Interactive video switching systems for conferencing, teaching, broadcasting, and surveillance.

**J. Cellular/Wireless - CM(x).**

This network switching entity code is used to identify a Mobile Telephone Switching Office (MTSO), Personal Communications Services (PCS) Switching Center, Bellboy (Paging) Control Terminal, or Radio Common Carrier (RCC) Terminal. These terms all fall into a category of service called “Wireless Service.” A Wireless Service Provider (WSP) offers interconnection with the Public Switched Telephone Network (PSTN) for cellular mobile carrier telephone and PCS subscribers, and many may include numeric and alpha paging. A cellular switching office provides originating and terminating service for cellular mobile carrier phone subscribers. Wireless Service Providers can establish connections to end offices and to other carriers interconnected through various interfaces, e.g., Type 1, Type 2A, and Type 2B.

**K. Special Switching Applications.**

Special switching equipment is usually associated with services for a private network.

- **Common Control Switching Arrangements Z(a)Z.** This code is used to identify a Common Control Switching Arrangement (CCSA) and an Enhanced

Private Switched Communications Service (EPSCS), or Signaling System 6 (SS6).

- **Teletypewriter Switching Systems X(x)X (Retired).** This code was originally used to identify a teletypewriter switching system (TWX) used in the message network and/or having CCSA switching functions. *This code now serves as an overflow code for the (x)MD entity code.*
- **Access Circuit Termination in a LEC Centrex by an IC-(n)(n)C.** This code is used to identify the interconnection of a customer through the Local Exchange Carrier (LEC) provided Central Office (CO) Centrex by an Interexchange Carrier (IC).

## 10. Network Switchboard and Desk Entity Codes - (Table C)

Network Switchboard and desk building entities are uniquely identified by the character “B” in position 11 of the CLLI Code format. Many of these specialized switching systems are associated with Business Customer Services. If local requirements dictate that a PBX location must be identified with a Network Entity code, this format may be used even if the PBX is located on customer premises. For large PBXs that may be serving the same function of a central office, or if the switching equipment is not located on the customer premises, then it’s advisable to code the PBX with its NXX number. A set of prescribed 3-character switchboard and desk building entity codes which may be assigned to character positions 9 through 11 are as follows:

| | |
|---|---|
| (n)BB | Combined Toll, DSA, and CAMA board |
| (n)CB | Centralized Automatic Message Accounting (CAMA) board |
| (n)DB | Dial Service Assistance (DSA) board, e.g., #13C board |
| (n)EB | Traffic Service Position System (TSPS) board (electronic) |
| (n)IB | Directory Assistance (Information) and Completion board, e.g., #23 board |
| (n)JB | Traffic Operator Position System (TOPS), Operator Service Position System (OSPS), or Operator Concentrator board /Administrative Group |
| (n)LB | Special boards [Conference, Mobile, Marine, or Switchboard Converted to Special Operation Service Traffic (SOST)] |
| (n)MB | Manual Board |
| (n)NB | Intercept Board, e.g., #2A board |
| (n)OB | Service Observing Switchboard, Service Evaluation Center, and Signal Converter Allotter for Service Evaluation System, e.g., #10 SOB |
| (n)PB | Telephone Company Private Branch Exchange (PBX) board, e.g., #608A board, dimension |
| (n)QB | Combined directory assistance, intercept, and completion board, e.g., #23 board |
| (n)RB | Rate and Route Desk |
| (n)TB | Toll Board (Through and Outward) |

(n)UB Universal Traffic Service Position (TSP) board
(n)VB Overseas Toll Board
(n)WB Inward Toll Board
(n)ZB Auxiliary Board or other Switchboard and Desk Entities
(n)(n)B Teleconference Board (special switching arrangement involving boards - Teleconference Network Services Complex

## 11. Miscellaneous Network Switching Entity Codes - (Table D)

Miscellaneous network switching entities are described, generally, as the variety of mechanisms or systems that serve as the Network Terminating Interface (NTI) or end point for the switching network. The NTI is the point of demarcation within a customer-designated premises at which the service provider's responsibility for the provision of service ends. The end point terminations include announcement or other miscellaneous terminations. A set of prescribed 3-character miscellaneous network switching entity codes which may be assigned to character positions 9 through 11 are as follows:

- **Announcement Machine (x)AD.** When identifying announcement systems, e.g., #7A, the announcement portion of the system should be coded (n)AD. When (n)AD exhausts at a location, the overflow code (a)AD may be used. Announcement Machine includes voice or message storage systems, interactive voice systems, public announcements, mass calling announcements, audio response systems, time and weather, and others. See “Distributors” for coding the distribution portion of an announcement system.
- **Central Office Centrex (x)XD.** Centrex is a hardware/software service whereby the switching and control functions are “centralized” (central exchange) in a part of the central office itself. This entity code does not identify a centrex customer, it identifies the functionality of the switch. The service originates in a central office rather than on-site like a PBX. Centrex allows the customer a large number of features and services that interface with the customer premises equipment for voice and data applications, as well as LAN and ISDN features. Centrex permits station-to-station dialing, and allows direct inward dialing and station identification on outgoing calls.
- **Combined Operator, Trouble, and Machine Intercept (n)ND.** This code will identify a #6A desk.

- **Distributors.** The following distributors are the main feed points for the various announcement systems. See "Announcement Machine" for coding the announcement portion of time, weather, and certain automatic distributors.

| | |
|---|---|
| Time | (n)TD |
| Weather | (n)WD |
| Automatic | (n)CD - Automatic Call Distributors (ACDs) are used to automatically switch large volumes of incoming calls through attendant (answering personnel) positions. ACDs are commonly used Telephone Company and commercial applications, such as airline reservations bureaus. |
| Other | (n)DD - This category would include a sports results board. |

- **Emergency (911 Service)-(n)ED.** This code identifies the central office equipment required for E911.
- **Intercept-(n)ID.** This code is used to identify an automatic intercept system, or a file access system (FAS).
- **Network Termination Interface-(x)MD.** This network termination interface entity code is used to identify an authorized trunk-side switched service termination in conjunction with telecommunication services. This code represents the "meet point" or "hand off" of responsibilities. It is associated with coding of message trunks ordered under one of the Switched Access Tariffs. Only one (x)MD code is required per customer, per switch, per building.

  **NOTE:** Network Entity codes X(x)X, X(x)Y, X(x)Z, and (n)(n)Z are used as overflow codes for code (x)MD to provide more code power.

- **Other Switching Termination (x)MD Retired Definition.** Please note, the original use of this entity code identified the following:

  Improved Mobile Telephone System (IMTS) - See Network Entity Code CM(n).
  Mobile Control Terminals - See Network Entity Code CM(n).
  Dial Tone Speed - See Network Entity Code A(x)(x).

- **Position Link Frame (n)PD.** This code is used to identify a position link frame for an operator terminal or desk associated with a traffic service position.
- **Rate and Quote System-(n)QD.**
- **TSPS Common Control Unit (x)UD.** This code is used to identify a TSPS control unit and its associated Remote Trunking Arrangement (RTA) or tandem connection.

# 12. Nonswitching Network Entity Codes (Table E)

**Nonswitching Network Entity Description.** Nonswitching network entities are defined as individual groupings of equipment, job functions, groups, or service centers that are directly related to the interconnection and transmission of messages and/or data between or at switching entity locations. When we use the term "Nonswitching Entity", we are referring to an individual grouping of equipment performing the function, not individual pieces of equipment or property. For example, a Frame is a single entity, even though there may be several bays of equipment. Nonswitching network entities are uniquely identified by suffixing an appropriate entity code to the CLLI Code building (network site) code describing their physical location and are categorized as follows:

- Administrative Group - A(x)(x)
- Concentrator - CT(x)
- Processor Grouping - D(n)n).
- Distribution Node - DN(n)
- Frames - F(x)(x)
- Miscellaneous Nonswitching Entity - H(x)(x)
- Software Cross-Connectable Devices - K(x)(x)
- Pair Gain Central Office Terminals - L(n)(n)
- Support Centers - Ordering, Administration, Maintenance and Provisioning (OAM&P) - M(x)(x)
- Customer Premises Equipment - N(x)(x)
- Radio Equipment (including towers) Collocated with a Building - Q(n)(n)
- Remote Line Entity - RL(n) and RL(a)
- Access Service Termination - W(x)(x)

**Nonswitching Network Entity Format.** Nonswitching network entities are uniquely identified by suffixing an appropriate network entity code to the Network Site code describing their physical location.

**Nonswitching Network Entity Code.** This entity code element occupies character positions 9, 10, and 11 of the Network Site code format. These codes should be assigned in accordance with the following categories:

- **Administrative Groups - A(x)(x).** This network entity code identifies the location of administrative personnel within a network site locaton that primarily perform administrative functions, not (directly) associated with network support. Examples: mailroom, desktop support, motor pool, stock and tool rooms.

- **Example:**

| Description | CLLI Code |
|---|---|
| Network Administration Center | NWRKNJ23AU2 |

- **Concentrator-CT(x).** This code identifies all types of concentrators, e.g., an intercept concentrator. It is also used to identify the Data Station Selector/ Controller (DSS/DSC). Do not code an access concentrator (see Digital Packet Device coding) using this network entity code.

- **Processor Grouping - D(n)(n).** This network entity code identifies the location of groupings of physical hardware and data processors that are associated with ordering, administration, maintenance and provisioning (OAM&P) functions of a network. Examples: SCP (Service Control Point), ISCP (Integrated Service Control Point), AIN (Advanced Intelligent Network), performance monitoring equipment, executive processor for wireless, alternate billing service (automated), card calling processors, collect call timing device (CCTD), coin to collect verification circuit, LIDB (Line Information Data Base) processor.

- **Distribution Node DN(n).** This entity code is used to identify an analog cable TV distribution center usually located in a Central Office. This Distribution Node (DN) receives baseband signals from one or more Head End locations. The Distribution Node converts the baseband signal to a specific radio frequency channel. This radio frequency channel is then converted to an optical signal which is transmitted over the fiber to the Local Node (LN). The Distribution Node may have interactive capabilities for video-on-demand.

- **Frames - F(x)(x).** This entity code is used to identify all hardwired distributing and cross-connect frames in central offices, customer premises, or remote switching and terminal locations that use centralized assignment computer systems for equipment and facilities. This includes frames such as Main Distributing, Carrier Line Distributing, Intermediate Distributing, Toll Distributing, Local or Line Distributing, Wall Distributing, Protector, High Frequency Cabinets, Loop Test Frame (LMOS-Loop Maintenance Operation System), Fiber Distribution Panel, Digital Signal Cross-connect (DSX-0, DSX-1, etc.) frame locations. For example, each line-up of a COSMIC frame is considered a separate frame. In those cases where the transmit and receive frame terminations of analog and digital facilities are separated, a transmit frame and its receive counterpart are considered to be one frame even though they may be located in different line-ups. The general guidelines for DSX Bay or T-CXR repeater bays and COSMIC frames are illustrated as follows:

  — If the bays are adjacent to each other and arranged for inter-bay jumper, only one F(x)(x) code is required.

  — Individual F(x)(x) codes are required for all stand-alone bays, except transmit and receive bays that are separated in the same way vicinity.

— If a location has DSX-bays, a F(x)(x) code is not required for the T-CXR repeater bays because the DSX-bay acts as the cross-connect point. In locations where all the T-CXR systems do not terminate in the DSX-bay, a F(x)(x) code must be added for the T-CXR Repeater bay that is wired directly to the channel bank.

— Each line-up of a COSMIC distributing frame requires a separate F(x)(x) code.

- **Miscellaneous Nonswitching Network Entity - H(x)(x).** The Miscellaneous Nonswitching Entity Code is used to identify the end point of a facility or network interface with customers or end-users. Examples include a facility termination, a location where equipment may be inventoried, or a miscellaneous functional category that cannot be identified by any other nonswitching entity. At an End User (customer location), this code will identify the central office side of a demarcation point or Network Interface (NI).

  This entity code is used at a central office for collocation or as a hub type location to provide unique identification of specific customers.

  This entity code will also be used to identify customer premises, Network Interface terminations at remote Network Site locations, or to identify locations that may contain the following type of terminations for circuits, facilities, or equipment at a given location:

  — Network Channel Terminating Equipment (NCTE)

  — Channel Banks, Asynchronous Multiplexer Equipment, Light Terminating Equipment (LTE), and other types of transmission equipment.

  — SONET Nodes - Equipment used for facility termination (nodes may be referred to as Network Elements or Terminals, Add Drop Multiplexer (ADM) (locations, etc.)

  — “U” Point in an ISDN Application

  — HICAP Facility Terminations (Network Interface) such as fiber, cable, carrier for Non-IC customers in the following applications:

| Terminations At | Type Interface |
|---|---|
| An End User | CLEC to CLEC |
| CLEC/WSP (MTSO) | CLEC to ILEC |
| Cellular Carrier Cell Sites | CLEC to End User |
| Collocation Site | ILEC to End User |
| As a Network Site Termination point for End User to End User | CLEC/ILEC to WSP |

- **Software Cross-Connectable Entities - K(x)(x).** This nonswitching entity code is used to identify software Cross-connectable devices, such as Digital Cross-connect Systems (DCS) that connect the digital carrier channels (DS0

level) at the bit rate, and at the higher DS1-DS3 rate for wideband and broadband applications. The DCS are administered by the telecommunications carrier network design and operations systems to serve the same purpose as a cross connection on a wire type cross-connect frame. DCS allows calls to be routed without having to be demultiplexed. The digital line terminating units associated with DCS, or statistical MUX are identified by the code K(x)(x).

A Time Slot Arrangement (TSA-SLC2000) is used to identify software cross-connectable shelves in network elements other than DCS units.

- **Pair Gain Central Office Terminals - L(n)(n).** This nonswitching entity code may be used to identify stand-alone pair gain central office terminals (COT) at central office and building terminal locations that terminate on a mainframe.

  An IDLC terminates in the switch via an Integrated Digital Trunk (IDT) and on the far end RT, terminates in a Remote Digital Trunk (RDT). (IDLC is coded RL(n) on the far end.) An RT has been traditionally coded as an U(n)(n)(n)(n).

- **Support Centers - OAM&P (Ordering, Administration, Maintenance and Provisioning) - M(x)(x).** This network entity code identifies the location of the network personnel within a network site location that supports ordering, administration, maintenance and provisioning (OAM&P) functions of the network. Examples: Network Operations Center (NOC), test centers, installation/repair centers, circuit provisioning centers. The E(x)(x), P(x)(x), S(x)(x) and T(x)(x) codes should no long be used and have been placed in "**Addendum A - Retired CLLI™ Codes**."

  **Example:**

| Description | CLLI Code |
|---|---|
| Trunking Maintenance Group | HMLTNCMAM35 |
| Carrier Equipment Grouping | TOROONAAM99 |

**REMINDER:** The character "G" is not permitted in position 10; the combination "MG" in positions 9 and 10 identifies marker groups.

- **Customer Premises Equipment - N(x)(x).** This entity code may be used as a switching (e.g., to identify a PBX), or a nonswitching code. This code may be used to identify a unique entity that makes up part of a customer network. The actual equipment can be customer owned and/or leased from a vendor. This code is used on the customer side of the Network Interface (NI), and this code identifies equipment on the customer premises such as PBX, Concentrators, Centrex CU, Channel Banks, Switch Modules, DSX, Data Circuit, and Facility Termination Equipment, or any combination thereof. Assignments to this entity code include LANS and NODAL services located on customer premises. In ISDN this point is an NT1 point.

- **Radio Equipment (including towers) Collocated with a Building - Q(n)(n).** This code can be used where radio antennas and associated

equipment are located in, adjacent to, or physically attached to a building, or on a building, such as central office buildings or large customer buildings. Such sites may include microwave radio-relay repeater stations, mobile and coastal radio, earth stations, personal communication service (PCS) cell sites, or other radio application sites. Radio locations may also be coded using the CLLI non-building (Network Support Site) code.

- **Repeater/Regenerator - RG(x).**

  RG(x) - Repeater/regenerator

  The RG(x) nonswitching entity is used to identify a repeater or regenerator located at a network site.

  A repeater is an opto-electronic device inserted at intervals along a circuit to boost/amplify an analog signal being transmitted. In optical fiber transport systems, an optical repeater is used in approximately the same way to amplify an analog optical signal, which has been attenuated by traveling along a fiber optical cable.

  A regenerator is a receiver and transmitter combination used to reconstruct an original digital signal that consists of positive and negative pulses. Only digital signals can be regenerated. In an optical regenerator, the receiver converts incoming optical pulses to electrical pulses, decides whether the pulses are ones or zeros, generates “cleaned up” electrical pulses, and then converts them to squared off pulses for transmission.

  See the Glossary definition for repeater/regenerator for further information.

- **Remote Line Entity - RL(n) and RL(a).** This is a remote line terminal (e.g., pair gain) that supports end office to customer functionality. This remote line terminal has no trunking capabilities or stand-alone features. This entity code supports both integrated and stand-alone digital loop carrier systems. The remote line terminal provides an extension of line-side functionality from a host office or distant wire center. For integrated digital loop carriers, the host office may be an analog or digital end office, or a remote switch. Entity code RL(a) supports coding of multiple remote line configurations, e.g., more than one remote termination in a building.

  **Example:**

| Remote Line | CLLI Code |
|---|---|
| Off Premises Module (OPM) | NWRKNJ23RL0 |
| Multiple Pair Gain Systems | NWRKNJ11RLA |

- **Access Termination - W(x)(x). This Network Entity Code** is used to identify authorized access service termination (point of interface) in conjunction with telecommunication services for a specific Interexchange Carrier, Radio Common Carrier, or Competitive Access Provider on the following types of access service tariffs:

**Special Access Services (Circuits and Facilities)**

— High Capacity (HICAP) Facilities

— Special access is a dedicated private line from an End User to an access customer terminal location. It includes narrowband, voice grade, program audio, television, wideband digital, and digital access.

**Switched Access Services (Circuits)**

— Feature Group A (FGA) - line side switched access services

— Switched special service circuits, e.g., DID or DOD

— Switched WATS access line or like-type access offering

— Switched Access Service provides a two-point communications path between the access customer terminal location and the telephone exchange service location.

## 13. Network Support Site Format (Table F)

**Network Support Site Format.** The network support site is a composite 11-character code comprised of three elements. The first two elements are for geographical and geopolitical codes that occupy character positions 1 through 4, and 5 and 6, respectively. The third element denotes the network support site code element that occupies positions 7 through 11 of the CLLI Code, network support site format.

**Network Support Site Code Element.** The network support site code element is a 5-character field that occupies positions 7 through 11 of the CLLI Code, network support site format. The network support site code element consists of a fixed-alpha character in position 7, usually with a mnemonic value relating to the type of network support site location, followed by one numeric and three alphanumeric characters.

The following table depicts the network support site format structure, character positions, and the basic-permitted character set for each element:

| Code Element/Character Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geographical Code | a | a | a | a | | | | | | | |
| Geopolitical Code | | | | | a | a | | | | | |
| Network Support Site Code | | | | | | | a | n | x | x | x |

**Network Support Site Code Classifications.** The network support site code elements are classified according to the following categories or combinations of equipment as follows:

- B(n)(x)(x)(x) International boundary crossing points
- E(n)(x)(x)(x) End points
- F(n)(x)(x)(x) Fiber Node
- J(n)(x)(x)(x) Junctions
- M(n)(x)(x)(x) Manholes
- P(n)(x)(x)(x) Poles
- Q(n)(x)(x)(x) Radio locations
- R(n)(x)(x)(x) Repeater locations
- S(n)(x)(x)(x) Toll stations
- U(n)(x)(x)(x) Other network support site locations

**Network Support Site Code Element Development.** Network support site code elements are developed and maintained by the COMMON LANGUAGE® Products Business Unit at Telcordia. The CLLI Code Technical Advisory Group (TAG) provides input to the decision-making process. A new network support site code element may be requested by submitting a LS2 form to the company CLLI Code coordinator for review by the TAG.

**Network Support Site Format Considerations.** One code may be assigned for each category, as required, at a particular location. Multiple network support site codes may be assigned to a specific site (same address), e. g., a manhole [M(n)(x)(x)(x)] can be assigned at the same location as one or more repeaters [R(n)(x)(x)(x)]. Network support site locations are always assigned to the geographical or geopolitical location in which they are physically located. If the network support site location is outside the boundaries of all identified places, a new geographical code should be requested. See guidelines for requesting geographical codes in Section 5 of this Practice. If there is a requirement to identify the structure in which, or on which, a transmitter or receiver is located, use the network site code format described in Section 7 of the Practice instead of the network support site code format.

**Network Support Site Code Element Definitions.** A network support site location is a location at which unique identification is required for any of the following:

**International Boundary Crossing Points-B(n)(x)(x)(x).** An international boundary crossing point is a location on a border between two adjacent countries, e. g., a meet point, or a border interface point for facilities. The international boundary crossing point location should not be used to identify the manhole or pole where the crossing point is located. (Refer to the manhole or pole code for the network support site format.)

**End Point Locations-E(n)(x)(x)(x).** An end point is defined as a location in a network where 2 or more trunk facility routes converge or cross with no cross-connection capability. The end point format may also be used to identify locations where facilities converge at state, province, LATA, or company boundaries. The end point location should not be used to identify the manhole or pole where the junction is located. (Refer to the manhole or pole code for the network support site format.)

**Fiber Node-F(n)(x)(x)(x).** This code is used to identify a location where Cable TV Fibers are terminated. The Fiber Node converts the optical signal to an electrical signal and retransmits this signal over coax towards the customer location. Customer set top boxes are connected to this coax line by way of a "tap." These Fiber Nodes are usually located in a cabinet near the customer premises. It may also have interactive capabilities of video-on-demand.

**Junction Location-J(n)(x)(x)(x).** A junction is defined as a location in a network where 2 or more facility routes converge or cross and has cross-connect capability. This location may or may not have cross-connect capabilities, i.e., fiber splice, handhole, or a cross-connect type meet point. The junction should not be used to identify the manhole or pole where the junction is located. (Refer to the manhole or pole code for the network support site format.)

**Manhole Locations-M(n)(x)(x)(x).** This code is used to identify manhole locations containing telecommunications equipment, such as repeaters or splice locations, etc.

**Pole Locations-P(n)(x)(x)(x).** Pole locations are identified when the telephone pole is the location of the telephone company equipment.

**Radio Locations-Q(n)(x)(x)(x).** Radio locations normally include the entire radio site including the tower, antenna, and associated equipment. These sites may include microwave transmitter and/or receiver, radio relay repeater locations and miscellaneous radio locations such as mobile radio, coastal harbor radio, high seas radio, earth stations [fixed or mobile (floating)], personal communications service (PCS) cell sites or any other radio installation sites that need to be identified. Fixed earth stations are defined as any type of dish that is permanent; they may be located on a tower or just connected to the ground. Mobile earth stations imply that a dish can and will be moved from place to place. These sites may be on poles, billboards, or other structures not normally considered to be buildings. See CLLI Code - network entity format for nonswitching network entity - Radio Sites Collocated With a Building.

**Satellites:** A satellite in earth orbit is identified using the encoding guide for unique places found in Table A. The geographical and geopolitical codes "STLT" and "EO" may be entered in character positions 1 through 6 of the CLLI Code format, and the Radio Code may be entered in character positions 7 through 11.

**Example:**

| Network Support Site Location | Network Support Site Code | CLLI Code |
|---|---|---|
| Early Bird Satellite | Q8232 | STLTEOQ8232 |

**Repeater Locations - R(n)(x)(x)(x).** This network support site code identifies the location of all types of repeaters (except microwave radio-relay repeaters) regardless of where they are positioned, i.e., on poles, pads, or pedestals, in manholes, etc.

**Toll Station Locations - S(n)(x)(x)(x).** This network support site code identifies the location of toll stations that are not served from a local central office but are interconnected to a switchboard.

**Other Network Support Site Locations - U(n)(x)(x)(x).** This network support site code can be used to identify location pair gain terminals, fiber terminals, and other type locations not described in the previous paragraphs. Remote pair gain locations may be remotely mounted subscriber terminals. They may be located on pads, pedestals, or in mini- or maxi-enclosures, vaults, etc. These pads, pedestals, etc., may be located on access roads, parking lots, vacant lots, etc.

**Non-Telcordia Customer Network Support Site Locations - X(n)(n)(n)(n) (Retired).** The use of "X" in the 7th position of this code set identifies a non-Telcordia customer network support site location that interconnects with Telcordia customer facilities. **In the past, "X" was required in character position 7 to denote any non-Telcordia customer, regardless of its interconnection. Existing records will not be changed.**

## 14. Customer Site Format - (Table G)

**Customer Site Format.** The customer site format is a composite 11-character code comprised of 3 elements. The first 2 elements are for the Geographical and Geopolitical Codes that occupy character positions 1 through 4, and 5 and 6, respectively. The 3rd element denotes the customer site code element that occupies positions 7 through 11 of the CLLI Code, customer site format.

**Customer Site Code Element.** The customer site code element is a 5-character field that occupies positions 7 through 11 of the CLLI Code, customer site format. The customer site code element consists of a numeric code in character position 7, an alpha in character position 8, followed by three alphanumeric characters in positions 9 through 11.

The following table depicts the customer site format structure, character positions, and the basic-permitted character set for each element:

| Code Element/Character Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Geographical Code | a | a | a | a | | | | | | | |
| Geopolitical Code | | | | | a | a | | | | | |
| Customer Site Code | | | | | | | n | a | x | x | x |

**Customer Site Code Element Development.** Customer site code elements are developed and maintained by each Telcordia customer with CLONES on-line access and read and write capabilities. Schemes that reserve characters, or groups of characters within the customer code element, should be avoided.

**Customer Site Code Format Definition.** The CLLI Code, customer site format, is used to uniquely identify customer locations. These locations are required to identify customers, circuit terminations, facilities, or equipment for each specific customer for facility provisioning or other requirements. The customer site code format may be used to develop a single code for a customer, or for multiple customers at the same location.

**Customer Site Code Element Consideration.** One code should be assigned for each customer, as required, at a specific location (same address). This code may be used to identify customer locations that include the following:

- Military installations, shopping malls, universities, etc.
- Customer locations associated with a switched service network.
- Customer locations with (CU) centrex installations.
- Customer locations that are required for trunk forecasting.
- Customer locations that are required for design work.
- Customer locations that terminate cable, carrier, or fiber.
- Customer locations that contain NCTE, CPE, and PBX equipment.

**NOTE:** If there is requirement to identify a customer location using the building-code format when more than one entity code classification is required, a building code with its required entity codes should be created, e. g., F(x)(x) and N(x)(x), or H(x)(x).

In coding customer locations, one must consider the necessity of providing necessary information about the location with the need to protect proprietary information about the customer base. Revealing information about location of equipment and type of equipment (such as a PBX or Centrex equipment) makes customer sites vulnerable to competition. The Customer Site format record in CLONES can be marked proprietary.

The formats for both Customer Site and Network Site locations can be assigned to the same address.

**Customer Code Entity Examples.** If the customer location has facilities (cable, carrier, fiber, etc.) to be shared by each customer at that location, a separate code is required to identify the facility termination. For example, the customer code entity **9F999** could be used to identify the facility termination; **1A111** could identify customer A; and **3D101** could identify customer B.

**Examples:**

| Location | Code | CLLI Code |
|---|---|---|
| ABC Company<br>South Street, Newark, NJ | 3C461 | NWRKNJ3C461 |
| XYW Company<br>South Street, Newark, NJ | 2A146 | NWRKNJ2A146 |
| XYW Company<br>Main Street, Newark, NJ | 2K147 | NWRKNJ2K147 |

The Network Site format should be used to identify a customer's location if there is a requirement for forecasting, planning, provisioning, or administrative needs. Another reason to use the Network Site format may be because there is a great deal of switching equipment, frames, administrative units, company computers, maintenance groups, or related entities on the premises.

## 15. General Guidelines for Assigning CLLI Codes

**Encoding Guidelines - Fiber and IDLC (Integrated Digital Loop Carrier)**
Currently, fiber is carried to a RT (Remote Terminal) before distribution to the premises. The interface at the customer premises can be at the RT, or hung on the customer premises before terminating directly to an Optical Network Unit on a pedestal, or at the customer premises. Each scenario can be addressed with a different code format. The codes that apply to the precise location can identify the RT termination (RLn), carry a unique network support site code (anxxx), carry a customer code or service termination point (naxxx). If the network site code format is adopted, it would require considerable code power to serve the potential community of users. There is not enough power to code every customer premises with a unique network site code. The following coding is recommended:

- an RT located in a building RL(n)
- an RT not located within a building (anxxx)
- an Optical Network Unit at the customer premises (naxxx)
- an Optical Network Unit at a pedestal (Unnnn), or on a pole (Pnxxx), or in a manhole (Mnxxx)

# 16. CLLI Code Set Exhibits, Figures, and Tables

This section includes exhibits and figures that display CLLI Codes described in this Practice. These exhibits have been developed for use as encoding and job aids.

**Exhibits and Figures**

1. CLLI Codes Assigned to Various Locations
2. Circuit and Facility Equipment Termination at Customer Premises
3. Multiple Entities Within a Single Building
4. EC, IC, and Customer Location Equipment
5. Host Office, Remote Switch, and Subscriber Line Carrier
6. Typical Types of Network Locations Requiring CLLI Codes
7. Central Office (CO) Entity Coding
8. Distribution Network-Digital Loop Carrier
9. Location Coding
10. CLLI Code Structure

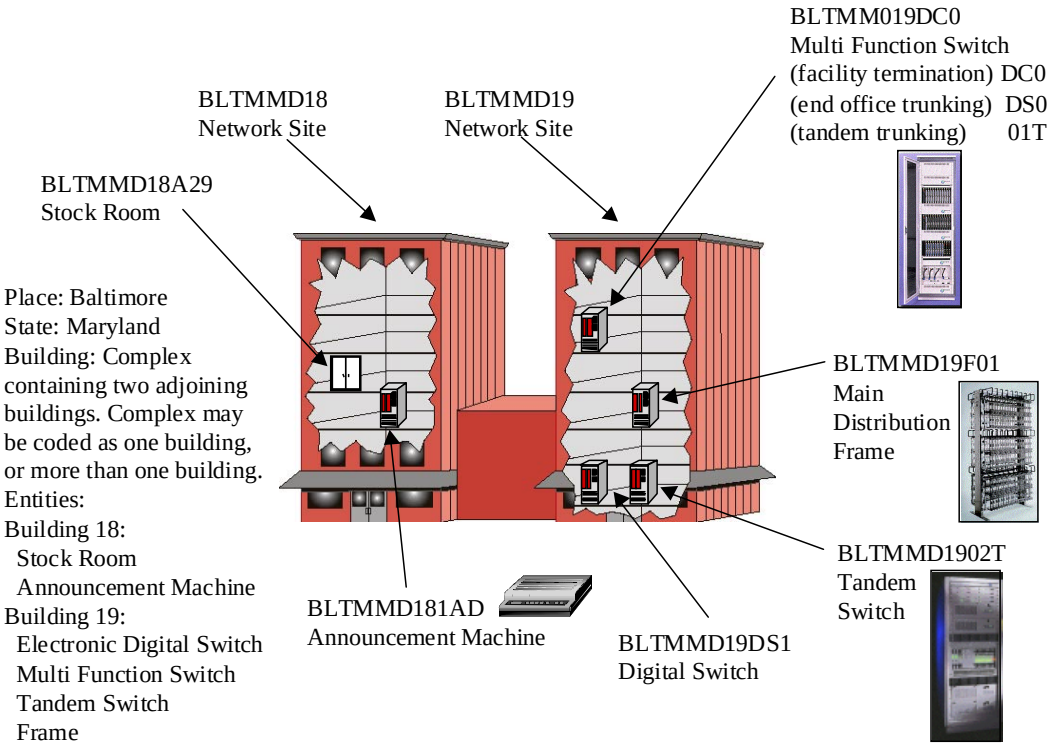


**Figure 16-1.** CLLI Codes Assigned to Various Locations

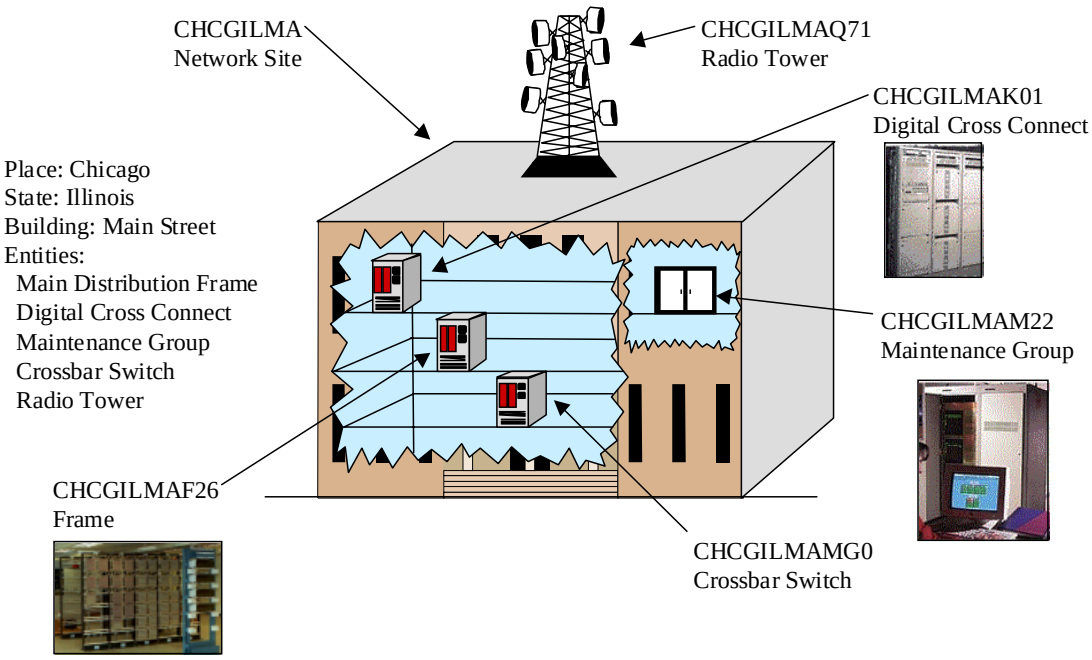


**Figure 16-2.** CLLI Codes Assigned to Various Locations

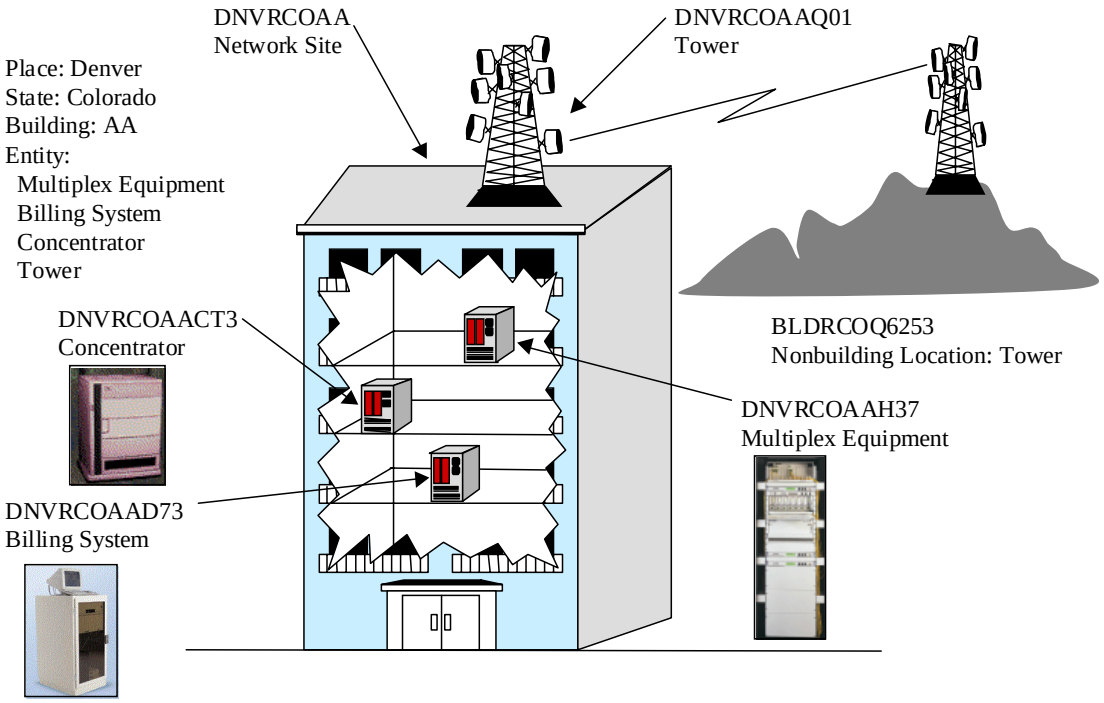


**Figure 16-3.** CLLI Codes Assigned to Various Locations

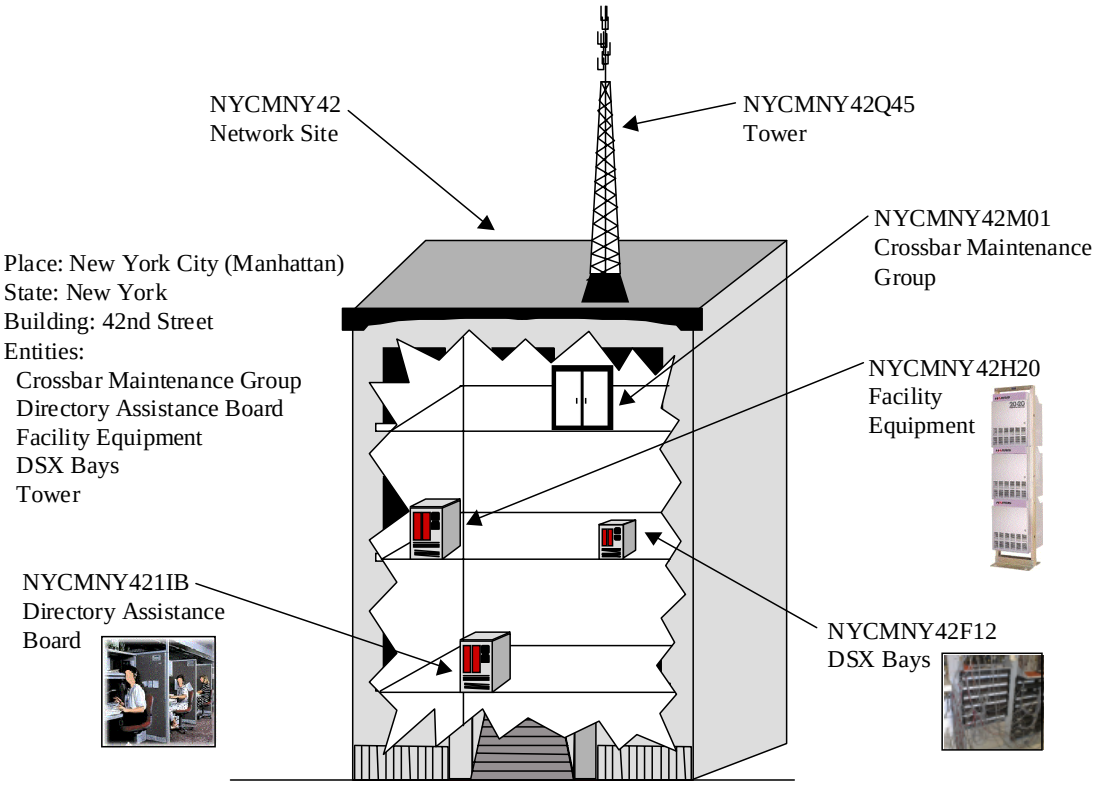


**Figure 16-4.** CLLI Codes Assigned to Various Locations

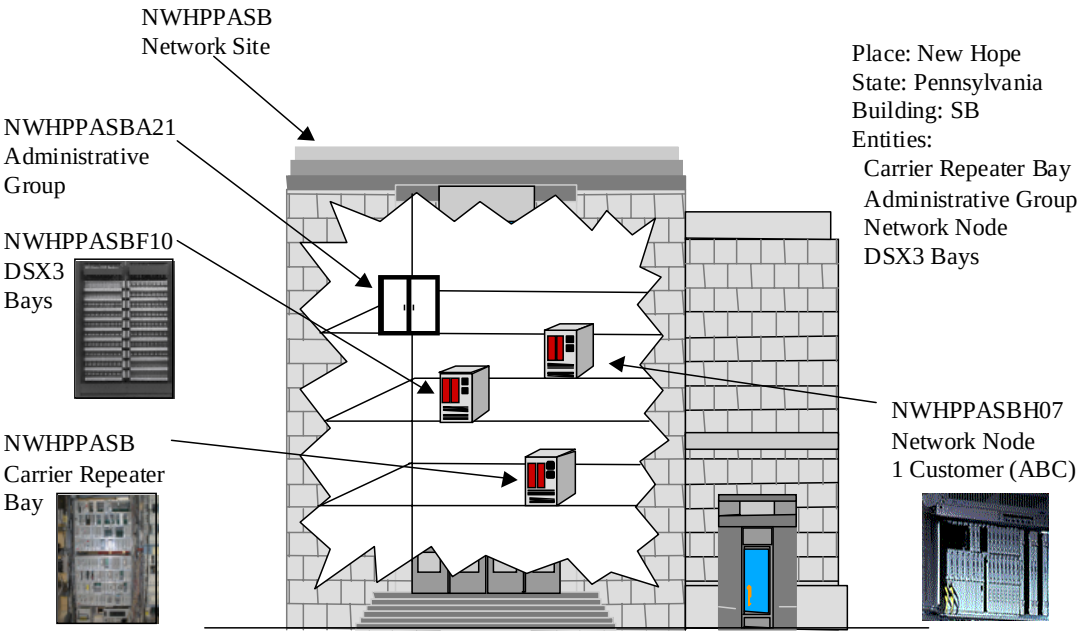


**Figure 16-5.** CLLI Codes Assigned to Various Locations

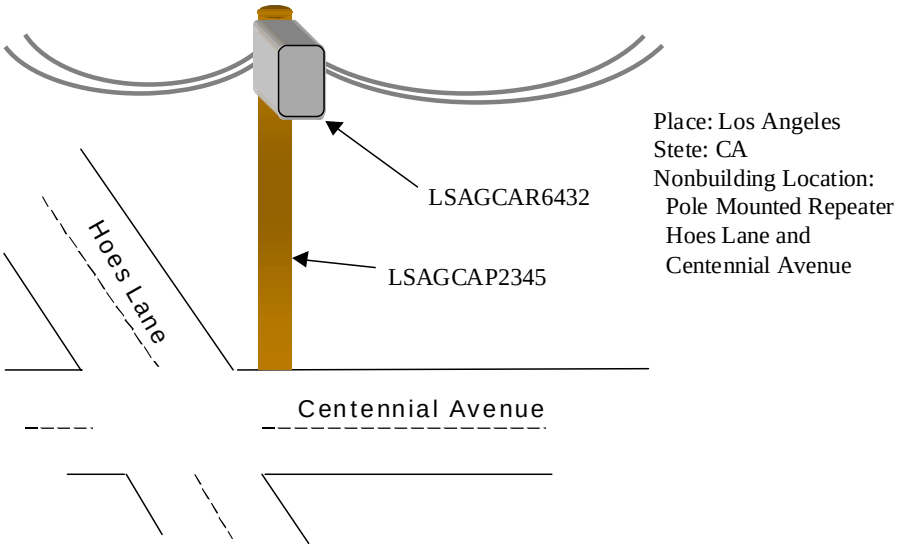


**Figure 16-6.** CLLI Codes Assigned to Various Locations

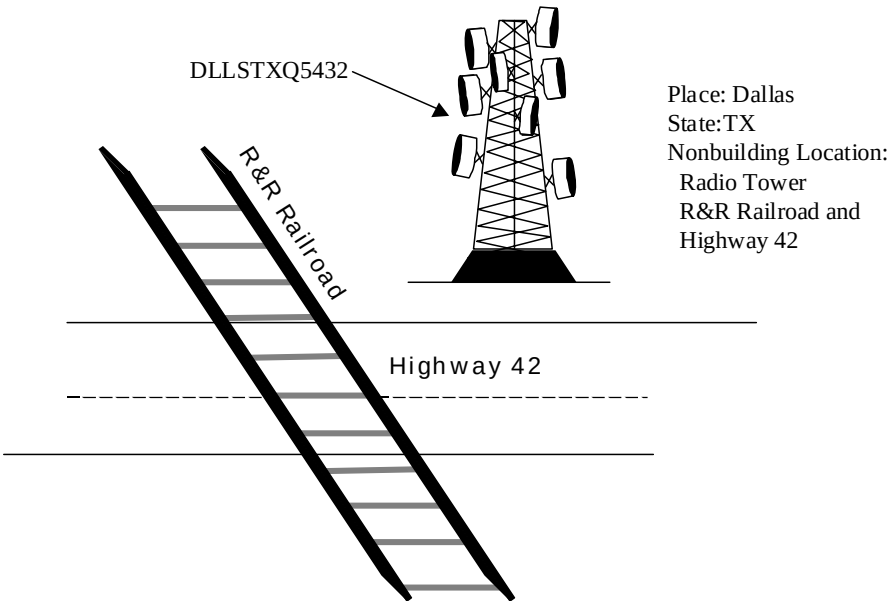


**Figure 16-7.** CLLI Codes Assigned to Various Locations

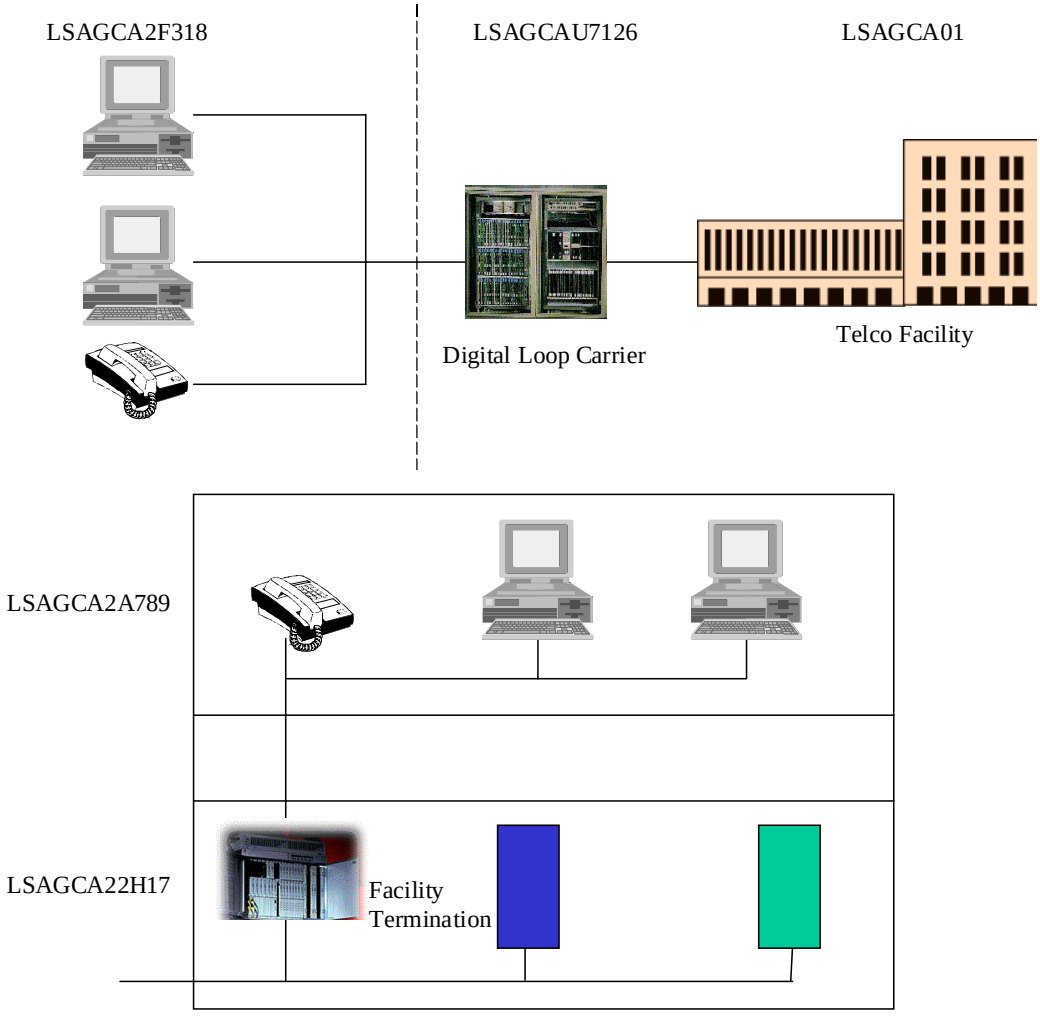


**Figure 16-8.** Circuit, Facility, and Equipment Termination at Customer Premises

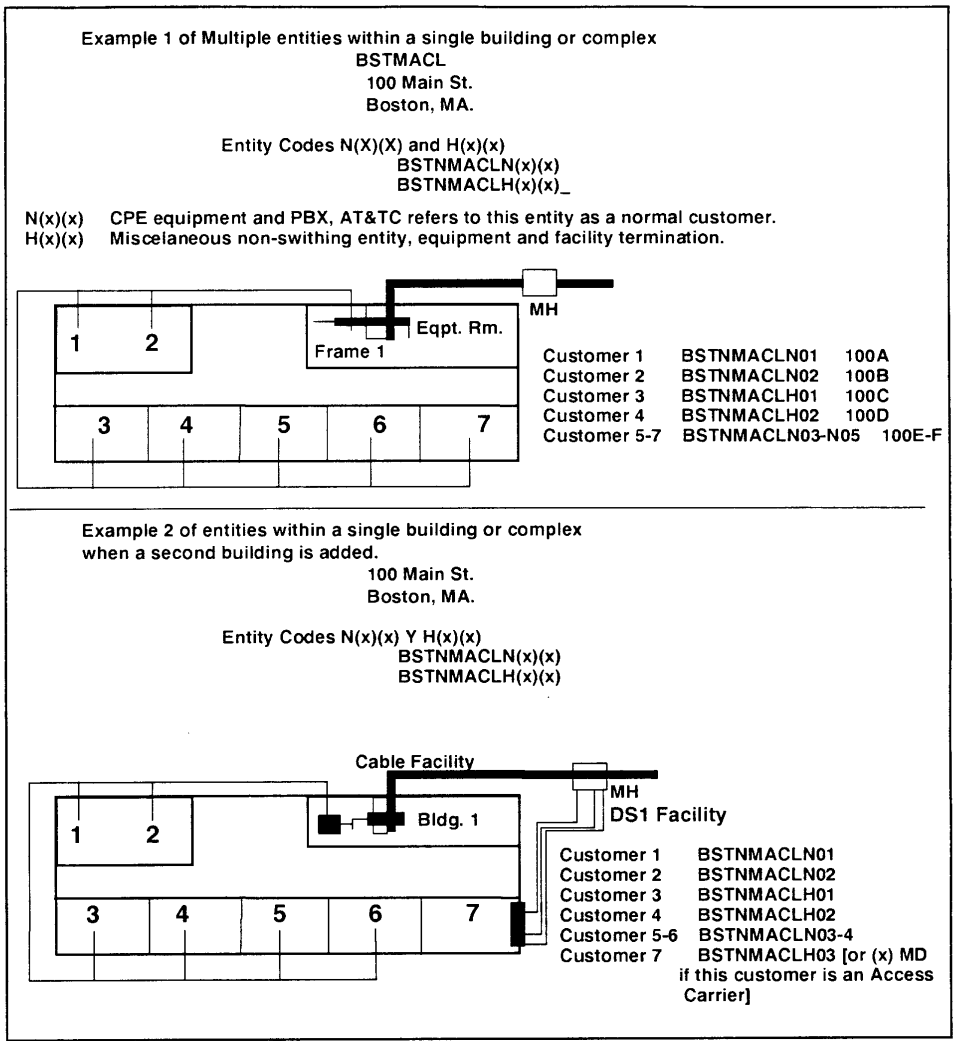


**Figure 16-9.** Multiple Entities Within a Single Building

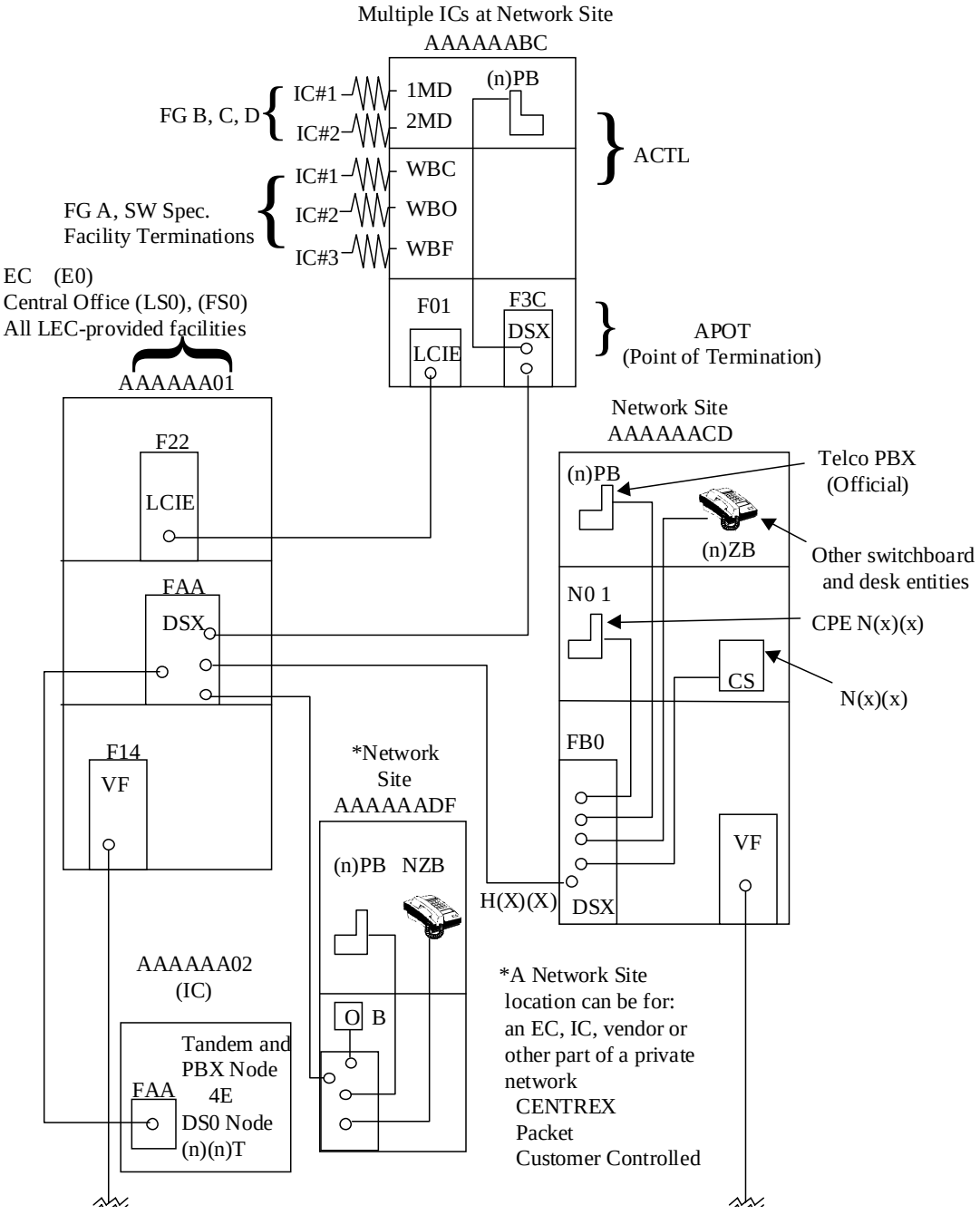


**Figure 16-10.** EC, IC, and Customer Location

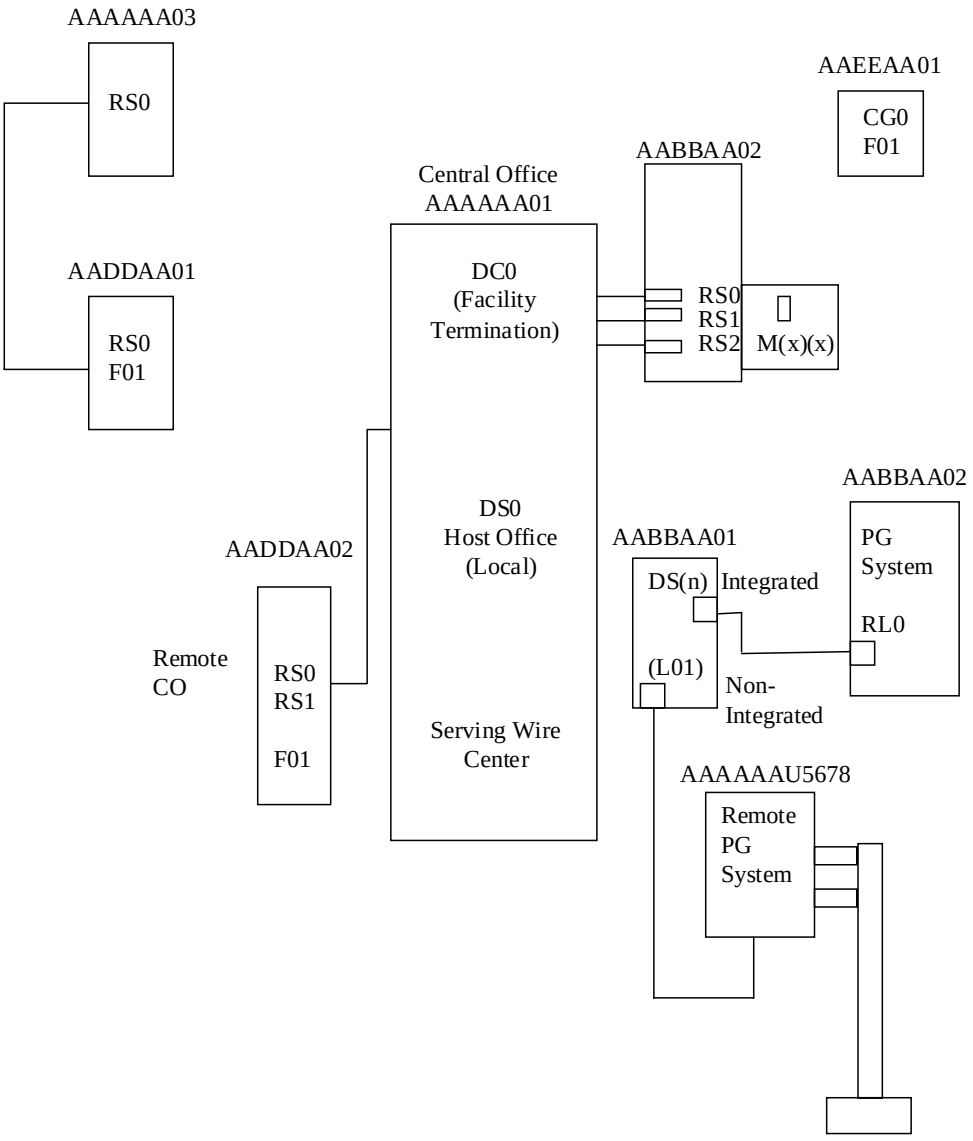


**Figure 16-11.** Host Office, Remote Switch, and Subscriber Line Carrier

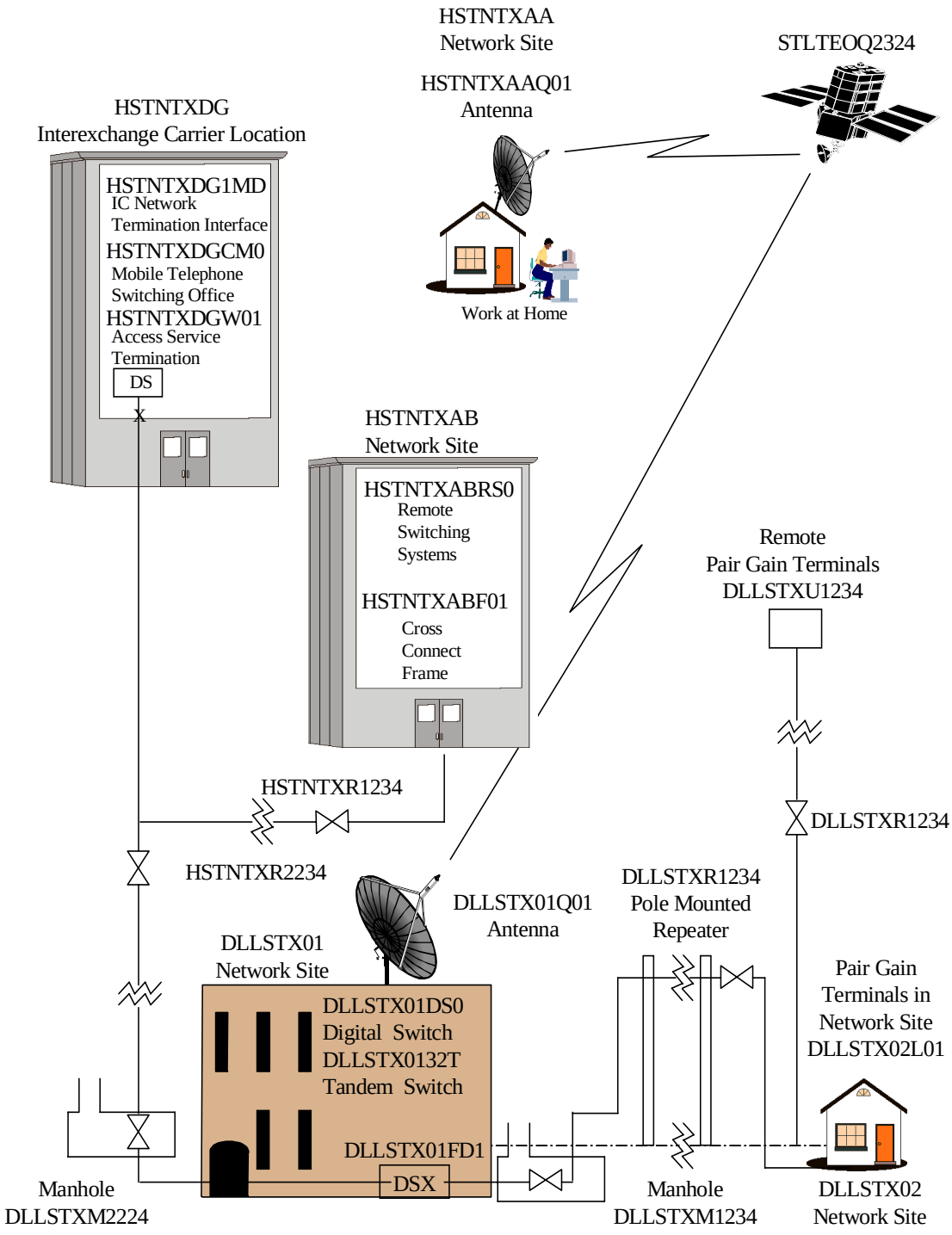


**Figure 16-12.** Typical Types of Network Locations Requiring CLLI Codes

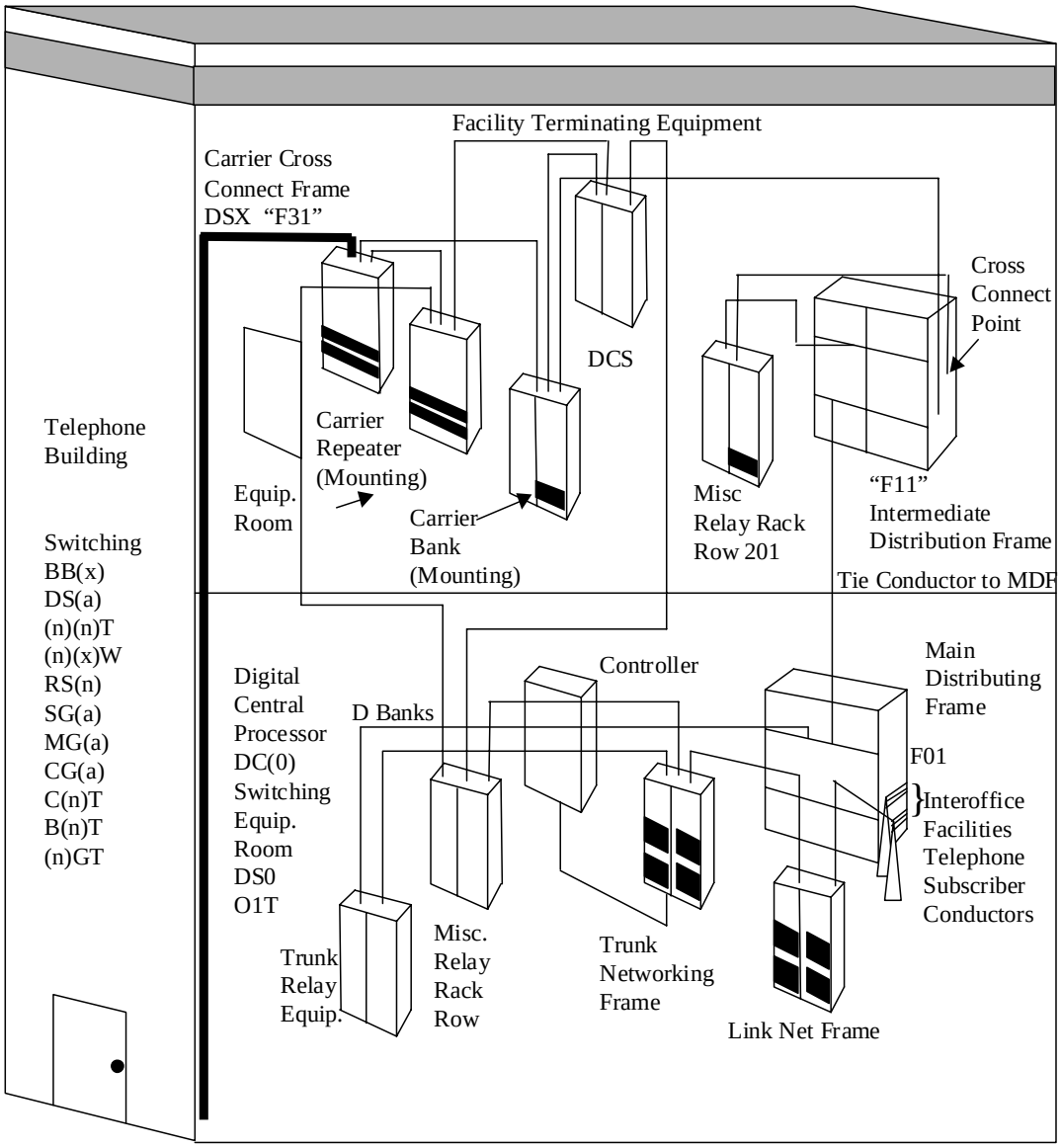


**Figure 16-13.** Central Office (CO) Network Entity Coding

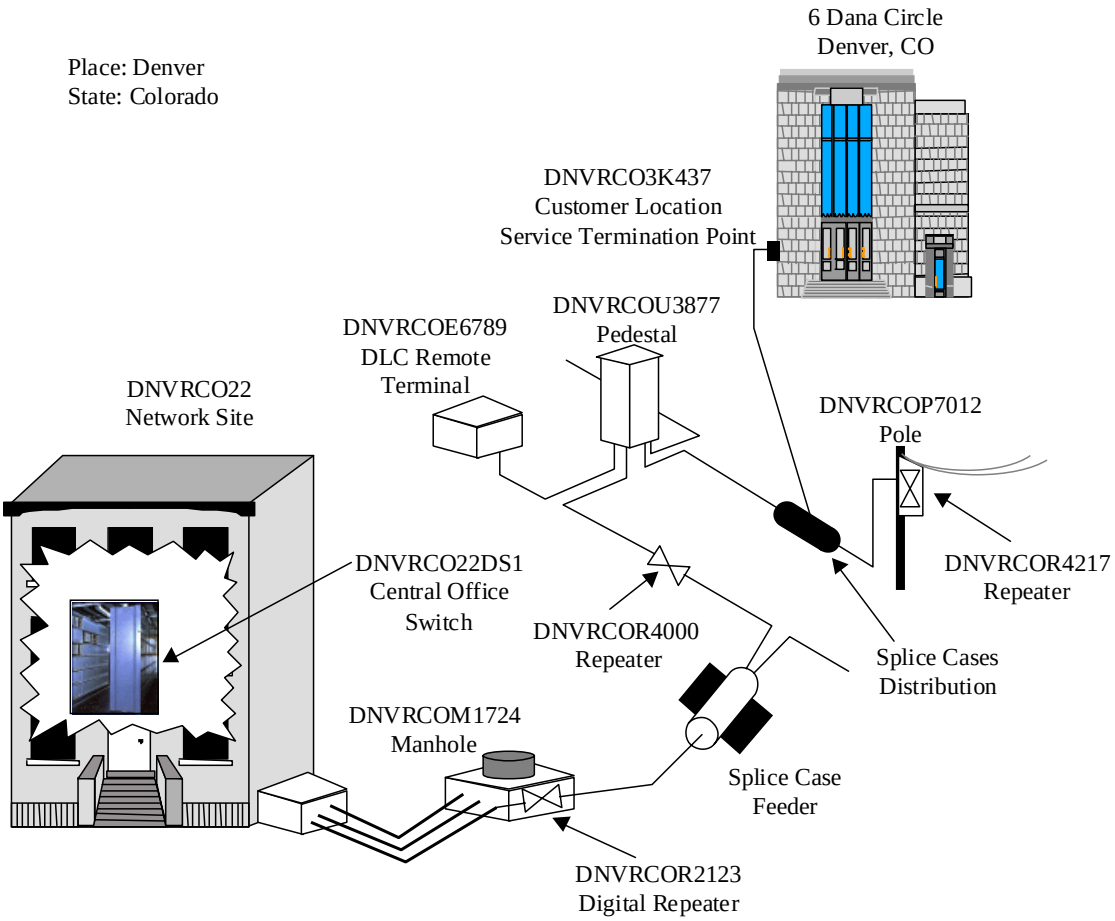


**Figure 16-14.** Distribution Network - Digital Loop Carrier

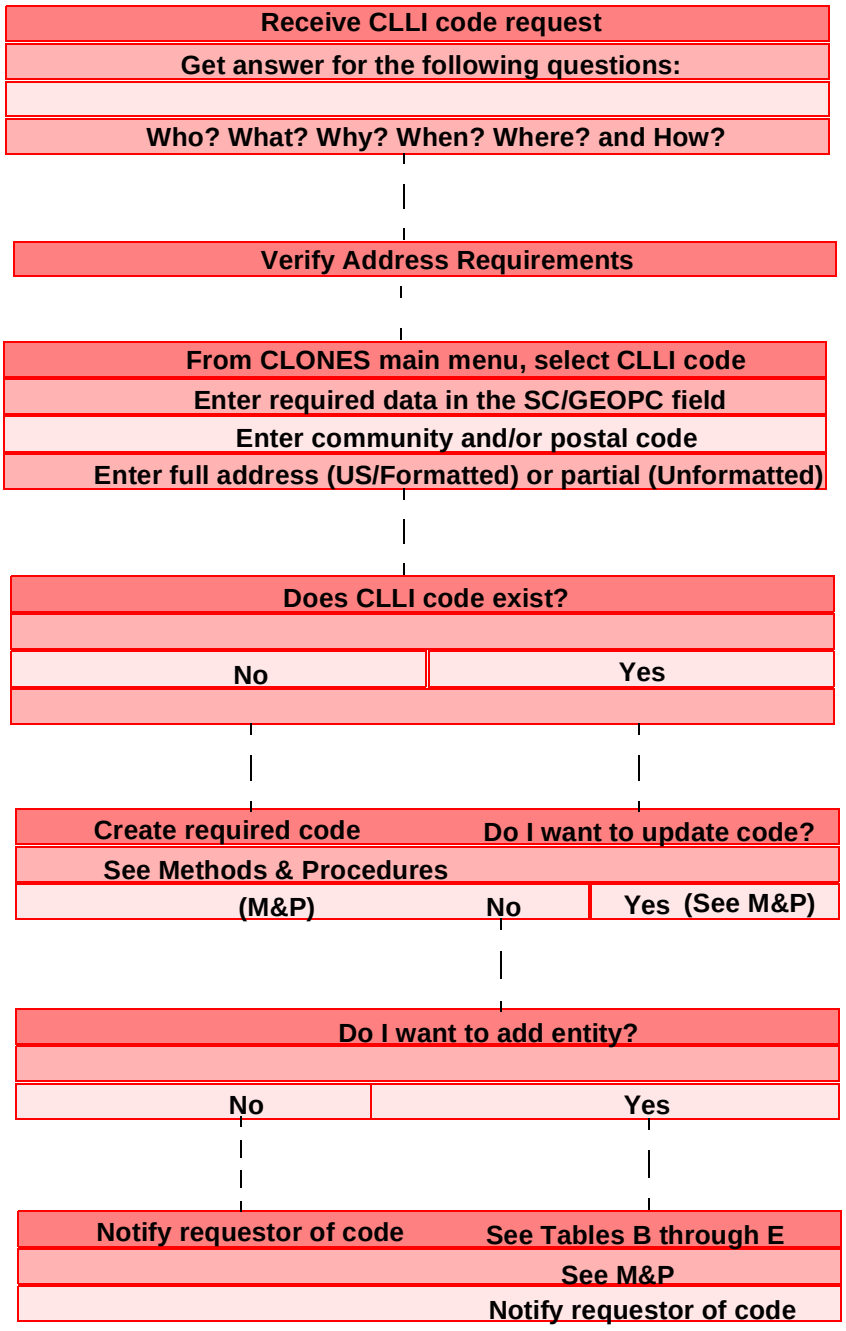


**Figure 16-15.** Location Coding Decision Flowchart

| Code Structure | Character Position and Permitted Character Set | | | | Refer to BR-795-100-100 |
|---|---|---|---|---|---|
| | 1-4 | 5-6 | 7-8 | 9-11 | |
| Geographical Code | aaaa | | | | Section 5 |
| Geopolitical Code | | aa | | | Section 6 |
| Network Site Code | | | aa or nn | | Section 7 |
| Network Entity Codes | | | | xxx | Section 8 |
| Switching | | | | | Section 9 |
| Switchboard/Desk | | | | | Section 10 |
| Miscellaneous | | | | | Section 11 |
| Nonswitching | | | | | Section 12 |
| Network Support Site Code | | | anxxx | | Section 13 |
| Customer Site Code | | | naxxx | | Section 14 |

**Figure 16-16.** CLLI Code Set Structure

# CLLI Code Set Encoding Guide Tables

A. Index of Code Practices

States of the United States
U. S. Outlying and Pacific Ocean Territories
Federal District and States of Mexico
Federal District, States and Territories of Venezuela
Provinces and Territories of Canada
Unique Locations
Country Codes

B. Network Switching Entity Codes

C. Network Switchboard and Desk Entity Codes

D. Miscellaneous Network Switching Entity Codes

E. Nonswitching Network Entity Codes

F. Network Support Site Format

G. Customer Site Format

## Table Notes

- Upper case alphas are required wherever indicated.
- Parentheses enclosing lower case alphas indicate that user assignment is required.
- Where specific alphas are not permitted in certain character positions, they are identified by a superscript, e.g., $a^1$), ($a^2$), ($x^1$), ($x^2$), ($x^3$
- (a) indicates any alpha A-Z may be used.
- (n) indicates any numeric 0-9 may be used.
- (x) indicates any alphanumeric A-Z or 0-9 may be used.
- ($a^1$) indicates alpha A-Z may be used, except alphas B, D, I, and O.
- ($a^2$) indicates alpha A-Z may be used, except alphas B, C, D, I, O, T, and W.
- ($x^1$) indicates alphanumeric A-Z or 0-9 may be used, except alphas B, D, I, and O.
- ($x^2$) indicates alphanumeric A-Z or 0-9 may be used, except alphas B and D.
- ($x^3$) indicates alpha character G cannot be used in this position.

**Table A.** Index of Code Practices

| States of the United States Codes<br>BR-795-xxx-100 and BR-751-401-xxx | | | | | |
|---|---|---|---|---|---|
| **Name** | **Code** | **BR** | **Name** | **Code** | **BR** |
| Alabama | AL | 101 | Montana | MT | 127 |
| Alaska | AK | 102 | Nebraska | NE | 128 |
| Arizona | AZ | 103 | Nevada | NV | 129 |
| Arkansas | AR | 104 | New Hampshire | NH | 130 |
| California | CA | 105 | New Jersey | NJ | 131 |
| Colorado | CO | 106 | New Mexico | NM | 132 |
| Connecticut | CT | 107 | New York | NY | 133 |
| Delaware | DE | 108 | North Carolina | NC | 134 |
| District of Columbia | DC | 109 | North Dakota | ND | 135 |
| Florida | FL | 110 | Ohio | OH | 136 |
| Georgia | GA | 111 | Oklahoma | OK | 137 |
| Hawaii | HI | 112 | Oregon | OR | 138 |
| Idaho | ID | 113 | Pennsylvania | PA | 139 |
| Illinois | IL | 114 | Rhode Island | RI | 140 |
| Indiana | IN | 115 | South Carolina | SC | 141 |
| Iowa | IA | 116 | South Dakota | SD | 142 |
| Kansas | KS | 117 | Tennessee | TN | 143 |
| Kentucky | KY | 118 | Texas | TX | 144 |
| Louisiana | LA | 119 | Utah | UT | 145 |
| Maine | ME | 120 | Vermont | VT | 146 |
| Maryland | MD | 121 | Virginia | VA | 147 |
| Massachusetts | MA | 122 | Washington | WA | 148 |
| Michigan | MI | 123 | West Virginia | WV | 149 |
| Minnesota | MN | 124 | Wisconsin | WI | 150 |
| Mississippi | MS | 125 | Wyoming | WY | 151 |
| Missouri | MO | 126 | | | |

**Table A.** Index of Code Practices (Continued)

| U. S. Outlying and Pacific Ocean Territory Codes<br>BR-795-152-100 and BR-751-401-152 | | | |
|---|---|---|---|
| **Name** | **Code** | **Name** | **Code** |
| American Samoa | AM | Midway Island (Pacific) | MY |
| Belau, Republic of (Palau) | PL | Northern Mariana Islands | NN |
| Guam | GU | Puerto Rico, Commonwealth of | PR |
| Johnston Atoll | JH | Virgin Islands, of the U. S. | VI |
| Marshall Islands, Republic of the | RS | Wake Island (Pacific Ocean) | WK |
| Micronesia, Federated States of | FM | | |

| Federal District and States of Mexico Codes<br>BR-795-185-100 and BR-751-401-185 | | | |
|---|---|---|---|
| **Name** | **Code** | **Name** | **Code** |
| Aguascalientes | XA | Morelos | XO |
| Baja California | XB | Nayarit | XN |
| Baja California Sur | XQ | Nuevo Leon | XL |
| Campeche | XC | Oaxaca | OA |
| Chiapas | XP | Puebla | PB |
| Chihuahua | XH | Queretaro De Arteaga | QR |
| Coahuila | XD | Quintana Roo | QO |
| Colima | XK | San Luis Potosi | XU |
| Distrito Federal | DF | Sinaloa | XS |
| Durango | DU | Sonora | XR |
| Guanajuato | GJ | Tabasco | TA |
| Guerrero | XG | Tamaulipas | XT |
| Hidalgo | HG | Tlaxcala | XX |
| Jalisco | JA | Veracruz | VR |
| Mexico, Estado | XM | Yucatan | YU |
| Michoacan | XI | Zacatecas | ZC |

**Table A.** Index of Code Practices (Continued)

| Federal District, States, and Territories of Venezuela, Codes BR-795-186-100 and BR-751-401-186 | | | |
|---|---|---|---|
| **Name** | **Code** | **Name** | **Code** |
| Amazonas Territory | QZ | Lara | LB |
| Anzoatequi | AQ | Merida | QM |
| Apure | AV | Miranda | QD |
| Aragua | QA | Monagas | QG |
| Barinas | BF | Nueva Esparta | QN |
| Bolivar | BQ | Portuguesa | PZ |
| Carabobo | QC | Suere | QS |
| Cojedes | CZ | Tachira | TF |
| Delta Amacuro Territory | DA | Trujillo | TJ |
| Falcon | FN | Yaracuy | YY |
| Federal District | FD | Zulia | ZL |
| Guarico | GZ | | |

| Provinces and Territories of Canada Codes BR-795-xxx-100 and BR-751-401-xxx | | | | | |
|---|---|---|---|---|---|
| **Name** | **Code** | **BR** | **Name** | **Code** | **BR** |
| Alberta | AB | 160 | Nunavut | VU | 172 |
| British Columbia | BC | 161 | Ontario | ON | 167 |
| Manitoba | MB | 162 | Prince Edward Island | PE | 168 |
| New Brunswick | NB | 163 | (Province of) Quebec | PQ | 169 |
| Newfoundland | NF | 164 | Saskachewan | SK | 170 |
| Northwest Territory | NT | 165 | Yukon Territory | YT | 171 |
| Nova Scotia | NS | 166 | | | |

**Table A.** Index of Code Practices (Continued)

| Unique Location Codes BR-795-180-100 and BR-751-401-180 | | | | | |
|---|---|---|---|---|---|
| **Unique Name** | **Geographical Code** | **Geopolitical Code** | **Unique Name** | **Geographical Code** | **Geopolitical Code** |
| Satellite | STLT | EO | Mediterranean Sea | MDTS | HS |
| Arctic Ocean | ARON | HS | North Sea | NRHS | HS |
| Atlantic Ocean | ATON | HS | Pacific Ocean | PCON | HS |
| Bering Sea | BRGS | HS | Red Sea | RDSE | HS |
| Caribbean Sea | CRBS | HS | South China Sea | SCHS | HS |
| Gulf of Mexico | GLMX | HS | Tyrrhenian Sea | TRNS | HS |
| Indian Ocean | INON | HS | | | |

| Country Codes | | | |
|---|---|---|---|
| **Country Name** | **Code** | **BR-795-1xx-100** | **BR-751-401-1xx** |
| Italy | IT | 181 | 181 |
| Malaysia | ML | 184 | 184 |
| Netherlands | NL | 183 | 183 |
| Spain | SP | 182 | 182 |
| Other Countries | | 180 | 180 |

**Table B.** Network Switching Entity Codes

| Entity Type | BR Section | Entity Code - Single/ Complete | Entity Code - Multiple |
|---|---|---|---|
| **End Office** | 9A, C | | |
| Crossbar | | MG(n) | MG($a^1$) |
| Step-By-Step | | SG(n) | SG($a^1$) |
| Electronic Analog | | CG(n) | CG($a^{1)}$ |
| Electronic Digital | | DS($x^1$) | |
| Remote Switching System | | RS(n) | RS($a^1$) |
| Overflow Code | | R(n)(n) | |
| **End Office - NXX Code** | 9B | (n)(n)(n) | (n)(n)($a^2$) |
| **Tandem Office** | 9D | | |
| Individual Tandem | | (n)(n)T | |
| Tandem/Tandem | | | C(n)T |
| Tandem/Switchboard | | | B(n)T |
| Tandem/Opr Svc/End Office | | | (n)GT |
| Electronic Tandem Private Network | | ET(n) | |
| **Multi Function-Combination Switch** | 9E | DC(n) | |
| **Digital Packet Device** | 9F | (n)(x)W | |
| **ATM Switch** | 9G | BB($x^1$) | |
| Overflow code | | B(a)(n) | |
| **Video - Analog/Digital** | 9H | VS(n) | |
| **Wireless/Cellular** | 9I | | |
| MTSO/IMTS, PCS Switching Center, Mobile/Bellboy/Paging/RRC Control Term, etc. | | CM($x^1$) | |
| **Special Switching Applications** | 9J | | |
| CCSA/SS6/EPSCS | | Z(a)Z | |
| Access Circuit in LEC by an IC | | (n)(n)C | |
| **Call Agent Virtual Switch** | | CA($x^1$) | |

Table Notes - See Page 69.

**Table C.** Network Switchboard and Desk Entity Codes

| Entity Type (BR Section 10) | Code |
|---|---|
| Combined Toll, DSA, and CAMA Board | (n)BB |
| Centralized Automatic Message Accounting (CAMA) board | (n)CB |
| Dial Service Assistance (DSA) board, e.g., #13C board | (n)DB |
| Traffic Service Position System (TSPS) board (electronic) | (n)EB |
| Directory Assistance (Information) and Completion board e.g., #23 board | (n)IB |
| Traffic Operator Position System (TOPS), Operator Service Position System (OSPS), or Operator Concentrator board | (n)JB |
| Special boards (conference, mobile, marine, or switchboard converted to Special Operation Service Traffic (SOST) | (n)LB |
| Manual board | (n)MB |
| Intercept board, e.g., #2A board | (n)NB |
| Service Observing Switchboard, Service Evaluation Center, and Signal Converter Allotter for Service System, e.g., #10 Service Observing Board (SOB) | (n)OB |
| Telephone Company Private Branch Exchange (PBX) board, e.g., #608A board | (n)PB |
| Combined director assistance, intercept, and completion board, e.g., #23 board | (n)QB |
| Rate and Route Desk | (n)RB |
| Toll board (Through and Outward) | (n)TB |
| Universal Traffic Service Position (TSP) board | (n)UB |
| Overseas Toll board | (n)VB |
| Inward Toll board | (n)WB |
| Auxiliary board or other Switchboard and Desk Entities | (n)ZB |
| Teleconference board | (n)(n)B |

Note:

- Network switchboard and desk entities are always identified by the alpha B in character position 11.

Table Notes - See Page 69.

**Table D.** Miscellaneous Network Switching Network Entity Codes

| Entity Type (BR Section 11) | Code |
|---|---|
| **Announcement Machine** - See Notes<br>Mass Calling announcements<br>Interactive voice or message storage systems<br>Public announcements<br>Audio response systems<br>Time and weather | (x)AD |
| **Central Office Centrex** | (x)XD |
| **Combined Operator, Trouble, and Machine Intercept** (e.g., #6A desk) | (n)ND |
| **Distributors** - See Notes<br>Time<br>Weather<br>Automatic<br>Other, e.g., sports results board | <br>(n)TD<br>(n)WD<br>(n)CD<br>(n)DD |
| **Emergency** (911 Service) | (n)ED |
| **Intercept**, e.g., File Access System (FAS) | (n)ID |
| **Network Termination Interface (NTI)**<br>Overflow Code<br>Overflow Code<br>Overflow Code<br>Overflow Code | (x)MD<br>X(x)X<br>X(x)Y<br>X(x)Z<br>(n)(n)Z |
| **Position Link Frame** | (n)PD |
| **Rate and Quote System** | (n)QD |
| **TSPS Common Control Unit** and associated Remote Trunking Arrangement (RTA) or tandem connection | (x)UD |

Notes:

- Miscellaneous switching entities always are identified by the alpha D in character position 11.
- When identifying announcement systems, e.g., #7A, the announcement portion of the system should be coded (n)AD. When (n)AD exhausts at a location, the overflow code (a)AD may be used. See (n)DD (Distributors) for coding the distribution portion of an announcement system, except for Time (n)TD and Weather (n)WD distributors.

Table Notes - See Page 69.

**Table E.** Nonswitching Network Entity Codes

| Entity Type (Br Section 12) | Code |
|---|---|
| **Administrative Group** | A (x) ($x^2$) |
| **Processor Grouping**<br>• Coin to Collect Verification Circuit<br>• Calling Card Processor<br>• Service Control Point (SCP)<br>• Performance Monitoring Equipment<br>• Executive Processor for Wireless<br>• Line Information Data Base Processor (LIDB)<br>• Collect Call Timing Device (CCTD)<br>• Advanced Intelligent Network (AIN) | D (n) (n) |
| **Concentrator**, e.g., DSS/DSC, Intercept Concentrator | CT ($x^1$) |
| **Distribution Node (Cable TV)** | DN (n) |
| **Frames**, e.g., Distributing Frames (DF)<br>• Main (MDF), Intermediate (IDF), Toll (TDF), Line (LDF), Wall (WDF), etc.<br>• High Frequency Cabinets<br>• Digital Signal Cross-Connect, e.g., DSX-0, DSX-1, etc.<br>• Fiber Distribution Panel (FDP) | F (x) ($x^2$) |
| **Miscellaneous Nonswitching Entity**<br>• Collocation<br>• Network Channel Terminating Equipment (NCTE)<br>• Channel banks or multiplexer equipment<br>• Cellular carrier cell sites<br>• "U" point in an ISDN application<br>• HICAP Facility Terminations, e.g., fiber, cable, carrier SONET Nodes | H (x) ($x^2$) |
| **Software Cross-Connectable Entities**, e.g., DCS | K (x) ($x^2$) |
| **Pair Gain Central Office Terminals** | L (n) (n) |
| **Support Centers - OAM&P (Ordering, Administrtation, Maintenance and Provisioning)** | M ($x^{3)}$ ($x^2$) |
| **Customer Premises Equipment (CPE)** | N (x) ($x^2$) |
| **Remote Line Termination** | RL (n), RL(a) |
| **Repeaters/Regenerators** | RG(x) |

**Table E.** Nonswitching Network Entity Codes (Continued)

| Entity Type (Br Section 12) | Code |
|---|---|
| **Radio Equipment (including towers)** | Q (n)(n) |
| **Access Service Termination**, e.g.,<br>HICAP, FGA, WATS,<br>Facility/Circuit Terminating Equipment and/or<br>Special Access Point of Termination | W (x) ($x^2$) |

Table Notes - See Page 69.

**Table F.** Network Support Site Code

| Location Type (BR Section 13) | Code |
|---|---|
| International boundary or crossing points | B(n)(x)(x)(x) |
| End points | E(n)(x)(x)(x) |
| Fiber Node | F(n)(x)(x)(x) |
| Junctions | J(n)(x)(x)(x) |
| Manholes | M(n)(x)(x)(x) |
| Poles | P(n)(x)(x)(x) |
| Radio locations | Q(n)(x)(x)(x) |
| Repeater locations | R(n)(x)(x)(x) |
| Toll stations | S(n)(x)(x)(x) |
| Other nonbuilding locations | U(n)(x)(x)(x) |

**Table G.** Customer Site Code

| Location Type (BR Section 14) | Code |
|---|---|
| Customer Site | (n)(a)(x)(x)(x) |

- For Tables F and G, (x) indicates any alphanumeric A-Z or 0-9 may be used. The values 0-9 should be exhausted before using A-Z.

Table Notes - See Page 69.

The following Telcordia Practices provide additional reference information:

- BR-751-000-102, *COMMON LANGUAGE® Code Set Request Procedures*
- BR-751-100-050, *COMMON LANGUAGE® Geographical Code Description*
- BR-751-100-055, *COMMON LANGUAGE® Geopolitical Code Description and Listings*

The following Telcordia Practices contain a complete listing of assigned codes:

- BR-751-401-1xx series *COMMON LANGUAGE® Geographical Codes by Geopolitical Code*
- BR-795-1xx-100 series *CLLI™ Codes by Geopolitical Code.*

# Glossary

**Access Customer (AC) - H(x)(x) or W(x)(x)**
AC applies to all customers of an Access Provider that order services from the Access Tariff, includes all carriers (ICs, ISPs, OSPs, etc.) licensed to provide Private Line Voice, Data, and Video.

**Access Customer Terminal Location (ACTL) - (x)MD or W(x)(x)**
Identifies the COMMON LANGUAGE location where an Interexchange Carrier (IC) interLATA facilities are terminated for connection to an Exchange Carrier (EC) for Access Services.

**Access Provider (AP) see EC, LEC**
A telecommunications carrier that provides Access Services.

**Access Service (Table D or E)**
The ability to enter or exit a local exchange network to originate or complete an interLATA, interstate, or international call.

**Access Services - (x)MD or W(x)(x)**
Fundamental services provided by an *Access Provider (AP)* to an *Interexchange Carrier (IC)* for AC customers. The FCC ruled that both message and private line interstate interLATA toll traffic are Access Service. Access rates apply and are under FCC jurisdiction. Two categories of access services are as follows:

- Switched Access Services are those services identified as Feature Group B, C, or D. (Trunk-side termination from an AP switch to an IC Point of Termination.)
- Nonswitched Access Services include Special Access or Private Line, Feature Group A, HICAP (a High Capacity Facility Configuration), Switched Special Services, or Switched WATS.

**Access Tandem - (n)(n)T**
A switching machine that enables Local Exchange Carriers (LECs) to provide Interexchange Carrier Switched Access. Access tandems also provide equal access for nonconforming end offices. The access tandem provides the Interexchange Carrier with access to more than one end office within a LATA.

**Access Tariff**
A service tariff for LECs to offer premises-to-premises service within the LATA where intervening facilities are not specified. It gives the LEC rearrangement rights to substitute wire and carrier facilities for each other as long as overall transmission limits are met. Access tariffs are filed with the FCC to cover services to be used for interstate traffic with state commissions to provide services to be employed for intrastate applications.

**Advanced Intelligent Network (AIN) - D(n)(n)**
A service-independent architecture that allows a LEC and LEC customers to quickly and economically create and modify telecommunications services for its

subscribers. The AIN architecture includes functionality for network systems, network elements, and operation systems.

**Alternate Access Provider (AAP)**
A telecommunication carrier that provides Access Services which are alternate to (or which bypass) a Local Exchange Carrier.

**Analog Switch - CG(n)**
The electronic analog switching system is common control, and the incoming register temporarily stores the pulses for call routing. The data in the register is used by the common control processor to complete the call to subscribers, to outgoing trunks, and/or to service terminations.

**Asynchronous Transfer Mode (ATM) - BB(x)**
ATM enables voice, data, and video information to be transmitted over telephone wires at extremely rapid speeds. Allows companies to offer customized and inexpensive communications to corporate customers. Used to carry user information within a broadband channel. ATM provides a method of formatting, multiplexing, cross-connecting, and switching information in 53-byte cells or packets. ATM switching is being developed that matches switch capabilities to service demands. Cells can carry voice, video, image, or bursty data. ATM can switch combinations of low or high bandwidth, long or short duration calls. It is best suited for switching bursty, high bandwidth, and continuous low bandwidth signals. (See STM.)

**Automatic Intercept System (AIS) - (n)NB**
A mechanized intercept service is provided by the recorded, voice-answer feature of the Automatic Intercept System (AIS). Routine announcements are provided at the remote Automatic Intercept Center (AIC). A customer requiring further information can then be connected to an operator at the home AIC.

**Bandwidth**

**Narrowband** - Services that operate between 64 kbps and the T1 speed of 1.544 mbps, voice, ISDN Basic Rate Interface, and 64 kbps increments like 384 kbps.
**Wideband** - Services that operate between 1.544 mbps and the DS-3 speed of 45 mbps, including ISDN Primary Rate Interface, frame relay, and SMDS.
**Broadband** - Services that operate at rates higher than 45 mbps, including SONET, broadband ISDN, video, and ATM.

**Cable Entrance Facility - CLFI (CLLI 8 or 11 characters)**
Area in a building for both subscriber and interoffice outside plant cables. It is typically an underground vault and runs the length of the building under the main distributing frame.

**Call Control Agent**
A Call Control Agent is an instance of software that instructs hardware to provide path interconnections for calls between elements in an enterprise IP network and/or the traditional telephone network. The call control agent provides the intelligence to control call set-up and call take-down features, announcement

messageing, billing messaging and the overall node-to-node signaling for both on-net (IP) and off-net (PSTN) calls. Traffic will be delivered over common packet and/or ATM based infrastructure to private and public switched networks.

**Carrier Identification Code (CIC)**
A CIC code is assigned by the NANP administrator to identify the entity who purchases FGB and/or FGD access services. This code is primarily used for billing and routing from the local exchange network to the access purchaser.

**Carrier System - CLFI (CLLI 8 or 11 characters)**
A transmission system where multiple channels of information are converted to a form suitable for transmission on a single line facility. Digital carrier systems use time division multiplexing; each information channel uses assigned time intervals. Analog carrier systems use frequency division multiplexing; each information channel occupies an assigned portion of the frequency spectrum.

**Cell Relay - BB(x)**
Cell relay technology is a combination of circuit and packet switching technologies. Broadband cell relay switching utilizes small fixed length packets (48 bytes of payload plus 5 bytes of addressing and control information) as opposed to variable length packets like Frame Relay to segment information for efficient switching of mixed integrated voice, data, image, and video applications. (See ATM/STM.)

**Cellular Geographic Service Area (CGSA)**
The geographic area served by the cellular system within which a CMC is authorized to operate.

**Cellular Mobile Carrier (CMC) - CM(x) or H(x)(x)**
A carrier who is authorized to provide cellular communications exchange services. For electrical interconnection between telcos and CMCs, see TA-NPL-000145, and for transmission parameters for trunking, see TA-TSY-000352.

**Cellular Mobile Service**
There are only two fundamental differences between cellular mobile service and wireline. Cellular serves mobile subscribers via radio loops; wireline serves fixed locations via wire loops. The fundamental similarities are much more relevant. A cellular system looks identical to the trunk side of any stored program control (SPC) end office, and both cellular and wireline are exchange services.

**Cellular System - CLFI**
A high capacity land mobile radio system where the territory to be served is divided into geographic cells. The available radio frequencies are used simultaneously in different cells without mutual interference. When a caller moves between cells, the exiting call is switched to the radio site handling the new cell. A Cellular Office (Mobile Telephone Switching Office - MTSO) provides originating and terminating service for Cellular Mobile Carrier (CMC) Phone subscribers. The CMC can establish connections to end offices and to other carriers interconnected through the following type interfaces.

- Type 1 interface is at the point of termination of a trunk between mobile system and an end office (a modified PBX DID arrangement).

- Type 2A provides for the direct interconnection of the MTSO with a LEC tandem office. If desired, the Type 2A interface may be used on an intraLATA basis only.
- Type 2B provides for the direct interconnection of the MTSO with a LEC end office.
- CGSA 736 markets two carriers per market within county boundary
  305 Metropolitan Statistical Areas
  428 Rural Service Areas
  Each carrier has 416 channels to use
  IMT 23 available channels 15-20 mile radius.

**Central Office (See End Office)**
The building in which telephone companies, etc., locate their switching equipment and terminate their circuits.

**(Central Office) Centrex - (x)XD**
Centrex is a hardware/software service whereby the switching and control functions are "centralized" (central exchange) in a part of the central office itself. This entity code does not identify a centrex customer, it identifies the functionality of the switch. The service originates in a central office rather than on-site like a PBX. Centrex allows the customer a large number of features and services that interface with the customer premises equipment for voice and data applications, as well as LAN and ISDN feature enhancements. This is a line side connection served via a "host" relationship between the switch and the customer.

**Channel (CLFI)**
An electrical or photonic communications path between two or more points of termination. Usually the smallest subdivision of a transmission system where a single type of communication service is provided, i.e., voice channel or data channel.

**Channel Bank (CLFI)**
The terminal equipment component of a carrier system that is used to multiplex (combine or demultiplex) a number of voice frequency (VF) channels on a frequency-division or time-division basis into a single stream for use on analog or digital carriers systems. The voice channels can be combined into channel groups, e.g., 12, 24, 48, or 96.

**Circuit (CLCI, CLFI)**
A complete communications path between two or more points. The sum of line-to-line, line-to-trunk, and trunk-to-line connections is required to complete a single communications connection. A circuit may have both terminations within the same switching system (as in a station-to-station call and/or between two switching systems in different LATAs, states or countries as for a message or special service circuit).

**CLLI Code**
An 11-character geographic identifier that uniquely identifies the geographic location of places and certain functional categories unique to the telecommunications industry.

**Coaxial Cable (CLFI)**
A cable consisting of an outer conductor concentric to an inner conductor, separated from each other by insulating material. The bandwidth is much higher than a wire pair, but less than fiber facilities.

**Common Channel Signaling (CCS)**
System for exchanging trunk signaling (out of band) and other information between processor-equipped signaling systems over a network of signaling links.

**Common Control Switching Arrangement (CCSA) - Z(a)Z**
An AT&T offering for very big companies to create their own private networks and dial anywhere on them by dialing a standard seven-digit number. The corporate subscriber rents private dedicated lines, (i.e., Signaling System #6) and then shares central office switches. CCSA uses special software at the central office.

**Competitive Access Provider (CAP) see (AAP)**
A telecommunications carrier that provides access services in competition with a Local Exchange Carrier.

**Concentrator (Remote Terminal) - CT(x), RL(n), or RL(a) (FCC RAO Letter 21 - 9/8/92)**
A concentrator consolidates subscriber lines, thereby facilitates the use of lesser amounts of loop plant to serve a greater amount of end users, e.g., an intercept concentrator. A concentrator has a terminal located at a central office and a remote terminal. All calls are switched by the central office switch to which the concentrator is connected. The voice path will always extend to the host switch even for calls between subscribers served by the same remote terminal of a concentrator. If the voice path or control link between the remote terminal and the central office fails, service will be interrupted even for calls served by the same remote terminal.

A distinguishing attribute between a **Remote Switch RS(n)** and a remote terminal of a concentrator is that a remote switch can provide the switched path for calls between its directly connected local subscribers and a remote terminal if a concentrator cannot. A remote terminal of a concentrator depends on the host switch to switch all calls and the voice path extends to the host switch.

**COSMIC Frame - F(x)(x)**
*CO*mmon *S*ystems *M*ain *I*nter*C*onnection Modular Frame System

**County**
Primary political subdivision of every state except Alaska (Census Divisions), and Louisiana (Parishes).

- District of Columbia (no counties).

- Montana portion of Yellowstone National Park (no counties). Duplicated names in each state must show county of each place.
- Connecticut and Rhode Island - no county functions.
- Minor Civil Division is name for subdivision of counties.
- Independent cities have separate county seats. Baltimore, MD has county seat separate from county status.
  St. Louis, MO has county seat separate from county status.
  Carson City, NV.
  41 cities in VA.

**Crossbar Switch - MG(n)**
An electromechanical switch with common control or marker groups. The switch has incoming registers that temporarily store the impulses. Routing determination is made by the markers for call set-up to subscribers, to outgoing trunks, and/or to service terminations.

**Customer Premises Equipment (CPE) - H(x)(x) N(x)(x)**
Equipment deployed on the premises of a customer (other than an IC) to originate, route, or terminate telecommunications.

**Dark Fiber (CLFI)**
Fiber optic facilities between customer locations consisting of non-repeatered fiber pairs without telephone company supplied electro-optical terminals. See passive fiber.

**Demarcation Point - H(x)(x), N(x)(x), J(n)(x)(x)(x), E(n)(x)(x)(x)**
The physical and electrical boundary between equipment or facilities provided by a customer and equipment, or facilities provided by the telephone company.

**Digital Carrier Trunk (DCT) CLFI**
An equipment option that combines the functions of a channel bank and a set of trunk relay units, thus allowing termination of carrier trunks directly on the switch in 24-channel modules.

**Digital Connectivity**
Achieved by augmenting existing networks with modified and/or new transport and switch equipment. DS1 signals sent over digital carrier facilities to interface with another digital terminal, a digital cross-connect device, and a digital trunk termination (DLTU) provide umbilicals to remote switching modules, or provide transport to a high speed digital multiplex system (M12, M13) where individual services or channels are added or terminated. The interface point is within the switch where the service and transport facilities terminate.

**Digital Cross-Connect System (DCS) - K(x)(x)**
A generic term that refers to a centrally controlled, non-blocking terminal capable of cross-connecting the individual channels of the digital signals that terminate on it. Properly configured DCSs can terminate T1 carrier systems while providing subrate cross-connects for DDS services, or T3 systems while providing DS1 cross-

connects. Additionally, a DCS can provide multipoint bridging capabilities for private lines according to available technology.

**Digital Loop Carrier (DLC) (CLFI)**
Digital facilities that transmit digitized voice, digital data, and other special services in the local loop. DLC uses time division multiplexing, deriving a 24-channel digroup per carrier signal. The number of digroups can vary according to manufacture and use. The line protocol used in some DLC systems is not consistent with that used for interoffice T-carrier, requiring a converter device when loop carrier spans are integrated with interoffice facilities or equipment.

**Digital Switch (See End Office definition) - DS(x)**
Has central processors designed to perform multiple functions. A solid state device that routes a signal in digital format (i.e., a signal that changes from one state to another in discrete steps, TDM, DS0, 56 and 64 Kb/s). Digital switching is a process in which connections are established by digital signal interfaces. A digital signal interface may connect to a line facility, to a trunk facility, directly to a digital facility, or to other equipment such as a digital cross-connect (DCS). Some analog switches carry digital signals (e.g., ESS) and normally operate on a circuit switch basis.

**Dim Fiber**
Fiber facilities without telephone company equipment but long enough to require telephone company regenerators. Since a clock frequency is present in the regenerator, the operating bit rate is fixed and known as passive fiber. See Passive Fiber.

**Distributing Frame - F(x)(x)**
A cross-connect point within a building or structure that is used to interconnect network elements (outside plant cables, switching, transmission equipment, etc.) to provide telecommunications services.

**Electronic (Analog) Switching Systems - CG(n)**
The electronic analog switching system is common control, and the incoming register temporarily stores the pulses for call routing. The data in the register is used by the common control processor to complete to the subscriber, outgoing trunk and/or service termination

**End Office (Table B)**
An End Office is a switch which is located within the local network area and is used to terminate customer station loops for purposes of interconnection to each other and to trunks. An End Office (also known as a central office, serving wire center, local serving office) is an assembly of switching equipment in a local switching office in the message network that establishes line-to-line, line-to-trunk, and trunk-to-line connections and provides the first line of switching [dial tone to end users (customers)] in a switching system.

**Enhanced Private Switching Communications Service (EPSCS) - Z(a)Z**
An AT&T private line network offering that provides functions similar to CCSA for very big companies. The corporate subscriber rents private dedicated lines (i.e., Signaling System #6) and then shares central office switches. EPSCS uses special software at the central offices.

**Enhanced Service**
Any service that includes computer manipulation of data. For example, a customer wishes to communicate through a synchronous network from an asynchronous terminal. This protocol conversion from an asynchronous to a synchronous signal is enhanced service. Such services as voice storage are also considered enhanced services.

**Equal Access (EA)**
Exchange access provided to an IC that is equal in type and quality to that provided to AT&T.

**Exchange Area (Central Office)**
A geographical area within which there is a single uniform set of charges for telephone services. An exchange area may be served by a number central offices (wire centers). An exchange area can have cross-boundary capabilities into two rate centers. There can be multiple geographical codes within an exchange area. Therefore, a common bond exists between a place, Exchange, Rate Center, and Wire Center.

**Exchange Carrier (EC) or Local Exchange Carrier (LEC)**
A company that provides intraLATA telecommunications within a franchised territory and furnishes exchange-access for the origination and termination of interLATA calls. Exchange-access requires an access connection from the end office to the Interexchange Carrier Point of Termination (POT).

**Exchange Service**
Exchange (LATA) Services are provided by an Access Provider (AP).

**Facility (CLFI)**
As in transmission facility, a facility is a physical or derived communications path between two locations that support lower level entities known as channels or circuits. The transmission signal can be analog, digital, or photonic (optical).

**Feature Group (FG) - W(x)(x) (x)MD**
Tariff designations for the various classes of switched access services that include the following Feature Groups:
FGA - Line side with loop or ground start (NXX-XXXX).
FGB - Trunk side with E&M, SF, or DX signaling (950-0/1XXX).
FGC - Trunk side (AT&T embedded only for MTS and WATS).
FGD - Trunk side (MF signaling) and "equal access" features (10XXX or customer presubscribes to an IC).

**Federal Communications Commission (FCC)**
The federal agency that was established under the Communications Act of 1934 to regulate all interstate and foreign radio, and wire services originating in the United States, including radio, television facsimile, telegraph, and telephone service.

**Fiber Distributed Data Interface (FDDI) - (n)(x)W**
A 100 megabit-per-second LAN using a fiber-based token ring technology. It will provide LAN intrapremises and intracampus high-speed communications capabilities. FDDI uses a dual, counter-rotating ring protocol. Attached devices are

connected to each other in series through duplex fiber optic cables forming a dual fiber optic ring. Data is transmitted in frames, on both rings in opposite directions, which is why FDDI is called "counter-rotating." Each frame contains a maximum of 4,500 8-bit bytes. FDDI's dual-ring design is self-healing; if one of the ring segments fails (e. g., breaks), FDDI automatically "wraps" the rest of the ring together so that the FDDI LAN continues to function, bypassing the failed segment.

**Fiber Optic System (also see Smart Glass)**
A method of transmitting digital data and voice via optical signals through transparent fibers usually of high quality glass. A fiber optic system consists of (1) an optical transmitter, (2) a fiber optic communication channel, and (3) an optical receiver. The transmission/multiplex equipment transmits electrical signals that the optical source converts to light signals through fiber. At the far end, the optical signal is converted back to electrical signals. Typical systems use two fibers for transmission, one for transmit, and one for receive.

**Frame Relay - (n)(x)W**
A fast-packet switching technique using frame lengths (packets) that are variable (up to 4,096 octets for some implementations) and are transported point-to-point (hence the term "relay"). It is best suited for statistical sharing of bandwidth for bursty data.

**Global Positioning System - GPS**
NAVASTAR GPS utilizes 21 satellites (+ 3 spare) with a 10,900 mile orbit. The Standard Positioning System (SPS) is for civilian use and the Precise Positioning System (PPS) is for military use. Each satellite broadcasts the 10.23 MHz reference signal generated by an onboard atomic clock. A timing error is added to the SPS.

**High Capacity (HICAP) - W(x)(x) or H(x)(x)**
A service that may be ordered from the customer's point of termination (POT) to an EC multiplexing location resulting in multiple channels. The customer can use and assign these channels for individual access services like voice grade special services or switched access trunks. Services can also extend directly between points of termination without multiplexing by the EC.

**Host Switch (Table B) - DS(x) CG(n)**
An end office with an internal controller or intelligent processor used to complete calls to a subscriber telephone number, to a trunk, or to a service termination, e.g., the mainframe computer at a customer's data center. A **Host Switch** controls the functions of a Remote Switch via a central "control" or "processor" resident within the **Host.** The host switch provides switching control functions to the remote switch.

**Hub**
A piece of equipment that provides a major flexibility point for the network.

**Information Service Providers (ISP) - H(x)(x)**
An entity that offers information services to the public over telecommunications facilities, e.g., stock market quotations, library information, transportation schedules.

**Integrated Digital Loop Carrier (IDLC) CLFI**
A method of integrating DLC and the local digital switch in a wire center. The RT in the carrier serving area connects directly, on a DS1 basis, into the switch.

**Integrated Services Architecture**
Allows the cross-connection of mixed-usage (switched and non-locally switched) channels within higher level facilities. The possible architectures are:

**Nail-Up** - An architecture that provides a permanent path through the switch fabric for a non-locally switched circuit.
**Hair-Pin** - An architecture that provides cross connection of channels of incoming and outgoing DLC systems within a Digital Interface UNIT (DIU).
**Side-Door-Port** - An architecture that provides for cross connection of the channels of a DLC system on a DIU with either the interoffice network or the channels of another DLC system on another DLC.
**Mixed-Use** - DLC systems can be terminated on a local DCS with POTS and locally switched services being routed to a digital switch.

**Intelligent Network - D(n)(n)**
A service control software architecture that allows the ECs flexibility to control their individual networks, and customer controlled networks (POTS, data, etc.) in response to technology, regulatory, and marketing changes. (Includes 800 and alternate billing services.)

**Interexchange Carrier (IC, IEC) - W(x)(x) or (x)MD**
By tariff definition, any individual, partnership, association, joint-stock company, trust, governmental entity, or corporation registered with the FCC and engaged for hire to provide interLATA, interstate, or foreign communications (or if approved by a state public utility commission on an intrastate-interLATA basis in compliance with local or Federal regulatory agencies) over its own or other IC facilities for its own use, or for the use of its customers to provide telecommunications services. An IC is not an end user of the services provided. Interexchange access is not limited to such carriers; however, as other entities can qualify, e.g., other common carriers include specialized Common Carriers, Domestic and International Record Carriers, and Domestic Satellite Carriers licensed to provide Private Line, Voice, Data, and Video Services through the Access Tariff.

**Interexchange Service**
Provided by other than an Access Provider (AP) from the Access Tariff.

**Integrated Services Digital Network (ISDN)**
A network architecture that supports end-to-end digital connectivity over existing transmission facilities, supports a wide range of services through integrated access arrangements, including voice and data, to which users have access by a limited set of standard, multipurpose user network interfaces.

**ISDN Access Rates**

**Primary - 23B+D** - 23-64 Kb/s "B" channels and 1-64 KB/s "D" channel.
**Basic - 2B+D** - 2-64 Kb/s "B" channels and 1-16 KB /s "D" channel.
**B Channel** - A 64 Kb/s channel that can carry voice or data and can be circuit

switched or semi-permanently connected.
**D Channel** - The 16 Kb/s packet-switched channel that carries signaling messages and packet-switched user data.

**Line Information Database (LIDB) - D(n)(n)**
This database may contain alternately billed services such as calling card, collect, and third party billed intraLATA calls. In the future, LIDB might be used to support other Intelligent Network Services, such as Calling Name Delivery. Carriers may use their individual CCS network to access centralized databases during call processing. The LIDBs contain detailed information about working telephone lines, calling card numbers, and other billing information. When a customer seeks to bill a local call to a calling card, or to another number (such as on a collect or third party billed call), a query is automatically sent over high-speed packet-switched networks using CCS to the LIDB of the local telephone company that issued the calling cord or the billing number. Customer-validation information stored in the LIDB is sent back almost instantaneously to the network switch processing the call.

**Line Side Connection**
A connection of a transmission path to the line side of a local exchange switching system, i.e., the side that provides dial-tone (originating) and ringing (terminating) connections. It is from the end office to the end user (customer).

**Local Access and Transport Area (LATA)**
A three-digit number which represents a geographical area that encompasses one or more contiguous local exchange areas serving common social and economic purposes. **InterLATA transmissions are transported by an IC, except for EC internal (official) business. IntraLATA transmissions may be provided by the EC or a competitor, depending on local regulation.**

**Local Exchange Carrier (LEC)**
Any company or corporation engaged for hire in intraLATA communication.

**Local Exchange Routing Guide (LERG)**
The LERG contains information about routing data obtained from the Routing Data Base System (RDBS). This information reflects the current network configuration and scheduled network changes for originating and terminating PSTN calls within the NANP.

**Local Serving Office (LSO) (See End Office) (Table B)**
An arrangement of switching systems and interconnecting trunks.

**LocateIt System**
The LocateIt System is a nationwide industry reference database system that provides precise geographic information for addresses/intersections using a powerful address analyzer. It can be used by customers to prevent bad address data from getting into corporate databases as well as to support cleanup of existing data.

**Mobile Service Providers (MSP) - H(x)(x)**
A generic term used to describe entities providing mobile service. Such entities include, but are limited to, cellular carriers, radio common carriers, private carriers.

**Mobile Telephone Switching Office (MTSO) - CM(x)**
A cellular office or Mobile Telephone Switching Office that provides originating and terminating service for Cellular Mobile Carrier (CMC) phone subscribers.

**Modification of Final Judgment (MFJ)**
MFJ called for the separation of exchange and interexchange telecommunications functions. MFJ defines *exchange* as *LATA*. Exchange or LATA services are to be provided by the BOCs. Interexchange services are to be provided by other than BOC entities from the Access Tariff. LATAs provide a means of delineating the area within which the BOCs may offer services, thus these may be called service areas.

**Network Channel Interface (NCI)**
Defines the electrical and physical requirements of a channel at the point of termination. The customer must specify the NCI codes when ordering access services.

**Network Channel Terminating Equipment (NCTE) - H(x)(x)**
Operating company equipment located on the customer's premises and attached to the telephone network facility. It is on the company side of the regulatory boundary between the network and the customer equipment.

**Network Interface (NI) (See Demarcation Point)**

**Network Terminating Interface (NTI) - W(x)(x), H(x)(x), N(x)(x), (x)MD**
The point of demarcation within a customer-designated premises where the service provider's responsibility for service begins or ends.

**NXX - See Table B - End Office**
Electro-mechanical, analog and digital switching systems may be identified by using their associated 3-character all number calling code (ANC) **or Central Office Code (COC) or NXX Code**. The ANC/COC code is the part of the North American Numbering Plan (NANP) architecture referred to as the 3-digit central office code of form **NXX, where N represents a numeric value from 2 to 9, and X is a numeric value from 0 to 9**.

**Operator Service Providers (OSP) - H(x)(x)**
Offers call-processing assistance to end-user customers, including but not limited to, directory assistance, call-completion assistance, and specialized call-processing, such as person-to-person calls.

**Passive Fiber**
Fiber pairs that are not terminated in the telephone company equipment, and may or may not use regenerators. Passive fiber may also be referred to as "dry," "dark," or "dim" fiber.

**Point of Presence (POP) (CLLI 8)**
A term used for a brief period of time to designate the premises of an IC. The use of this term is discouraged by the FCC. The preferred term is customer premises.

**Point of Termination (POT) - W(x)(x) (x)MD**
A POT is the point of demarcation within a customer-designated premises at which the telephone company's responsibility for the provision of access service ends. The

physical telecommunications interface that establishes the technical interface, the test point and the points of operational responsibility is the hand-off point between an EC and an IC. Same as Point of Interface (POI). The point at which exchange carrier's responsibility for access service ends. Transmission between termination points is an IC's responsibility.

**Remote Line - RL(n), U(n)(n)(n)(n)**
A remote terminal that supports line side (end office to customer) functionality only, under the control of a host switch via an integrated digital umbilical link. It is also known as a generic IDLC that has a direct termination onto a switch module (IDT) with a time slot interface to the IDLC (RDT).

**Remote Switch - RS(n) (FCC RAO Letter 21 - 9/8/92)**
A unit that performs some, but not necessarily all, the basic switching functions. (See Basic Switching Functions.) A remote switch may be wholly or partially controlled by a control unit or processor located in another switch, i.e., the host switch, but it is classified as a switch if the capability to provide a switched path is at the remote location. The remote switch may depend on the host switch for such functions as routing, billing, traffic measurement, and custom calling. Calls between subscribers served by the same remote switching unit can be switched in the remote unit. When this occurs, the voice path does not extend to the host switch; however, a link to the host switch may be required for call control purposes.

The remote switch serves as an extension of the host and receives command information from the host. Command information is always required in the analog environment to qualify it as a remote switch. A digital switch may contain a processor that permits it to control some of its own functions but may not qualify it as an independent switch. A switching module (processor) at the remote location is connected to the host via an umbilical. If isolation from the host occurs, Emergency Stand Alone (ESA) options provide remote switches with the intelligence to allow continued internal POTS calling for intraswitched calls and some remote off remote or remote trunking applications to continue. Whenever communications with the host is lost, intraswitching will allow calls that both originate and terminate within a remote switch serving area. The host switch processes any call going to a destination not directly connected to the remote unit

Remote switching modules collocated with the host are coded RS(n) on an individual basis (CRSM/CRIM). In any other configuration, such as multiple RS(n)s that share an NXX (common control) the RS(n)s in unity are considered as RS(n) (just as those collocated with the host switch). Remotes not collocated with the host (nor with any other remote) which share a host common control, comprise a RS(n) entity.

**Remote Switching Unit (RSU) - RS(n)**
A small remotely controlled electronic end office switch that obtains its call processing capability from an electronic type host office. A typical RSU cannot accommodate direct trunks to an IC.

**Remote Terminal (RT) - U(n)(x)(x)(x), RL(n), CT(x)**
That part of a digital loop carrier placed at a site distant from the central office and connected to the central office terminal by transmission media carrying multiplexed signals. It is a line side connection between the host switch and the remote. The equipment demultiplexes the carrier signals and places each baseband signal on a physical wire pair. A remote terminal serves end users and has no switching control functions. It is driven by the host switching module. In some cases, it may continue to function as a "virtual" switch within a limited serving area when isolation from the host occurs. It can be a concentrator, an integrated digital line carrier (IDLC), or an office that has only lines. In the digital environment such switch extensions termed "side door, nailups and time slot interchanges" are used to extend digital switch functionality to provide special services to extended areas.

**Repeater/Regenerator**
A repeater is an optoelectronic device inserted at intervals along a circuit to boost and amplify an analog signal being transmitted. It is located at a place in an analog circuit before the transmitted analog signal has been degraded to the point where the repeater cannot distinguish it from accumulated circuit noise.

A repeater amplifies the entire analog incoming signal including any distortions that may have been picked up along the transmission path which have combined with the original signal, thereby limiting the distance an analog signal can be transmitted. Correctional techniques can extend the distance an analog signal can travel through the use of more complicated methods such as pre or post-equalization.

In optical fiber transport systems, an optical repeater is used in approximately the same way to amplify an analog optical signal, which has been attenuated by traveling along a fiber optical cable.

A regenerator is a receiver and transmitter combination used to reconstruct an original digital signal (e.g., DS1, DS3), that consists of positive and negative pulses. The digital pulses start out as nearly perfect square waves, but become rounded an reduced in amplitude after being transmitted through a length of copper wire (T1) or coaxial cable (T3). As long as the regenerator is placed before the digital pulses can no longer be distinguishable (usually 6,000 feet for T1 circuits), the original pulse can be regenerated to their original square shape, making digital transmission systems better for longer distances than analog.

A repeatered line is a full-duplex transmission facility that carries one DS1 signal in each direction and comprised of two twisted metallic pairs and regenerators. Only digital signals can be regenerated.

In an optical regenerator, the receiver converts incoming optical pulses to electrical pulses, decides whether the pulses are ones or zeros, generated “cleaned up” electrical pulses, and then converts them to squared off pulses for transmission.

Fiber optic amplifiers uses special fiber doped with erbium to act as the amplifier. The light signal does not need to be converted to electrical impulses as in an optical regenerator. The fiber optic amplifier has become the dominant method for long-haul lightwave systems, and is especially convenient for an underwater cable of several thousand miles.

**SEAS (Signaling System Engineering and Administration System) - A(x)(x)**
The primary operation and administration system for CCS. It is usually installed on a regional basis. It supports network provisioning processes, maintenance functions, administration, and planning.

**Service Control Point (SCP) - D(n)(n)**
A transaction processor system (A Telcordia TELEGATE™ product) that provides a network interface to various database services. Provides routing information for every 800 number in the U. S. The SCPs also validate all operator-assisted calls, supporting Alternate Billing Services such as calling card, third-party billing, and collect calls.

**Service Switching Point (SSP) - DS(n) CG(n) DC(n) (n)(n)T**
An end office or tandem equipped with signaling link hardware and software that can perform the signal point functions. In addition, SSPs can identify the need for application software in processing instructions issued by a SCP.

**Signal Point (SP) (Table B)**
An end office or tandem equipped with signaling link hardware and software that can perform trunk signaling (call set up).

**Signal Transfer Point (STP) - (n)(x)W**
Provides the transport functions required to transport the signaling messages to and from a customer-designated premises and the telephone company SCP or STP. Provides Common Channel Signaling (CCS) network access and CCS message routing. An STP switches messages between Signaling Points (SPs) in a CCS network. SPs are switching offices [including Service Switching Points (SSPs)], other STPs, databases such as those used for 800 Service, and Operator Systems, etc.

**Signaling Links**
Signaling links are used to connect all the CCS network nodes together. Each link is administered (labeled) based on the nodes it connects to, e.g., A-links provide connectivity between signaling points (CCSSOs and SSPs) and service control points (SCPs) to the STPs. For other link information, see Signal Transfer Point (STP) Links.

**Signaling Point Code**
A network address that identifies a physical signaling point (e.g., End Office, SCP, STP, etc.) within a CCS network. Each signaling point in a CCS network is assigned a unique signaling point code composed of a set of three numerics, each with a value between 000 and 255. The point code sets are Network Identification, Network Cluster, and Network Cluster Member. For this network, the following CLLI Network Entity Codes should be assigned:

- Service Switching Point (SSP) use End Office or Tandem Entity Codes
- Service Control Point (SCP) use D(n)(n). See Table E.
- Signal Transfer Point (STP) use (n)(x)W.

**Signaling System 7 (SS7) - (n)(x)W**
Signaling over a physically separate network was referred to as Common Channel Interoffice Signaling (CCIS). This was implemented as a packet switch network using the SS6 protocol for transmission with toll applications using 4ESS office. Signaling on the interoffice message network using a new protocol (SS7) is referred to as Common Channel Signaling (CCS). Signaling System 7 (SS7) provides signaling for circuit related services (e.g., call control, CLASS, PVN, LIDB, ISDN access) and non-circuit related services (e.g., 800 service, alternate billing services). CCS trunks carry voice and data. **The signaling associated with these trunks is transmitted over signaling links.**

**A-Link (Access) Data Transmission Path**
A-Links provide connectivity between signaling points, e. g. CCSSOs, SSPs, SCPs to STPs of the network. A signaling point may be a switching office, database, or any other signaling entity except a STP. A-Links will always be installed in pairs from signaling points, with one link to each mate STP.

**B-Links (Bridge) Data Transmission Path**
B-Links connect STP pairs to other mated STP pairs at the same hierarchical level. B-Links are implemented in groups of four quads.

**C-Link (Cross) Data Transmission Path**
STPs are joined together by signaling links called C-Links, to form mated STP pairs. C-Links are implemented in pairs.

**D-Links (Diagonal) Data Transmission Path**
D-Links refer to the quads which connect pairs at different hierarchical levels.

**E-Links (Extended) Data Transmission Path**
In addition to A-Link access to a signaling point home STP pair, a signaling point may also have a pair of link sets to any other STP pair in the signaling network. These extended accesses are called E-Links and must be provided on diverse routes to both STPs in the target STP pairs. These links may be used to alleviate the traffic load in the regional STPs.

**F-Links (Fully Associated) Data Transmission Path**
Associated signaling links between any two signaling points are referred to as F-Links. Provision for alternate routing of F-Link traffic into the network upon link failure, is a network option.

**Single Mode Fiber (CLFI)**
A step-index type fiber with a very small core diameter, that allows a very high circuit capacity because it allows only one mode of transmission, thus avoiding broadening of the light pulses. Step-index means that the index of refraction of the glass changes abruptly between the fiber core and its cladding. Major advantages of single mode fibers over multimode fibers are the distances the light can travel before a regenerator is required and the greater information carrying capacities. Single fibers are more difficult to splice and have more complex cable restoration procedures.

**Smart Glass (CLFI)**
An advanced fiber that has a central core surrounded by a glass cladding - 8 microns in diameter (1/10 size of human hair). Lasers emit light at invisible infrared wavelengths. The light is guided by internal reflection - the glass cladding reflects the light into the core. Optical/electrical amplifiers are replaced by an optical amplifier. The fibers are spliced with an optical fiber doped with erbium. The light beams can be transmitted with different colors (wavelengths).

**Special Access - W(x)(x)**
Special access service includes all access arrangements that do not use EC end office switching systems. It provides the IC with the capability to provide a variety of specialized end-to-end services.

**Step-By-Step Switch - SG(n)**
Step-By-Step (SXS) (SGn) is an electromechanical system without a common control (memory). As each digit is dialed into the switch, a designated segment responds. The call is completed to a subscriber telephone number, or directed to an outgoing trunk and/or service termination.

**Switch** - See Table B.
A mechanical, electro-mechanical, electronic or photonic device which provides call control, connection control, and switching fabric functionality within one physical system. The switch establishes a communications path between two or more circuits, services, or communications systems. This path provides a transmission conduit for communications or customer payload information and/or signaling. The (switching) device must be able to transmit (originate) and/or receive (terminate) an address/addressed signal. Switching equipment routes communications traffic among transmission paths connected to that equipment.

**Basic Switching Functions - (FCC RAO Letter 21 - 9/8/92)**

1. **Attending** - Monitors for off-hook signals.
2. **Control** - Determines call destination and assigns call to available line or trunk.
3. **Busy testing** - Determines whether the called line or trunk is busy.
4. **Information Receiving** - Receives control and busy test results.
5. **Information Transmitting** - Transmits control and busy test results to tell alerting and interconnection functions whether to complete the call.
6. **Interconnection** - Connects subscriber line to subscriber line or to trunk.
7. **Alerting** - Rings the called subscriber's line or other signaling means if the call is destined for another exchange.
8. **Supervising** - Monitors call for termination so the line can be released.

**Switched Access - (x)MD**
A service offering that includes voice grade trunking to the EC's Central Office switches to gain dialed access to the ECs' intraLATA message network. The most

common use of switched access is end-to-end telephone service, including special interLATA cases like WATS and 800 service.

**Switching System (Table B)**
An assembly of equipment arranged for automatic switching in which each call is extended through the CO to the desired termination to establish connections between lines (customer loops) and/or trunks. End offices and tandems are the primary switching systems comprising the telecommunications network.

**Switched Multi-Megabit Data Service (SMDS) - (n)(x)W**
A high speed, public packet switched data communications service. It is aimed at Local Area Network (LAN) interconnections and other data communications applications (distributed computing and image transfer) requiring LAN-like performance and features across a wide geographic area. SMDS, based on the IEEE 803.6 MAN standard, is considered a basic service like voice. SMDS will be available in throughput speeds of 1.2, 4, 10, 16, 25, and 34 Mbps. SMDS will transmit data at speeds ranging from 1.544 Mbps to 45 Mbps and eventually provide 155 Mbps SONET Access. SMDS is based on **Cell Relay** technology as opposed to **Frame Relay** technique, another fast-packet switching technology designed to operate at speeds up to 1.544 Mbs and below. Cell Relay packages data from LANs in 50 byte blocks. FDDI (Fiber Distributed Data Interface) is another technique.

**Synchronous Transfer Mode (STM) - BB(x)**
Synchronous transfer mode cells are used to carry user information within a broadband channel. STM switching is being developed that matches switch capabilities to service demands. STM can switch combinations of low or high bandwidth, long or short duration calls. It is best suited for switching non-bursty, high bandwidth signals. (See ATM.)

**Tandem (Table B)**
A switching system in the message network that establishes trunk-to-trunk connections. A method of interconnecting Central Offices (COs) by trunks to a tandem office when the End Offices do not have trunks directly to each other, or as a alternate route if direct trunks are busy. There are local tandems, LATA tandems, access tandems, and packet tandems.

**Tandem Office (Table B)**
A central office that functions as a hub for message traffic.

**Tariff**
Federal and State published rates, regulations, and descriptions that govern the provision of communications services.

**Telcordia Customers**
Telcordia clients who fund technical analysis or licensees of Telcordia intellectual property.

**Toll Office (Table B)**
A central office or switching equipment in an office that connects trunks in the toll (long distance) network.

**Trunk (CLCI)**
A communications path connecting two switching systems in a network, used in the establishment of an end-to-end connection. A trunk may have both terminations in the same switching system.

**Trunk Side Connection**
Connection from one switching system to another switching system.

**Umbilical (CLFI)**
A "life support" connection from a **host** office to a **remote** office to provide functions not available at the physical location. The host augments the remote by providing functional support that a remote lacks.

**Vertical and Horizontal Coordinate (V&H)**
A four or five digit number used to pinpoint either a Rate Center or Switching Entity location. The V and H coordinates are used to measure the airline mileage between like-entities (Rate Center or Switching Entity to Switching Entity). CLONES contains the site or switching entity V and H coordinates. LERG contains both Rate Center and Switching Entity V and H coordinates.

**Virtual Circuit**
A logical association of sequential links in each direction of transmission between data terminal equipment. As each packet is transmitted, the packet switch assigns a physical path (trunk) to the next switch. Transmission occurs on a link-by-link basis from the sending to the receiving data terminal equipment. No permanent physical circuit is maintained between the terminations.

**Wireless Service Providers (WSP) - H(x)(x) or CM(x)**
A carrier who is authorized to provide wireless communications exchange services, e.g., a cellular carrier or a paging services carrier.

**Wire Center**
A building where one or more central offices used for the provision of telephone exchange services are located. The wire center is normally the centroid (weighted average location) of all telephone stations that it serves. It is a location at which customer loops converge.

**ZIP Code**
A numerical five digit code that identifies areas within the United States and its territories for purposes of simplifying the distribution of mail by the U. S. Postal Service. It should appear on the last line of the destination return addresses of mail, following the name of the city and state. ZIP Code alignments do not necessarily adhere to boundaries of cities, counties, states, or other jurisdictions.

**800 Service**
A service that allows a customer, for a monthly fee, to receive telephone calls that have been placed without charge to the originating party from within specified areas (formerly called INWATS).

**900 Service - National (DIAL-IT service)**
A network service that provides a variety of announcement-related services on a national or local basis (local uses regular NPA plus 976). There are two general categories of this service: Public announcement services (PASs) such as weather, sports, horoscope, etc., and Media Stimulated Calling (MSC) such as telephone voting radio station call-ins, etc.

# Acronyms

For a complete list of trademarks, acronyms and abbreviations, see SR-CPS-000138.

| | |
|---|---|
| 2B1Q | ANSI approved BRI line coding (2 Binary bits encoded in 1 Quarternary) |
| AAI | ATM Access Interface |
| AAP | Alternate Access Provider |
| ABS | Alternate Billing Services |
| AC | Access Customer |
| ACD | Automatic Call Distributor |
| ACIS | Ameritech Customer Information Service |
| ACNA | Access Customer Name Abbreviation (ASR) |
| ACS | Advanced Communications Service (Axx) Work Center |
| ACTL | Access Customer Terminal Location (ASR) |
| ADM | Add Drop Multiplexer |
| ADML | Asymmetric Digital Microcell Link |
| ADSL | Asymmetric Digital Subscriber Line |
| AI | Artificial Intelligence |
| AIN | Advanced Intelligent Network |
| AIS | Automatic Intercept System |
| ALIT | Automatic Line Insulation Test |
| AMI | Alternate Mark Inversion (predecessor to 2B1Q line code) |
| AML | Actual Measured Loss |
| ANC | All Number Calling |
| ANI | Automatic Number Identification |
| ANSI | American National Standards Institute (ANSI) |
| AOCN | Administrative Operating Company Number (Lockheed Martin) |
| AP | Access Provider |
| APOT | ACTL Point of Termination (ASR) |
| ASCII | American Standard Code for Information Interchange |
| ASR | Access Service Request (ASR) |
| AT | Access Tandem |
| ATIS | Alliance for Telecommunications Industry Solutions |
| ATM | Automatic Teller Machines |
| ATM | Asynchronous Transfer Mode |
| b/s | bit per second |
| B8ZS | Bipolar with 8-Zero Substitution Line Code |
| BnZS | ANSI, T1X1.4/BR STD 3, 6, and 8-Zero Substitution Line Code |
| BISDN | Broadband Integrated Services Digital Network |

| | |
|---|---|
| BNI | Broadband Network Interface |
| BOPZS | Bit-Oriented-Protocol Zero Suppression (64 CCC, NON-STD) |
| BPV | Bi-Polar Violation |
| BRA | Basic Rate Access |
| BRI | Basic Rate Interface |
| BRIDS | Telcordia Rating Inputs DataBase System |
| BSC | Business Service Center |
| BSS | Broadband Switching System |
| BTA | Basic Trading Area |
| CABS | Carrier Access Billing System |
| CAC | Carrier Access Code |
| CADETT | Computer Assisted DEsign for Trunk Translations (SWITCH) |
| CAM | Closest Address Match (neural net) |
| CAP | Competitive Access Provider |
| CARE | Customer Account Record Exchange (OBF Subscription Comm.) |
| CATV | Community Antenna Television |
| CCB | Common Carrier Bureau (Div of FCC) |
| CCIR | International Radio Consultative Committee |
| CCITT | Comite Consultatif International Telegraphque et Telephonique (or) International Telegraph and Telephone Consultative Committee |
| CCNA | Customer Carrier Name Abbreviation |
| CCR | Customer Control & Reconfiguration |
| CCS | Common Channel Signaling |
| CCSA | Common Control Switching Arrangement (ZaZ) |
| CD | Compact Disc |
| CD-ROM | Compact Disc-Read Only Memory |
| CD-V | Compact Disc-Video |
| CDMA | Code Division Multiple Access |
| CDS | Circuit Design System (module of TIRKS System) |
| CGSA | Cellular Geographic Service Area |
| CESAR | Carrier Enhanced System for Access Request |
| CEV | Controlled Environmental Vault |
| CFA | Customer Facility Arrangement (for T-Mux) |
| ChSS | Channel Switched Service (ISDN) |
| CIC | Carrier Identification Code (4 digits) |
| CID | Catalog Item Database (BCR) |
| CIGRR | Concerned Interested Group for Rating & Routing |
| CIMAP | Circuit Installation & Maintenance Assistance Package |

| | |
|---|---|
| CLF | Svc Ord Usage - COMMON LANGUAGE, Facility (CLFI) Format |
| CKLT | CLLI of EC Bridging Location |
| CLS | Svc Ord Usage - COMMON LANGUAGE, Spl Svc Serial Format |
| CLT | Svc Ord Usage - COMMON LANGUAGE, Spl Svc Telephone Format |
| CLASS | Custom Local Area Signaling Service |
| CLCI™ MSG | COMMON LANGUAGE Coding for Message Trunks |
| CLCI™ S/S | COMMON LANGUAGE Coding for Special Service Circuits |
| CLEC | Competitive Local Exchange Carrier |
| CLEI™ | COMMON LANGUAGE Coding for Equipment |
| CLFI™ | COMMON LANGUAGE Coding for Facilities |
| CLLI™ | COMMON LANGUAGE Coding for Locations |
| CLO | Circuit Layout Order |
| CLONES | Central Location On-Line Entry System |
| CLR | Circuit Layout Record |
| CMI | Coded Mark Inversion |
| CNI | CNI Ring Assoc/w CCS7 |
| CO | Central Office |
| COC | Central Office Code |
| CODES | Coder-Decoder |
| CO LAN | Central Office Based Local Area Network |
| COMADS | Computerized Mail Address System |
| COSMIC | Common Sessions Main Interconnection Modular Frame System |
| COSMOS | Computer System for Mainframe Operations |
| COT | Central Office Termination |
| CPC | Circuit Provisioning Center |
| CPE | Customer Premises Equipment |
| CPN | Customer Premises Network |
| CPR | Continuing Property Record |
| CPU | Central Processing Unit |
| CRIS | Customer Record Information System |
| CSA | Carrier Serving Area |
| CSDC | Circuit Switched Digital Capability |
| CSR | Customer Station Rearrangement |
| CSU | Channel Service Unit |
| CSV | Circuit Switched Voice |
| CTIA | Carrier Telecommunications Industry Association |
| CTX | Centrex |
| DA | Directory Assistance |

| | |
|---|---|
| DACS | Digital Access Cross-connect System (requires demux and conversion to analog) |
| DAL | Dedicated Access Line |
| db | decibel |
| DCS | Digital Cross-connect System (Generic) |
| DCT | Digital Carrier Trunk |
| DDD | Direct Distance Dialing |
| DDL | Digital Data Loop |
| DDOV | Digital Data Over Voice (service) |
| DDS | Digital Data System |
| DFG | Demand Forecast Group Data Layer Building Block (BCR) |
| DID | Direct Inward Dial |
| DIG | Data Integrity Group |
| DIU | Digital Interface Unit |
| DLBB | Data Layer Building Block (BCR) |
| DLC | Digital Loop Carrier |
| DLR | Design Layout Record |
| DLTU | Digital Line Transmission Unit |
| DOD | Direct Outward Dial |
| DOV | Data Over Voice |
| DPC | Destination Point Code |
| DRC | Design Routing Code |
| DRI | Design Related Information (TIRKS format screen) |
| DS0 | Digital Signal rate 0 or 64 kb/s - 1 channel |
| DS1 | Digital Signal rate 1 or 1.544 mb/s - 24 channel |
| DS1C | Digital Signal rate 1C or 32.154 mb/s - 48 channel |
| DS2 | Digital Signal rate 2 or 6.312 mb/s, 4 DS1s - 96 channel |
| DS3 | Digital Signal rate 3 or 44.736 mb/s, 28 DS1s - 672 channel |
| DSL | Digital Subscriber Line |
| DSU | Data Service Unit (Digital Line Interface Unit) |
| DSX-0A | Digital System Cross-connect - DDS or DS0A signals |
| DSX-0B | Digital System Cross-connect - DDS - DS0 signals |
| DSX-# | Digital System Cross-connect - DS1, 1C, 2, 3, 4 signals |
| DTE | Digital Terminating Equipment |
| EA | Equal Access |
| EAEO | Equal Access End Office |
| EAS | Extended Area Service |
| EC | Exchange Carrier |

| | |
|---|---|
| ECS | Equipment Catalog System |
| EDAS/NM | Engrg & Adm Data Acquisition System/Network Management |
| EML | Expected Measured Loss |
| EMR | Enhanced Maintenance Request |
| EPSCS | Enhanced Private Switch Communications Service (each customer can configure and control their own private network. (ZaZ) |
| ESF | Extended Superframe Format |
| ESP | Enhanced Service Providers |
| ESS™ | Electronic Switching System (AT&T) |
| ETS | Electronic Tandem Switching |
| FACS | Facilities Assignment and Control System |
| FCC | Federal Communications Commission |
| FCM | Fractionally-Controlled Multiplexing (64CCC, NON-STD) |
| FDDI | Fiber Distributed Data Interface |
| FG* | Feature Group *A, B, C, or D |
| FID | Field IDentifier (Service Order applications) |
| FITL | Fiber In the Loop |
| FO | Fiber Optic |
| FTTC | Fiber To The Curb |
| gb/s | Giga bits per second |
| gHz | Giga Hertz |
| GIS | Geographic Information System |
| GOC | Generic Order Control (module of the TIRKS System) |
| GPS | Global Positioning System |
| GMS | Global Standard for Mobile Communications |
| GTAS | Generic Trunk Administration System |
| GUI | Graphical User Interface |
| HCDS | High Capacity Digital Service |
| HDT | Host Digital Terminal |
| HFC | Hybrid Fiber/Coax (all fiber network - see ADSL) |
| HICAP | High Capacity (Digital Service) |
| HTML | HyperText Markup Language |
| Hz | Hertz ('H' ALWAYS in caps.) |
| IAC | Interexchange Access Customer |
| IAL | IntrA-LATA |
| IAS | IntrA-State |
| IC | Interexchange Carrier (or IEC or IXC) |
| ICCF | Industry Carriers Compatibility Forum |

| | |
|---|---|
| ICL | Inserting Connection Loss |
| ICSC | Interexchange Customer Service Center |
| IDDD | International Direct Distance Dialing |
| IDLC | Integrated Digital Loop Carrier |
| IEC | Interexchange Carrier (or IC) |
| IEEE | Institute of Electrical and Electronics Engineers |
| IES | Integrated Equipment System (BCR) |
| IFCPC | Interoffice Facility Circuit Provisioning Center |
| ILEC | Incumbent Local Exchange Carrier |
| IMPS | Improve Mobile Telephone Service |
| IMS | Information Management System |
| IN | Intelligent Network |
| INA | Information Network Architecture |
| INE | Intelligent Network Equipment |
| INPLANS | Integrated Network PLANning System |
| IP | Intelligent Peripheral |
| IPLS | InterLATA Private Line Service |
| IPS | Integrated Provisioning System |
| IRL | InteR-LATA |
| IRS | InteR-State |
| ISCP | Integrated Service Control Point |
| ISDN | Integrated Services Digital Network |
| ISI | Industry Support Interface - Advisory Group |
| ISI | Intelligent Services Interface (related to NTI's DMS-100) |
| ISO | International Standards Organization |
| ISP | Information Service Provider |
| ISP | Internet Service Provider |
| ITE | Integrated Traffic Engineering (module of INPLANS) |
| ITP | Integrated Technology Planning (module of INPLANS) |
| ITU-TSS | International Telecommunications Union - Telecommunications Standardization Sector |
| IXC | Interexchange Carrier (or IC) |
| kb/s | kilobits per second |
| kHz | kiloHertz |
| LAC | Loop Assignment Center |
| LADT | Local Area Data Transport |
| LAN | Local Area Network |
| LAPD | Link Access Protocol for the D channel |

| | |
|---|---|
| LASER | Light Amplification by Stimulated Emission of Radiation |
| LASS | Local Area Signaling Services |
| LATA | Local Access and Transport Area |
| LCIE | Lightguide (AT&T) Cable Interconnection Equipment |
| LEC | Local Exchange Carrier |
| LED | Light Emitting Diode |
| LEN | Local Exchange Network |
| LEN | Line Equipment Number (ESS) |
| LERG | Local Exchange Routing Guide |
| LEIM | Loop Electronics Inventory Module (LEIS system) |
| LEIS™ | Loop Engineering Information System |
| LERG | Local Exchange Routing Guide |
| LFACS | Loop Facilities Assignment and Control System |
| LIDB | Line Identification Database |
| LIU | Line Interface Unit |
| LMDS | Local Multipoint Distribution Services |
| LMOS | Loop Maintenance Operations System (AT&T) (see WFA/NSDB BCR) |
| LNP | Local Number Portability |
| LOC | Location (BCR) |
| LRN | Local Routing Number |
| MAN | Metropolitan Area Network |
| mb/s | Megabit per second |
| MDS | Message Design System (module of the TIRKS system) |
| MDSC | MDS Switching Machine Code |
| MFJ | Modification of Final Judgment |
| MIC | Machine Interface Code |
| MLHG | Multi Line Hunt Group |
| MOBE™ | Model Builders Environment (BCR) |
| MSA | Metropolitan Statistical Area |
| MSP | Mobile Service Provider |
| MTSO | Mobile Telephone Switching Office |
| NAC | Network Assignment Center |
| NANP | North American Numbering Plan |
| NC | Network Cluster (reference to NTI's DMS-10 cluster) |
| NC | Network Channel |
| NCI | Network Channel Interface |
| NCTE | Network Channel Terminating Equipment |
| NE | Network Element |

| | |
|---|---|
| NECA | National Exchange Carriers Association |
| NEXT | Near End Cross Talk |
| NI | Network Interface |
| NMA | Network Monitoring & Analysis |
| NMC | Network Management Center |
| NNI | Network Node Interface |
| NOAP | Network Operations and Architecture Product Support Group |
| NODE | Processor and electronic switch associated with a RNAC (ZaZ) |
| NPA | Numbering Plan Area |
| NPS-F | Network Planning System - Facilities |
| NRRIC | Network Rating and Routing Informing Committee |
| NSEP | National Security Emergency Preparedness |
| NT | Network Termination |
| NT1 | Network Termination 1 |
| NT2 | Network Termination 2 |
| NTI | Northern Telecom, Inc. |
| NXX | Network Terminating Interface Central Office Code |
| OBF | Ordering & Billing Forum |
| OCU | Office Channel Unit |
| OCN | Operating Carrier Number (in RDBS, assigned by NECA) |
| OC48 | Optical Carrier with (48x28x24=32.256 voice channels) |
| OIU | Office Interface Unit |
| ONA | Open Network Architecture |
| ONU | Optical Network Unit |
| OPC | Origination Point Code |
| OPS | Operations Provisioning System |
| ORB | Office Repeater Bay |
| OSCA | Operating System Computing Architecture (Telcordia) |
| OSI | Open System Interconnection |
| OSMINE | Operations Systems Modifications for the Integration of Network Elements |
| OSN | Open System Network |
| OSP | Operator Service Provider |
| OSS | Operations Support Systems |
| PAD | Packet Assembler and Disassembler |
| PAS | Public Announcement Service |
| PBX | Public Branch Exchange |
| PCM | Pulse Code Modulation |

| | |
|---|---|
| PCN | Personal Communication Network |
| PCS | Personal Communication Services |
| PICS | Plug-in Inventory Control System |
| PIN | Personal Identification Number |
| PLID | Primary Line Identifier (Service Order) |
| POI | Point of Interface/Interconnection |
| PON | Passive Optical Network |
| POP | Point of Presence |
| POT | Point of Termination |
| POTS | Plain Old Telephone Service |
| PPP | Point-to-Point Protocol |
| PPSN | Public Packet Switched Network |
| PRA | Primary Rate Access |
| PREMIS | PREMises Information System |
| PRI LOC | Primary ACTL Location (ASR) |
| PRO-CDS | PROgrammable Circuit Design System (Module of TIRKS System) |
| PSC | Public Service Commission |
| PSDS | Public Switched Digital Service |
| PSS | Packet Switching System |
| PUC | Public Utility Commission |
| PVC | Private Virtual Connection |
| PVI | Planning View of Inventory Data Layer Building Block (BCR) |
| QOS | Quality of Service |
| RAM | Random Access Memory |
| RBOC | Regional Bell Operating Company |
| RCC | Radio Common Carrier |
| RCMAC | Recent Change Memory Adm Center |
| RDBS | Routing Database System (LERG) |
| RHC | Regional Holding Company |
| RISLU | Remote Integrated Services Line Unit (assoc/w ISDN, 5ESS) |
| RMAS | Remote Memory Administration System |
| RMN | Remote Network |
| RNAC | Remote Network Access Circuits (ZaZ) |
| RSC | Remote Switching Center |
| RSS | Remote Switching System |
| RSU | Remote Switching Unit |
| RT | Remote Terminal |
| RTAD | Remote Test Access Data |

| | |
|---|---|
| RTAP | Remote Test Access Placer |
| SAC | Special Access Code (a non-geographic NPA code) |
| SAM | Sub-Assembly Model (BCR) |
| SAM | System Administration Module (FTTC product-Raynet) |
| SARTS | Switched Access Remote Test System (AT&T) |
| SASER | Sound Amplification by Stimulated Emission of Radiation |
| SCC | Switching Control Center |
| SCP | Signal (Service) Control Point |
| SDM | Subrate Data Multiplexing |
| SEAS | Signaling System Engineering & Administration System (SSP) |
| SEC LOC | Secondary Location (ASR) |
| SIF | SONET Interoperability Forum |
| SIU | Subscriber Interface Unit |
| SLC | Subscriber Loop Carrier (AT&Ts Digital Loop Carrier System) |
| SMDS | Switched Multi-megabit Data Service |
| SME | Subject Matter Expert |
| SMS | Service Maintenance System (SSP) |
| SNI | Subscriber To Network Interface |
| SOAC | Service Order Analysis and Control |
| SOE | Standard Operating Environment |
| SONET | Synchronous Optical Network |
| SOP | Service Order Processor |
| SP | Signaling Point (end office for CCS) |
| SPC | Stored Program Control |
| SPCS | Stored Program Control Switch |
| SPOT | SEC LOC Point of Termination (ASR) |
| SR | Special Reports |
| SSC | Special Service Center |
| SSP | Special Service Protection (of circuits, facilities, etc.) |
| SSP | Service Switching Point (SSP) |
| SS7 | Signaling System 7 (an out-of-band signaling - Feature Group D Access Service) |
| STAT | Standard Trunking Termination Code |
| STM | Synchronous Transfer Mode |
| STTC | Switch Transmission Termination Code |
| STP | Signal Transfer Point |
| SVC | Switched Virtual Connection |
| SWC | Serving Wire Center (where local loops converge) |

| | |
|---|---|
| SYNTRAN | SYNchronous TRANsmission |
| "T" | "T" Customer Interface |
| T1 | T Carrier System Multiplexing for 24 Channels |
| T3 | T Carrier System Multiplexing for 28 T1 Systems (24x28=672 voice channels) |
| T1AG | T1 Advisory Group |
| T1M1 | Telecommunications - Internetwork Planning & Engineering |
| TA | Technical Advisory |
| TAG | Technical Advisory Group |
| TAMP | Traffic Administrative Measurement Plan |
| TCAP | Transaction Capabilities Application Part |
| TCIF | TeleCommunications Industry Forum |
| TCM | Time Compression Multiplexing |
| TCP-IP | Transmission Control Protocol-Internet Protocol |
| TD | Test Details |
| TDM | Time Division Multiplex |
| TDMA | Time Division Multiple Access |
| TGSN | Trunk Group Serial Number (BR-795-100-195) |
| TIRKS® | Trunks Integrated Record Keeping System |
| TLP | Transmission Level Point |
| TLPA | Transmission Level Point, in the Z to A direction |
| TLPZ | Transmission Level Point, in the A to Z direction |
| TMM | Technology Management Module |
| TNDS | Total Network Data System |
| TOPS | Traffic Operator Position System |
| TR | Technical Reference |
| TRIF | Technical Requirements Industry Forum |
| TSC | Two Six Code |
| TSGR | Transport Systems Generic Requirements |
| TSI | Time Slot Interchange |
| TSP | Telecommunications Service Priority |
| TSPS | Traffic Service Position System |
| TSS | TNDS/TK Service Subsystem |
| TSSI | Time Slot Sequence Integrity |
| TTS | TIRKS Table System |
| TWLT | Trunk With Line Treatment |
| "U" | "U" Customer Interface |
| UI | Unit Inventory Data Layer Building Block (BCR) |

| | |
|---|---|
| UL | Underwriters Laboratories |
| ULBB | User Layer Building Block (BCR) |
| UNI | User to Network Interface |
| UNIX® | Unix is a registered trademark of Novell, Inc. |
| URL | Universal Resource Locator |
| USO | Universal Service Order |
| USOC | Universal Service Order Code |
| VBR | Variable Bit Rate |
| VC | Virtual Channel |
| VF | Voice Frequency |
| VICI | Visual Integrated Communication Interface |
| VLSI | Very Large Scale Integration |
| VP | Virtual Path |
| WA | Work Authorization |
| WAN | Wide Area Network |
| WATS | Wide Area Telecommunications Service |
| WDM | Wave Division Multiplexing |
| WG | Working Group |
| WP | Working Party |
| WORD | Work Order Record and Details |
| WSP | Wireless Service Provider |
| WWW | World Wide Web |
| ZBS | Zero Byte Substitution |
| ZBTSI | Zero Byte Time Slot Interchange line code |

# Addendum A - Retired CLLI™ Codes

| CLLI Codes | Type | Date Retired | Reason |
|---|---|---|---|
| E(x)($x^2$) | Exchange Switchroom - Nonswitching Network Entity Code - Table E | 10/13/99 | The definition of the Nonswitching Network Entity Code M(x)(x) (Table E) to include the substance of the E(x)(x) code |
| P(x)($x^2$) | Test or Service Positions - Nonswitching Network Entity Code - Table E | 10/13/99 | The definition of the Nonswitching Network Entity Code M(x)(x) (Table E) to include the substance of the P(x)(x) code |
| S($x^3x^2$) | Service Centers Nonswitching Network Entity Code - Table E | 10/13/99 | The definition of the Nonswitching Network Entity Code M(x)(x) (Table E) to include the substance of the S(x)(x) code |
| T(x)($x^2$) | Toll Test Room or Test Board Nonswitching Network Entity Code - Table E | 10/13/99 | The definition of the Nonswitching Network Entity Code M(x)(x) (Table E) to include the substance of the T(x)(x) code |
| (x)KD | LEC Consortium Point of Interconnection - Miscellaneous Network Switching Network Entity Code - Table D | 02/04/97 | It is not necessary to differential between IntraLATA and InterLATA Points of Interfaces (POI). The (x)MD code places it. |
| (n)DT | International DDI to PBX - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |
| (n)TT | International Local Transit Office - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |
| (n)KT | International DDI to Local Transit Office - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |
| (n)HT | International Combined Local Transit and End Office - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |
| (n)FT | International 1 Way Incoming to Paging - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |
| (n)RT | International Individual Remote Tandem - Network Switching Entity Code - Table B | Proposed | International Switches do not require different Switching Entity Codes than North America. |