



# Common Language<sup>®</sup> Equipment Identification—Frequently Asked Questions (FAQs)

**iconectiv** Job Aid

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## Common Language® Equipment Identification—Frequently Asked Questions (FAQs)

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Target audience: Licensed Clients

Related document: all CLEI Code supporting documents

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## 1. Purpose

This Job Aid contains Frequently Asked Questions (FAQs) related to CLEI™ Code information. The FAQs listed include business practices that support the use of CLEI Codes and supporting attribute data such as Field Reporting Codes (FRCs) and Equipment Category Numbers (ECNs).

## 2. Reason for Issue

This is the first issue of this document.



### 3. CLEI Frequently Asked Questions

**1. *What is a Common Language Equipment Identification (CLEI) Code?***

CLEI Codes are globally unique, 10-character alphanumeric intelligent codes that identify equipment in a structured naming format. There is a one-to-one relationship between a CLEI Code and a Manufacturer's Product Code (part number including the hardware version).

**2. *How is a CLEI Code used?***

CLEI Codes are used as the primary product identifier. The intelligence of the code provides product interchangeability between versions of equipment. The CLEI Code also provides the key to associated product data within the Common Language Equipment Repository (for more details see FAQ 21). CLEI Codes are the industry standard for equipment identification.

**3. *Do CLEI Codes conform to ANSI standards?***

Yes, CLEI Codes conform to ANSI ATIS-0300213.2014, Structure for the Identification of Equipment Entities for Information Exchange.

**4. *Why is a CLEI Code important?***

The CLEI Code not only provides a consistent naming convention used across all equipment manufacturers, it also includes classification of equipment. Classifying equipment based on technology assists CLEI Code subscribers with recording their assets into specific accounts. This allows for a comprehensive accounting view of capital expenditures (CAPEX). Other benefits that CLEI Codes provide is consistent identification for modeling equipment and assists with tracking a product's lifecycle.

**5. *Why should my company use CLEI Codes?***

CLEI Codes provide a consistent naming structure (10-character code) instead of variable length identifiers, such as manufacturer's product codes. CLEI Codes also provide a consistent classification of equipment by functional network support (e.g., SONET / SDH, Wave-Division Multiplexing, Cellular Radio) and type of device (e.g., frame, chassis, plug-in). This further provides structure and classification that can be used to organize equipment for various business needs such as accounting, engineering and operations. CLEI Codes are also supported by machine readable symbols in the form of equipment Bar Code labels, where automatic data capturing devices (e.g., Bar Code scanners and smart phones) can be used to read the CLEI Code data, further enhancing the process. CLEI Codes and supporting data, can be used throughout your company's eco-system from procurement to final disposal.

**6. *How does the use of CLEI Codes benefit Asset Retirement?***

Consistent use of CLEI Codes throughout the item's lifecycle ensures the correct item is being accounted for and retired accurately - ensuring a more error-free and less labor-intensive disposition process.

**7. *What is the CLEI-7?***

The CLEI-7 is the first 7 characters of a CLEI Code. The first 7 characters define the functionality of the equipment and whether equipment items are interchangeable.

When the first 7 characters of the CLEI Codes, representing two (or more) equipment versions are the same, this indicates that the items are functionally fully interchangeable.

**8. How can CLEI Codes help with ordering equipment?**

The use of a CLEI Code when ordering identifies the specific product desired by the internal user (Engineer, Inventory Planner, or Field Service). The CLEI Code provides an absolute identity of the ordered item, which reduces/eliminates shipments of an incorrect item. All CLEI Coded items should be itemized on Purchase Orders using the CLEI-7. The use of CLEI-7 in the ordering process:

- Eliminates the need for the ordering company to specify the hardware version of the product ordered.
- Allows the supplier to ship the latest version of the product, which is fully interchangeable with previous versions.
- Enhances the Supply Chain process for efficiencies in Warehousing, Engineering, and Spares Management by using an interchangeable unit (as defined by CLEI-7).

**9. How is the CLEI Code used on supplier packing lists and invoices?**

When suppliers provide CLEI Codes and product IDs on packing slips, the service provider's receiving department can ensure the correct item was shipped by verifying/comparing the CLEI Code on the package to the CLEI Code on the order slip. This will also help streamline the billing verification and payment process.

**10. How do CLEI Codes help with achieving Asset Management goals across organizations?**

Asset management goals differ across the enterprise. Companies can capitalize on CLEI Code data to achieve specific Asset Management goals including but not limited to the following areas below:

- Network Planning
  - Engineer optimal network to meet current and future service demands.
  - Efficient utilization of current and future network infrastructure.
- Network procurement and construction
  - Cost effective procurement of infrastructure.
  - Cost effective management of materials and warehoused equipment.
  - Facilitates vendor and project management.
- Network Operations
  - Efficient and effective network operation.
  - Ongoing optimal utilization of existing infrastructure.
- Financial
  - Prioritization of capital expenditure.
  - Clear and concise tracking and reporting of assets.
  - Development of KPIs (Key Performance Indicators).
- Commercial
  - Pricing and profitability management of new and existing services.
  - Commercial justification for introducing, expanding or phasing out services.

**11. What are Product Change Notifications (PCNs)?**

As communication products have been generally available and/or have been in service for a period, it often becomes necessary for suppliers to introduce changes to those products. Changes, modifications or improvements also need to be announced to the users of the equipment so that end-users can assess and take appropriate action. PCNs are the method used to communicate this information about the changed product in a standard format. For more details please refer to GR-209-CORE, Generic Requirements for Product Change Notices.

**12. What are some of the benefits of using PCNs?**

The PCN process as defined per GR-209-CORE requires that a Product Change Notice is issued prior to the product being shipped. This is to ensure that the CLEI Code that represents the corrected or updated item is found within the CLEI Code repository or the service provider's local database. PCNs use the CLEI Code to clearly identify the old and new products. The PCN process also includes a review period so that the impact to the network of the PCN can be assessed. The PCN process and CLEI Codes can reduce the time to locate and replace an item, thereby avoiding a potential outage situation.

**13. When a piece of equipment is changed due to a defect, is the manufacturer required to get a new CLEI Code?**

Yes, a new CLEI Code needs to be assigned. This product change is documented using a Class A or Class AC Product Change Notice (PCN). For additional information on PCNs, refer to document GR-209-CORE.

**14. What is a CPR and how is it used?**

A Continuing Property Record (CPR) is a 6-character code that classifies equipment items into various property types. Some property types include:

- Hardwired retirement equipment
- Plug-ins (deferrable, non-deferrable and small form-factor pluggable)
- Capital tools and portable test sets
- Minor items
- Expense items
- Software

The CPR provides the grouping of assets to assist the service provider in managing their inventory and cost in the field and warehouse. **iconectiv** assigns and maintains CPRs. Licensed companies can request additions or changes. For more information about code set contributions, additions and changes see FAQ 37.

**15. What is an ECN and how is it used?**

An Equipment Category Number (ECN) is a 3-character code that classifies equipment items by technology and functional grouping. Primary use of an ECN is in the investment-allocation processes and rate-base studies. **iconectiv** assigns and maintains ECNs, and licensed companies can request additions or changes.

**16. What is an FRC and how is it used?**

A Field Reporting Code (FRC) is a 2 to 4 character code, used to identify which part of the network the equipment supports (e.g., electronic digital switch, circuit transport, packet switch, etc.). FRCs can be used to record and group expenditures for capital, expense, repair, and removal/salvage costs based on a set of defined accounting categories. **iconectiv** assigns and maintains FRCs, and licensed companies can request additions or changes.

**17. Are there codes available that group equipment items?**

Yes, the CLEI Code set provides multiple ways to group equipment. Classifying equipment is a critical aspect to CLEI Code identification. These classifications can be used for financial inventory value, reporting product groups by technology, type of use, or asset management reporting at the highest corporate financial level. Classification starts with the CLEI Code itself where the first two characters are mnemonic based on technology. However, associated CLEI Code data, such as the Equipment Category Number (ECN) also provides a means of organizing equipment based on specific network functions. ECN data can be further grouped by the Field Reporting Code (FRC).

**18. What is a Hardwired Assignment Code?**

A Hardwired Assignment Code is a logical 8-character code assigned by **iconectiv**, used to provision equipment. Hardwired Assignment Codes identify the slot/port functionality that the hardwired equipment supports. Hardwired Assignment Codes are part of the CLEI Code set and are primarily used for network circuit inventory tracking, provisioning, network surveillance, testing, and maintenance. Hardwired Assignment Codes are also known as CLEI Assignment Codes.

**19. What are HECI and HECIG codes?**

Human-readable Equipment Catalog Item (HECI) and Human-readable Equipment Catalog Item Group (HECIG) are generic terms used in many Operations Support Systems. A HECI is the same as a CLEI Code and a HECIG is the first 8-characters of the CLEI Code.

**20. What is an ECI and how is it used?**

An Equipment Catalog Item (ECI) is a 6-character code that has a one-to-one relationship to the 10-character CLEI Code assigned by **iconectiv**. Prior to October 1, 2006, all linear bar code labels contained the ECI number. After October 1, 2006, 2D product labels contain the full 10-character CLEI Code in the symbol, not the ECI. ECI codes are also used by some companies as internal processing codes. See "What is a Bar Code" FAQ-22.

## **21. What business functions does a CLEI record help address?**

A CLEI record helps service providers with equipment planning, engineering, ordering, warehousing, maintaining, repairing, inventory tracking, and asset management. A CLEI record includes:

- The CLEI Code
- Physical, engineering, environmental, and electrical attributes
- Asset-tracking codes (CPRs, ECNs and FRCs)
- Hardwired Assignment Codes used within provisioning processes
- Manufacturer's product identifiers (i.e., stenciling, ordering code, etc.)
- Supporting manufacturer's platform name, also referred to as System ID

CLEI Codes also assist with equipment modeling that rely on a hierarchal structure, which is a CLEI Coding principle. CLEI Code records and the Common Language Equipment Repository, containing over 400K products provides a structured single-source for products and supporting attributes.

## **22. What is a Bar Code label?**

CLEI Bar Code labels provide a mechanized means of tracking and the verification of material.

CLEI Bar Code labels are supported in two formats:

- One-dimensional (1D), also referred to as a "linear" label; consists of a machine-readable Code 39 symbol that contains the ECI code. Linear labels are now restricted to be used on the product's packaging only.
- Two-dimensional (2D), more specifically in the form of a MicroPDF417, must contain a human readable full 10-digit CLEI Code. Manufacturers are required to apply the 2D CLEI product label on the physical item per GR-383-CORE. The 2D CLEI Code product labels contain a MicroPDF417 symbol, which includes the CLEI Code and the item's unique serial number.

For more details about bar code labeling requirements refer to:

- ATIS-0300038 for product marking
- ATIS-0300091 for product serialization

## **23. As an Original Equipment Manufacturer (OEM), when a network solution contains material from another manufacturer, how are these items coded so that the equipment can be ordered?**

There are cases when an equipment manufacturer uses equipment manufactured by another company. In these cases, the items should also be coded for ordering and inventory practices. If the manufacturer does not rebrand the product, the item should be CLEI Coded with the original manufacturer's nomenclature and specifications, including the original manufacturer's name and product code. If the product is altered in any way, the manufacturer shall rebrand the item with their own logo/product code and request for a CLEI Code.

**24. What are System Identifiers (IDs) and how are they used?**

Equipment manufacturers assign system/product names (identifiers) to an organized assembly of equipment as a common practice. The System Identifier (System ID) has become an important identifier for service providers to track, engineer and assist with provisioning during network deployment. It is critical that each component (card, plug-in, plug-on, SFP, shelf, etc.) be populated with accurate System ID information in the Common Language Equipment Repository so that service providers can aggregate the right components at a system level. The relationship between CLEI Codes and System ID is one to many, supporting a single CLEI Code in multiple System IDs.

**25. What is RoHS?**

Restriction of Hazardous Substances (RoHS) was instantiated with a directive title 2002/95/EC. It initially contained two levels of RoHS (5 and 6). An additional level of RoHS compliance has been added (RoHS-2). For more details about RoHS, please refer to JA-485.

**26. How is Restriction of Hazardous Substances (RoHS) reflected within the CLEI Code Set?**

Common Language Equipment Codes (CLEI Codes) allows recording for tracking RoHS compliancy and the level of compliance (e.g., 2, 5, or 6) within the Hazardous Material Indicator (HMI) field within the CLEI record.

**27. How are changes in the RoHS compliancy handled?**

Product changes that remove hazardous material to meet industry and environmental standards are considered reportable changes. These product changes are called Restriction of Hazardous Substances (RoHS). RoHS compliant changes are strictly removing hazardous substances only. They do not affect functionality or interchangeability of a product. However, RoHS changes that include other product changes/improvements to an existing products are deemed not interchangeable. For more details about product changes see “What are Product Change Notifications (PCNs)”, FAQ-11.

**28. How is a CLEI Code requested?**

All CLEI Code requests are to be sent to Common Language Production Control Center (CLPCC) via e-mail to: [clpcc@iconectiv.com](mailto:clpcc@iconectiv.com).

CLEI Code requests require equipment analysis for proper code development. Be sure to provide sufficient non-proprietary technical information when submitting coding requests. It is preferred that product information (product attributes) be provided along with the CLEI Code request form to assist in the coding process. A CLEI Code request form is available and is supported by a Job Aid (JA-485). Providing a complete set of attributes will prevent unnecessary delays with the equipment analysis and code development process. We highly recommend manufacturers request equipment codes at the beginning of their manufacturing cycle so that the CLEI Codes and CPR codes can be created and be available before products are ready to be labeled and shipped.

**29. What is an attribute?**

Product attributes are product features/characteristics that define an equipment item and are included within the CLEI Code record. Attributes are detailed within JA-485.

**30. Is equipment attribute data required to request a CLEI Code?**

As per GR 485-CORE, **iconectiv** must collect all applicable attribute data for equipment that supports a CLEI Code. It is preferred that attributes are recorded during the CLEI Code request process. Attributes assist service providers with internal business processes such as Purchasing, Planning, Ordering, Maintenance, Provisioning and Repair.

**31. What happens to incomplete CLEI request forms?**

If an equipment coding request is incomplete, lacking required attributes (refer to GR-485-CORE and JA-485), a Common Language Equipment Coding Engineer will contact the requestor by email to obtain the missing data. All acronyms and abbreviations that are used in the request should be explained.

Missing attributes or incomplete requests can cause delays with the request and/or lead to withdrawal of an item due to lack of product documentation.

**32. Are there specific ILEC requirements for which CLEI attributes can assist?**

For service providers that do business with Incumbent Local Exchange Carriers (ILECs) there are requirements for the provider companies to include basic information such as vendor name and equipment description to convey to the ILEC. A common example of this practice is communication companies that collocate within the ILEC Central Office or Data Center locations. The service provider engineer also has to provide heat dissipation, floor loadings, NEBS (Network Equipment-Building System) info and DC Power specifications associated with each piece of equipment to be placed in the leased space.

**33. What is Management Information Base (MIB) and is the CLEI Code a part of the MIB?**

A MIB (Management Information Base) is a small database stored on devices. The MIB is comprised of data objects, including the CLEI Code, which can be used to identify and manage on-net components within the service provider's network.

**34. What are the standards relating to CLEI Code in the MIB?**

The Standards relating to CLEI in the MIB are:

- ATIS-0300040, Guidelines for Data Elements included in the Management Information Base (MIB)
- RFC 4152, Uniform Resource Name (URN) Namespace for the Common Language Identifier (CLEI) Code
- RFC 4133, Entity MIB (Version 3)
- GR-485-CORE, Common Language® Equipment Codes (CLEI™ Codes) - Generic Requirements for Processes Guidelines (Req. 9-5)

### **35. What documents define CLEI Coding procedures?**

These are the commonly used **iconectiv** documents defining CLEI Codes:

- BR 795-200-000, Common Language® Equipment Codes (CLEI™ Codes) Coding Principles for Communications Equipment
- GR-485-CORE, Common Language® Equipment Coding Processes and Guidelines Generic Requirements
- GR-383-CORE, Common Language® Equipment Codes (CLEI™ Codes) – Generic Requirements for Bar Code Labels
- GR-209-CORE, Generic Requirements for Product Change Notices
- ANSI ATIS-0300213.2014: Structure for the Identification of Equipment Entities for Information Exchange
- ANSI ATIS-0300220.2016, Structure for the Representation of the Communications Industry Manufacturers, Suppliers, and Related Service Companies for Information Exchange

Standard licensees are welcome to browse or download BR 795-200-000, GR-383-CORE and GR-485-CORE in the Common Language® Information Services [Code Center](#). GR-209-CORE, GR-383-CORE and GR-485-CORE can also be purchased through the [Information Superstore](#). ATIS documents can be accessed (if ATIS member) or purchased via the [ATIS Document Center](#)

### **36. What is the Common Language Equipment Repository?**

The Common Language Equipment Repository (a.k.a. CLEI Equipment Repository or Property Record Catalog) is a database hosted by **iconectiv** that contains all CLEI Code records and their attributes, providing a centralized view of all equipment for various business and operations uses. Extracts from this source database can assist service providers in their business and operations functions. It includes asset-tracking codes (CPR, ECN and FRC), product base part numbers, descriptions and notes for each record. Various data access methods exist to retrieve CLEI Code and equipment information from the Common Language Equipment Repository.

### **37. What resources are available to CLEI licensees?**

The following list depends on the CLEI license subscription:

- CLEI Inquiry – A real-time web-based query tool that is hosted by **iconectiv** to query the Common Language Equipment Repository.
- CLEI LDR – A local copy of the Common Language Equipment Repository, provided in Oracle format.
- CLEI XML Extracts – A local copy of the Common Language Equipment Repository, provided in an eXtensible Markup Language (XML) format
- Supporting documentation (CLEI BRs, GRs and JAs)
- Reference data – Data dictionary, spreadsheets, etc.
- Subject Matter Experts support and consultation
- IAB (International Advisory Group) membership and participation
- TAG (Technical Advisory Group) membership and participation

CLEI licensees have access to consultation from CLEI Subject Matter Experts (SMEs), and are automatically invited to Technical Advisory Group (TAG) sessions, where service providers that use the CLEI Code set can discuss changes/additions to CLEI Code data.



**38. What are some features of the CLEI InQuery tool vs. the XML and LDR solution?**

**CLEI InQuery tool**

- Web based interface giving real time look up access to the CLEI Equipment Repository
- Secure Access
- Subscription based
- 24\*7 access (user logins and SecurID required)

**CLEI Local Data Repository**

- Local Data Repository (including initial full equipment/CLEI registry)
- CLEI database extract is provided in an Oracle Data Pump export
- Full extract is provided every other week to maintain LDR equipment content
- Clients can use the Equipment LDR GUI and LDR APIs to access the Oracle database and integrate with OSS/BSS solutions.

**CLEI XML Extract**

- Equipment catalog extracts transmitted to customer, formatted in XML
- Includes one Master data extract with Deltas provided every other week
- CLEI data is distributed across multiple XML files
- Requires client development resources to compile, manage user access to the data information (i.e., GUI) or create reports
- Once compiled and user access has been developed, clients will have 24\*7 access to CLEI Code data within their local environment.

**39. How can I learn more about CLEI Codes?**

Additional CLEI Code information is available via the following:

- The customer support center: 1.877.699.5577 or via e-mail to [clcsc@iconectiv.com](mailto:clcsc@iconectiv.com) The CLEI Equipment Information Home Page: [http://www.commonlanguage.com/resources/commonlang/productshowroom/showroom/equip\\_id/carriers/overview.html](http://www.commonlanguage.com/resources/commonlang/productshowroom/showroom/equip_id/carriers/overview.html).
- The CLEI Code Self-Paced Training at: <http://www.commonlanguage.com/cllibrary/training/selfpaced/index.jsp?sBD=sid eNarratedSelfPacedTraining>.