TruOps® Telecom Routing Administration (TRA)

Revenue Accounting Office (RAO) Code Guidelines

System Documentation

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General Information

For further information about this document, please contact:

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Chapter 1 Executive Summary

RAO (Revenue Accounting Office) codes are three-position alphanumeric codes, assigned by iconectiv® that are used in the telecommunications industry for exchanging messages between companies[1]. This document explains why they are used, how they are used, the various types of RAO codes that are available, and how the codes are assigned.

[1] The exchange of records between CMDS Direct Participants and CMDS Indirect Participants are subject to local negotiations.

Chapter 2 LERG Structure

A Revenue Accounting Office (RAO) code is a three-position alphanumeric code utilized in the telecommunications industry for the following four functions:

1. Message routing
2. Intercompany Settlements
3. NPANXX activation (added to rating table on the TPM™ Data Source)
4. Special Calling Card Number

❖ Note: Individual companies may have other locally defined uses for RAO codes.

RAO codes are required for all Exchange Carriers because it is an integral part of routing, rating and revenue settlements systems and are necessary for the proper handling of messages and revenues distributed throughout the telecommunications industry.

Every Exchange Carrier (EC) must have an RAO code. RAO Codes are both non-hosted and hosted codes that can be assigned dependent on the Exchange Carrier's requirements:

1. Non-hosted RAO codes are for companies that will not want to exchange messages over CMDS[2]. These codes cannot be used to route messages over CMDS and are not recommended for any company that intends to exchange message data outside of a local agreement. Only one code is needed even when a company has multiple NPA's nationally.
2. There are three types of Hosted RAO Codes

   Full Status RAO Code implies that the Exchange Carrier assigned the RAO is within a specific region or territory, defined by a BOC geographic operating boundary as established by Divestiture in 1984. Full Status RAO Codes are no longer required, as the CMDS process is being discontinued.

   Nationwide RAO Code companies usually have operations that span across more than one BOC's geographical area. They may also currently operate in only one BOC's geographical area, but have plans to expand into multiple areas. Nationwide RAO Codes are no longer required, as the CMDS process is being discontinued.

   Shared RAO Code companies operate within a specific region or territory and have no desire or need to have their own RAO code. Shared RAO Codes are no longer required, as the CMDS process is being discontinued.

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[2] CMDS (Centralized Message Distribution System) is the historical national electronic transmission system, based in St. Louis, Missouri, used to exchange EMI-formatted data among CMDS Direct Participants. CMDS is being discontinued.

Per Alliance for Telecommunications Industry Solutions (ATIS), Order and Billing Forum (OBF) Message Processing Committee (MSGall wireless carriers are encouraged to apply for a valid RAO Code.

OBF recommends that all carriers obtain an RAO and that the use of a default RAO 999 code is no longer acceptable.

To obtain an RAO code, each company must have a valid Company Code (OCN) assigned by the National Exchange Carrier Association (NECA). All RAO codes are administered by the iconectiv RAO Administrator (RAOAdmin@iconectiv.com).

Message Routing

Message routing involves sending recorded call information from the call originating company to the call billing company. Similar to addresses, RAO codes are used to identify and route messages between the call originating (From RAO) and call billing (Send To/Billing RAO) companies. RAO codes have multiple uses in the message routing processes. These include, but are not limited to, the following:

1) Route messages/packs from originating to billing companies.
2) Route return unbillable messages from the intended billing company back to the originating company
3) Route Access and/or Meet Point Billing messages from the recording company to the billing company
4) Route reports

To route a message to the billing company, the message must first be formatted according to the Exchange Message Interface (EMI) document, which is the nationally accepted industry guideline for message exchange. The billing messages are then arranged in groups (packs) of common RAO codes and are sent by the originating company to the intended billing company.

Intercompany Settlements

Intercompany settlements (ICS) involve the revenue settlements between the Earning (Originating) Company, identified by the From RAO, and the Billing Company, identified by the Billing RAO.

NPANXX Activation

An RAO entry is required in Part 2 of the Central Office (CO) Code (NXX) Assignment Request form for entry into BIRRDS and is necessary so that NPANXX information can be published in the TPM™ Data Source, and the RAO Code Directory.

Special Calling Card Number

The RAO is used as the first three digits of the Special Calling Card number although not all RAO's may be used for Special Calling Cards. See Section 3.3 and Chapter 11 for details on Special Calling Card Numbers.

- ❖ NOTE: Special Calling Card numbers are rarely used as the telecommunications industry has evolved.

Chapter 3 Uses of RAO Codes and Associated Call Scenarios

This section addresses unique and/or special NPAs, NXXs, routing codes, operator codes, etc. within the NANP. Some of these numbering resources may represent historical usage for which definitive industry documentation confirming the universality of use may be limited. The referenced numbering resources may not always exist in the data sections of the LERG or, if they do, may be provided with a unique set of data characteristics that are further explained in this section. Further information is also available, in some cases, at www.nationalnanpa.com and/or www.cnac.ca. Due to the ongoing evolution of telephony numbering, please reference these sites for any recent updates that may have occurred. In some cases, the implementation and use of the numbering resources described in this section may vary by individual SP, NPA, state/province/country, etc.

3.1 Alternately Billed Calls – (Hosted)

The RAO code is a key component of all Exchange Carrier message distribution and settlements processes. If alternate billing (calling card, third number or collect) is offered by a company as a service to its customers, or if alternately billed calls are allowed to originate from a company's end user's facilities, an RAO code is necessary to route messages from the recording location to the billing location. The settlement of revenues associated with alternately billed calls is also dependent on the RAO Code for calculation of earned and billed revenues.

See Chapter 10 for alternately billed call scenarios.

3.2 Access Billing – (Hosted)

RAO Codes are necessary for the distribution of Carrier Access Billing System (CABS) records and database query records.

See Chapter 9 for access billing call scenarios and Chapter 10 for database query call scenarios.

3.3 Special Calling Cards – (Hosted)

If Special Calling Cards are offered by a company as a service to its customers, a numeric RAO code is absolutely required because it is part of the calling card dialing sequence.

See Chapter 11 for the Special Calling Card format.

Chapter 4 Uses of RAO Codes and Associated Call Scenarios

4.1 Non-Hosted RAO Code

A Non-Hosted RAO Code, as referenced in Chapter 2 of this document, is an RAO code that has been assigned directly by iconectiv to a company. Non-Hosted RAO codes are frequently obtained by new companies, on a temporary basis, as a part of the process of setting up telephone operations. An RAO code is necessary to enter Central Office (CO) Codes and Thousands-Blocks into BIRRDS. This can be accomplished by contacting iconectiv directly and executing the iconectiv Non-Hosted RAO Code Agreement (see Chapter 14). **Only one code is required even when the company has multiple NPAs in multiple states.**

Non-Hosted RAO codes can usually be obtained quickly with minimal negotiation and may be preferable when NPANXX codes are being obtained, but actual telephone operations will not begin until sometime in the future. **The RAO assignment charge is $200.00 for each RAO code issued (see Chapter 17). If you need your code in less than 10 days, you can expedite it for $300.00 – turn around will be within 2 working days.**

4.2 Full Status RAO Code

A Full Status RAO Code, as defined in Chapter 2 of this document, is an RAO code that has been assigned to a company that is operating **solely within one** Bell Operating Company's (BOC's) region or territory. Full Status RAO Codes are no longer required, as the CMDS process is being discontinued.

4.3 Nationwide RAO Code

A Nationwide RAO Code, as defined in Chapter 2 of this document, is an RAO code that has been assigned to a company that has operations in more than one BOC's region or territory or has plans to expand into multiple BOC regions and is requesting one RAO code to apply to all of its operations. Nationwide RAO Codes are no longer required, as the CMDS process is being discontinued.

4.4 Shared RAO Code

A Shared RAO Code, as referenced in Chapter 2 of this document, is an RAO code that has been assigned to a company which is operating within a specific region or territory. Shared RAO Codes are no longer required, as the CMDS process is being discontinued.

Chapter 5 RAO Code Assignment

iconectiv is responsible for assigning all new RAO codes, including all types listed in Chapter 4 above.

The following information must be provided for non-hosted codes via an application form (Chapter 17). On receipt of the completed application, the RAO Administrator will assign an RAO code within ten business days:

- Company Name and Address
- Company Contact Name and Telephone Number
- Company Code (OCN) as assigned by NECA

  (NECA letter assigning the company OCN may be required if the company name and OCN cannot be verified.)
- NPA that will be associated with the new RAO
- State associated with above NPA
- Type of RAO code requested (Non-Hosted)
- Requested effective date of RAO code
- E-mail address, and fax number if available, of code requester
- Non-Hosted assignment fee information is provided in Chapter 13.

All RAO codes assigned by iconectiv will be alphanumeric RAO codes unless the EC requires a numeric RAO code assignment in order to issue Special (non-line based) Calling Cards (those in the format RAO-0/1XX-XXXX). Before a company requests a numeric RAO code in conjunction with a Special Calling Card assignment, it should ensure that, if it already has a numeric RAO assigned to it, all vacant Special Calling Card numbers, or soon to be vacant numbers, have been used. The requesting company should be aware that previously issued Special Calling Cards may need to be re-issued based on the new RAO code. This re- issuance is entirely the responsibility of the requesting company.

Chapter 6 Incorporation of RAO Code Information in CMDS and BIRRDs

The iconectiv RAO Administrator is responsible for coordinating the entry of all newly assigned RAO codes into the iconectiv Business Integrated Routing and Rating Database System (BIRRDS). This activity must take place in sufficient time to ensure the publication of the new RAO information in the BIRRDS products at least one month in advance of the introduction of the RAO code.

BIRRDS contains an RAO Code Type Indicator associated with each RAO code as follows:

1. Non-hosted (No CMDS)
2. Nationwide (CMDS) – no longer valid with CMDS being discontinued
3. Full Status (CMDS) – no longer valid with CMDS being discontinued

Chapter 7 Contact Information

iconectiv RAO Administrator

TRA – RAO Administrator
iconectiv – TRA CCC
100 Somerset Corporate Blvd.
Bridgewater, NJ 08807

Phone: 732-699-6700

E-mail: RAOAdmin@iconectiv.com

Chapter 8 Document Reference

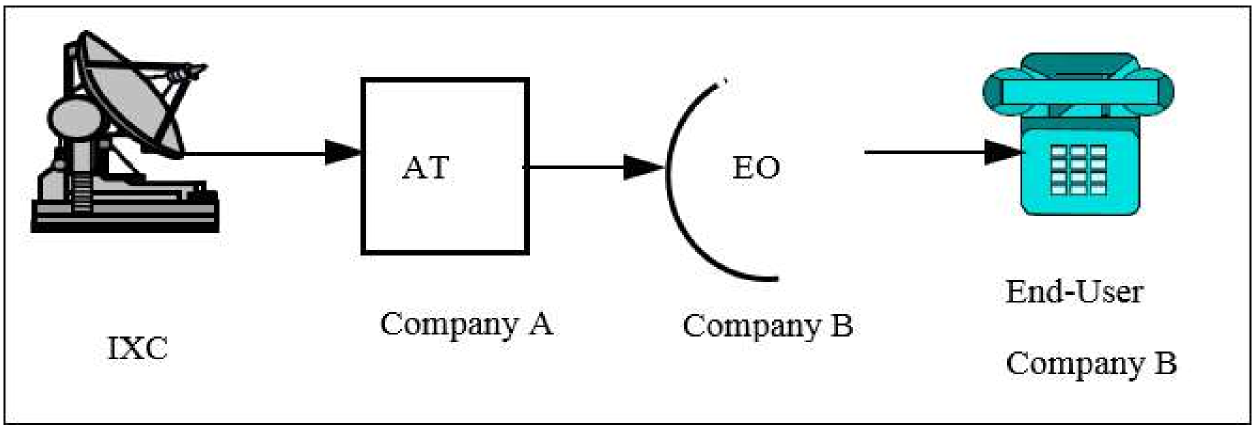
Title	Descriptive Title	Number	Provider
BIRRDS User Manual	iconectiv Business Integrated Routing and Rating Database System User Manual	N/A	Iconectiv TruOps® Telecom Routing Administration (TRA)
EMI	Exchange Message Interface	N/A	ATIS (www.atis.org)
MECAB	Multiple Exchange Carrier Access Billing	N/A	ATIS (www.atis.org)

Chapter 9 Access Usage Message Exchange

Per guidelines established by the OBF, access usage records may be exchanged any time it is necessary for two or more companies to bill a third entity for use of their telecommunications network facilities.

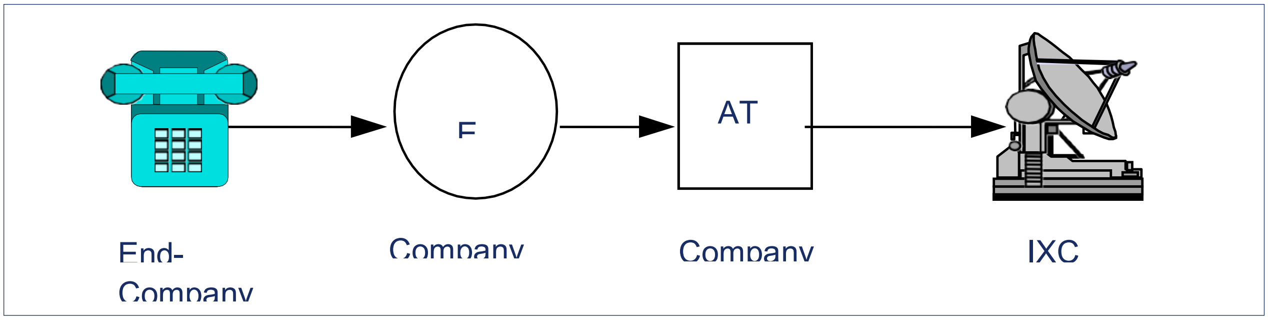
Call Scenario 1: Terminating Access

An InterExchange Carrier (IXC) terminates an interLATA call to Company B's end user. Company B's End Office (EO) is connected to Company A's Access Tandem (AT). Company A makes a recording of this call for access billing purposes. Company A formats its recording into an EMI access usage record, with a From RAO = Company A's RAO code and a Billing RAO = Company B's RAO code and forwards the message to Company B. Company B uses the access usage record received from Company A to bill its portion of tariffed terminating access rate elements to the IXC. With the elimination of Non-Common Minute Billing from the OBF's Multiple Exchange Carrier Access Billing (MECAB) document, effective August 2002, Meet Point Billing (MPB) Summary records are no longer used by Company A for access billing. Company A uses its original recording to bill the IXC its portion of tariffed terminating access rate elements as the subsequent billing company (SBC).



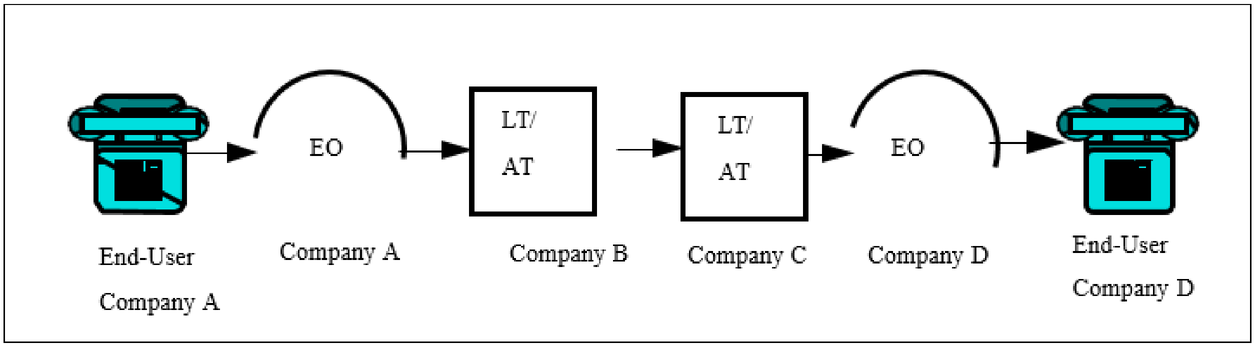
Call Scenario 2: Originating Access

An interLATA call originates from Company A's end user and is handed off to an Interexchange Carrier (IXC) for completion. Company A's end office (EO) is connected to Company B's access tandem (AT). Company A makes a recording of this call in their end office for access billing purposes. Company A issues a bill to the IXC for its portion of the tariffed originating access rate elements. Per MECAB rules, Company A may format an EMI detail record with a From RAO = Company A's RAO code and a Billing RAO = Company B's RAO code and send the record to Company B. Company B may use the detail record received from Company A to bill its portion of tariffed originating access rate elements to the IXC. As another option, MECAB also allows for Company B to bill its portion of access based on its own recordings if it has the ability to make these recordings. With this option records exchange would not be necessary.



Call Scenario 3: Application of Access Usage Record Exchange in a Local Competitive Environment:

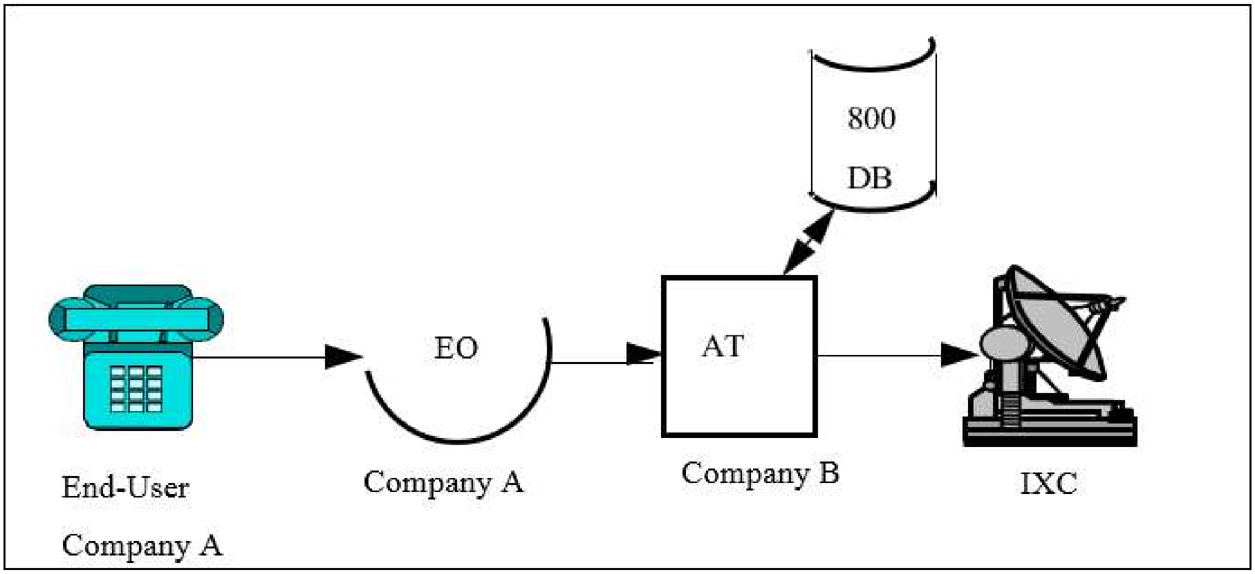
It is important to note that Meet Point Billing (MPB) has been adopted by some companies as the method for access recovery in the local competitive world. Therefore, this type of access usage record exchange may apply to calls that do not involve an Interexchange Carrier (IXC). For instance, a local call originates from Company A's end office (EO) which is connected to Company B's local/access tandem (LT/AT). The call terminates to Company D's end office that is connected to Company C's local/access tandem. Company A, as the originating company, may owe access (depending on local contracts) to all other companies (B, C, D) on the call route. MPB rules and message exchange may apply to this billing process. **RAO codes are essential to making this exchange of access data work and is one of the primary reasons that RAO codes are required of all Exchange Carriers.**



Chapter 10 Database Query Message Billing

Call Scenario 1: InterLATA

At times, one company may be hired by another company to perform certain database query functions (e.g., 800/8YY, Local Number Portability (LNP), etc.). In these instances, an exchange of query messages may be necessary to accomplish billing for the query charges. For instance, if Company A uses Company B's 800 database services and Company A's customer originates an IXC 800 call, Company B will make a query recording and will charge Company A for a dip to its 800 database. Company A, however, does not have the end user revenue associated with this call. Since 800/8YY is a reverse billed service, the IXC who owns the 800/8YY number has billed the end-user and owns the call revenue. Company A is entitled to recover the query charge billed to it by Company B, from the IXC. To accomplish this, Company B may format an EMI query record with a From RAO = Company B's RAO code and a Billing RAO = Company A's RAO code, based on its query recordings and send this record to Company A. Company A would use this record to bill database query charges to the IXC.



Access Usage Message Exchange Call Scenario 2: IntraLATA

This same practice may apply to intraLATA 800/8YY service where an IXC is not involved. The RAO code is again essential in the proper working of this message exchange process.

Chapter 11 Special Calling Cards

Special Calling Cards are issued by the billing company using the RAO code as the first three digits of the Special Calling Card number. A Special Calling Card enables a customer to make calls on a credit basis and have the charges billed to the Special (pseudo NXX) Calling Card with or without having a working or residence telephone number or credit card to use in billing the charges. The Special Calling Cards carry the format of RAO-0/1XX-XXXX-NYYY. When the billing RAO begins with a value of zero (0) or a one (1), 600 is added to the actual RAO number before printing it on the customer's card. For example, RAO 094 in print becomes 694 and RAO 189 converts to 789. This addition of '600' is done to insure that the first digit of the calling card is never '0' or '1' because of the dialing implications (the first digit of the dialing pattern can never be '0' or '1'). A company that originates a call that bills to a Special Calling Card would format the EMI record with the Special Calling Card number in the billing number. The Billing RAO would be determined by subtracting 600 from the first three digits of the Special Calling Card number. This Billing RAO would be used by the originating company to distribute the billing message to the billing company.

- **NOTE**: Special Calling Cards are rarely used with the evolution of the telecommunications industry.

Chapter 12 RAO Procedures and Company Name Change, Business Termination, Sale or Merger

12.1 Companies Seeking Name Change

- Company Names are associated with the National Exchange Carrier Association (NECA) assigned Company Code. Contact NECA at www.neca.org for the procedures to execute a company name change.
- Once NECA has processed the company name change, TRA will be notified and will update the Company in BIRRDS.

12.2 Non-Hosted Companies Experiencing Termination or Ownership Change

- Should a company terminate business or change ownership due to sale or merger, the existing RAO code must be returned/relinquished to iconectiv.
- If the purchasing company is a “new” company, the purchasing company must obtain a new RAO code.
- If the purchasing company is an established company, the purchasing company may use their existing RAO code.
- If a parent company with an assigned RAO Code for its non-hosted company, dissolves the non-hosted company and then purchases another non-hosted company, then the RAO Code assigned to the original non-hosted company may be used by the parent company for its new non-hosted company
- BIRRDS must be updated to reflect the correct company name, OCN and RAO Code.

Chapter 13 Requesting a Non-Hosted RAO Code

Overview

TNS imposes an RAO Code Assignment Fee for processing an RAO Code request. An RAO Code is assigned for the life of your company. In an effort to avoid a "code exhaust" situation, a company is expected to return/relinquish its RAO code to iconectiv in the event the company becomes dissolved.

❖ **Note:** There is no refund of the assignment fee should the non-hosted RAO Code be relinquished or converted to a hosted RAO Code at some future time.

Cost

RAO Assignment Code Fee is $200.00 (US) for each Non-Hosted RAO Code which is processed within 10 working days.

Payment can be made by **Credit Card** or by **Certified Check** payable to **iconectiv, LLC** to the address below:

TRA - RAO Code Administrator
iconectiv – TRA CCC
100 Somerset Corporate Blvd.,
Bridgewater, NJ, 08807

Process

Please complete the **iconectiv Non-Hosted RAO Code Application -- Form A** (Chapter 18) and the **iconectiv Non-Hosted RAO Code Agreement -- Form B** (Chapter 19).

You may submit the completed application and agreement forms by e-mail to RAOAdmin@iconectiv.com.

Chapter 14 TNS Non-Hosted RAO Code Application – Form A

Please select the paperclip icon to display and complete Form A. (See Chapter 13 for fee information).

Non-Hosted_RAO
Code Agreement_Fori

Chapter 15 TNS Non-Hosted RAO Code Application – Form B

Please select the paperclip icon to display and complete Form B.

Non-Hosted_RAO
Code Agreement_Forı

Chapter 16 Changing Miscellaneous RAO Fields

After an RAO Code has been established, there may be times when fields in the RAO Form in the BIRRDS Rating information screen requires changes. This is done via the iconectiv RAO Change Form contained in Chapter 17.

Chapter 17 TNS RAO Change Form Application – Form C

Please select the paperclip icon to display and complete Form C.

Non-Hosted_RAO
Code Agreement_Forı

Chapter 18 Glossary

ACRONYM	MEANING
AT	Access Tandem
ATIS	Alliance for Telecommunications Industry Solutions
BIRRDS	Business Integrated Routing and Rating Database System
BOC	Bell Operating Company
CATS	Calling Card and Third Number Settlement System
CLEC	Competitive Local Exchange Carrier
CMDS	Centralized Message Distribution System
CN	Company Number (Same as OCN)
DB	Database
EC	Exchange Carrier
EMI	Exchange Message Interface
EO	End Office
IBC	Initial Billing Company
ICS	Intercompany Settlement
IXC	Interexchange Carrier
LATA	Local Access Transport Area
LEC	Local Exchange Carrier
LIDB	Line Information Database
LNP	Local Number Portability
LT	Local Tandem
MECAB	Multiple Exchange Carrier Access Billing
MPB	Meet Point Billing
NANP	North American Numbering Plan
NANPA	North American Numbering Plan Administrator
NECA	National Exchange Carrier Association
NICS	Non Intercompany Settlement System
NPA	North American Numbering Plan Area (Area Code)
NXX	Central Office Code
OBF	Ordering and Billing Forum
OCN	Operating Company Number (Same as CN)
RAO	Revenue Accounting Office
SBC	Subsequent Billing Company
TRA	Telecom Routing Administration