32a. Has your telephone number ever changed? [25]

YES ..... ❑1 PLEASE ANSWER QUESTIONS 32b AND 32c

NO ..... ❑2 PLEASE GO TO QUESTION 33

32b. Why did your telephone number change?

You moved ..... ❑1 [26]

Your area code changed ..... ❑2

You had a problem with your bill ..... ❑3

Some other reason? (PLEASE WRITE IN)

_____

32c. When was the last time your telephone number changed?

Within the past 6 months ..... ❑1 [27]

6 months to 1 year ago ..... ❑2

1 year to 2 years ago ..... ❑3

2 years to 3 years ago ..... ❑4

3 years ago or more ..... ❑5

33. Does your household currently use Remote Call Forwarding or a Number Retention service that enables you to keep an old telephone number?

YES ..... ❑1 [28]

NO ..... ❑2

34a. Have you ever changed your long distance company for your home telephone service? [29]

YES ..... ❑1 PLEASE ANSWER QUESTIONS 34b and 34c
NO ..... ❑2 PLEASE GO TO QUESTION 35a

34b. How many times have you changed long distance companies since living at your current home address?

One ..... ❑1 [30]
Two ..... ❑2
Three ..... ❑3
Four or more times ..... ❑4

34c. When was the most recent time?

Within the past 6 months ..... ❑1 [31]
6 months to 1 year ago ..... ❑2
1 year to 2 years ago ..... ❑3
2 years to 3 years ago ..... ❑4
3 years ago or more ..... ❑5

35a. Does your household currently have cable television service?

YES ..... ❑1 PLEASE ANSWER QUESTION 35b [32]
NO ..... ❑2 GO TO QUESTION 36

35b. Which company do you have cable television service with?

_____ [33:35]

36. Do you own or rent your current home?

YES ..... ❑1 [36]
NO ..... ❑2

37. When you call a business and you hear a referral announcement – *"The number you have called, 555-2222, has been changed. The new number is 555-4321"* – what percent of the time do you hang up and immediately redial the new telephone number?

100% (All of the time)	❑ 1	[37]
75% - 99% of the time	❑ 2	
50% - 74% of the time	❑ 3	
25% - 49% of the time	❑ 4	
1% - 24% of the time	❑ 5	
0% (Never)	❑ 6	

38. When you call a residence and you hear a referral announcement – *"The number you have called, 555-7567, has been changed. The new number is 555-4321"* – what percent of the time do you hang up and immediately redial the new telephone number?

100% (All of the time)	❑ 1	[38]
75% - 99% of the time	❑ 2	
50% - 74% of the time	❑ 3	
25% - 49% of the time	❑ 4	
1% - 24% of the time	❑ 5	
0% (Never)	❑ 5	

Thank you very much for participating in this survey! Please be sure that you have answered all of the questions, then put your completed survey in the enclosed, self-addressed return envelop and drop it in the mail.

Please mail this survey immediately! It is critical that we receive the results within the next week. And again, thank you!

DICTIONARY OF TERMS

INFORMATION BOOKLET

Conducted by:

CONSTAT, INC.
450 Sansome Street, Suite 1100
San Francisco, CA 94111

THE THREE BASIC TYPES OF BASIC TELEPHONE SERVICE

This survey will require you to distinguish between the three different types of basic telephone service: **long distance, toll** and **local** service.

Local phone service..... = The local calls you make, for example across the street. It also includes the line charges that you pay per month for your telephone number and any other services or features, such as call waiting. This service is generally provided by local phone companies like Pacific Bell and GTE.

Long distance service..... = Calls made across the state, for example from Los Angeles to San Francisco, out of California or out of the country. These calls usually are provided by companies like AT&T, MCI and Sprint.

Toll calls ..... = Also called "service area" or "local toll" calls. Calls within California which are further away than local calls but not as far away as long distance calls, and usually include a per minute charge. This service is traditionally provided by companies such as Pacific Bell and GTE.

Beginning in January 1995, telecommunications companies like AT&T, MCI and Sprint will also be able to carry these calls.

THE COMPANY MAKING THE OFFER

This is the company that would provide your **local and toll service**. When competition occurs, many different companies will offer these services. For this study, there are three different types of companies:

Your current long distance company.....= The company who currently provides your long distance service

A telecommunications company other than your current long distance or local telephone company .....= An existing or new telecommunications company that you do not currently use for long distance service. This could be a major long distance company or another company (e.g., a toll company or telemanagement company).

A cable television company .....= A company who provides cable television service in your area.

WHAT SERVICES THE COMPANY WILL PROVIDE

Different companies would be able to provide different types of service. These services would be:

Local and toll service.....= The company would provide the services you get from your current local telephone company – telephone lines, local calls, toll calls, and features such as call waiting, etc. Your long distance service would remain the same as it is now.

Local, toll and long distance service.....= The company would provide all of your telephone services, including the services you get from your current local telephone company, as well as your long distance service.

THE COST OF LOCAL AND TOLL SERVICE

This cost includes all of the services you currently get from your current local telephone company – telephone lines, local calls, toll calls, call waiting, etc. It does not include long distance.

Local and toll service for the same price as what you currently pay ...= The company's rates for local and toll service would always be the same as your current local telephone company's. If your current local telephone company dropped its prices, the company would always match that price.

Local and toll service for 5% less than what you currently pay (15% less, 25% less)...= The company's rates for local and toll service would always be 5% (or 15% or 25%) less than your current local telephone company's. If your current local telephone company dropped its prices, the company's prices would also drop.

THE IMPACT ON YOUR TELEPHONE NUMBER

If you switched companies, your telephone number might be affected. The possible impacts are as follows:

Your telephone number remains the same. ...= You keep your number if you choose to switch to a new company.

OR

Your telephone number changes and you get a referral announcement on your old number for 6 months. .....= If you switch to a different company, your telephone number changes. When someone calls your old number, they hear a standard referral announcement. The announcement lasts for 6 months. After that time, you can extend it for $12.50 for each three month period.

OR

Your telephone number changes and you get a referral announcement on your old number for 1 year. .....= Same as above, only the referral announcement lasts for one year. After that time, you can extend it for $12.50 for each three month period.

OR

Your telephone number changes and you get a referral announcement with transfer on your old number for 6 months. .....= If you switch to a different company, your telephone number changes. When someone calls your old number, they hear a standard referral announcement and are automatically transferred to your new number. The transfer and announcement lasts for 6 months. After that time, you can extend it for $20.00 per month.

OR

Your telephone number changes and you get a referral announcement with transfer on your old number for 1 year. .....= Same as above, only the referral announcement and transfer lasts for1 year. After that time, you can extend it for $20.00 per month.

ATTACHMENT

B

Attachment B

Memorandum Cover Sheet

PACIFIC BELL

File No. MF-D0EG-950808-01	Date 08/07/95	Type Memorandum for File

Subject: Release to Pivot Design for Service Provider Number Portability D-R-A-F-T

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Proprietary Status

- ■ Non-Proprietary
- ☐ Proprietary
- ☐ Proprietary - Registered

Distribution

- ☐ Pacific Bell Use Only
- ☐ Pacific Bell and Authorized Companies Use Only

Authorized Companies

- ■ Bellcore
- ☐ Ameritech
- ☐ Bell Atlantic
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- ■ All Regional Companies
- ☐ NYNEX
- ☐ Southwestern Bell
- ☐ US West
- ■ Industry

ABSTRACT

This paper presents Pacific Bell's Release to Pivot design for Service Provider Number Portability (SPNP). SPNP has been defined and required in the recent California Public Utility Commissions Ruling on Open Access Interconnection. Some preliminary analysis done by Pacific Bell indicates that SPNP database solutions, as defined by the CPUC in their draft ruling, are not economically attractive nor technically efficient in terms of network resources. RTP provides an attractive alternative approach to solving the problem of SPNP and should be explored thoroughly.

Bellcore's GR-2857-CORE was developed for a generic RTP capability which was initially developed for operator services. This document is a supplement to GR-2857-CORE so that it (RTP) will provide an attractive approach to solving service provider number portability. The design for RTP that is proposed in this paper was presented to the California LNP Task Force on July 12, 1995. This same presentation was given at the July/August INC meeting in Ottawa, and to Bellcore's LNP and RTP requirements engineers.

Pacific Bell believes that network service providers do not all have to agree to one architecture/solution. *As an alternative, Pacific Bell proposes that the information passed at the interface become standard for the industry.*

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PACIFIC BELL

subject: Release to Pivot Design for Service Provider Local Number Portability
MF-D00G-950808-01
D-R-A-F-T

date: August 8, 1995

from: Pete Ahrens: 510-823-2663
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1. Introduction

This paper presents Pacific Bell's Release to Pivot design for Service Provider Number Portability (SPNP). SPNP has been defined and required in the recent California Public Utility Commissions Ruling. Some preliminary analysis done by Pacific Bell indicates that SPNP database solutions, as defined by the CPUC in their draft ruling, are not economically attractive nor technically efficient in terms of network resources. RTP provides an attractive alternative approach to solving the problem of SPNP and should be explored thoroughly. The design for RTP that is proposed in this paper was presented to the California LNP Task Force on July 12, 1995. This same presentation was given at the July/August INC meeting in Ottawa, and to Bellcore's LNP and RTP requirements engineers.

1.1 Purpose and Scope

This document contains Pacific Bell's preliminary view of the supplementary RTP requirements necessary to adapt GR-2857-CORE to SPNP. Bellcore's GR-2857-CORE was developed for a generic RTP capability. RTP is an attractive solution for SPNP because it provides a distributed database architecture throughout the existing terminating switches. Only calls that terminate to a "ported" Directory Number (DN) will utilize this capability.

RTP is a network routing capability that allows an initial destination switch (release switch) to release an existing call to a previous switch (pivot switch) in the call path with information needed to complete the call to another destination. It is of significance to note that the Release Switch and the Pivot Switch can be a single switch.

SPNP is a complicated industry wide problem. Pacific Bell believes that network service providers do not all have to agree to one architecture/solution. *As an alternative, Pacific Bell proposes that the information passed at the interface become standard across the industry.* This will give each network provider the option of selecting the appropriate technical and economic solution that best meets their needs. This document in addition to proposing the RTP solution for SPNP, proposes data elements that should become standard at the network interface.

The impact of RTP to network elements is limited to end office and tandem switches in the network, and the focus of this document. Service Control Points and Signaling Transfer Points have no additional requirements for RTP.

1.2 Related Documents

It is not the intent of this document to restate requirements that can be referenced. The following documents provide the reader with the technical information on which this document and capability is based.

- Bellcore, Generic Requirements for the SS7 Release to Pivot Network Capability, GR-2857-CORE, Issue 1, April 1995.
- Bellcore, Bell Communications Research Specification of Signaling System Number 7, GR-246-CORE, Issue 1, Feb 1994.
- Bellcore, Switching System Generic Requirements for Call Control Using The Integrated Services Digital Network User Part, GR-317-CORE, Issue 1, February 1994 plus revisions.
- Bellcore, Switching System Generic Requirements for Interexchange Carrier Interconnection Using The Integrated Services Digital Network User Part, GR-394-CORE, Issue 1, February 1994 plus revisions.

1.3 Document Organization

This document provides supplemental requirements and a description of how the generic Bellcore requirements (GR-2857-CORE) can be used to support Service Provider Number Portability. The document has four sections and an appendix as illustrated below.

- Section 1, *Introduction*
- Section 2, *Principles of SPNP*
- Section 3, *Description of Release to Pivot as Designed for Service Provider Number Portability*
- Section 4, *Feature Requirements of Release to Pivot for Service Provider Number Portability*
- Appendix A, *RTP SS7 Parameters and Codings*

1.4 Background

Call setup using Common Channel Signaling/SS7 (GR-317-CORE, GR-394-CORE) currently utilizes forward routing. In forward routing intermediary switches (SPCSs) remain in the call path for the duration of the call. RTP provides the option of releasing the call backward to a pivot switch. Information is provided in the backward direction to the Pivot Switch which then routes the call forward to the appropriate terminating switch. RTP is an optional routing capability that requires SS7 call setup procedures at the Release Switch and Pivot Switch. RTP is not invoked by the end user.

2. Principles of SPNP

Any solution for SPNP should be economically sound in terms of cost and technically sound in terms of quality and reliability.

The volumes of messages generated by SPNP must be minimized. Solutions that propose database queries for all (or most) originating or terminating calls will generate tremendous volumes of unnecessary traffic, will reduce the reliability of service that exists today, and require network providers to incur extremely high costs to deploy and manage the network.

The number of network nodes that must be added should also be minimized. The more nodes that are required to complete a call, the greater the probability the call will not complete.

Triggering mechanisms must be analyzed to determine the impact to existing services and future growth. This impact should be minimized and only apply to ported directory numbers.

Additionally, negative impacts to number exhaust should be minimized.

Any solution should not preclude other network providers from deploying a solution that best meets their needs. It is the information that is passed at the network interface that should be standard for all service providers. This will allow flexibility for network providers to select the most appropriate solution for their needs both technically and economically.

3. Description of Release to Pivot as Designed for Service Provider Number Portability

This section describes the general routing concepts of RTP as applied to SPNP. Detailed requirements are provided in Section 4. Figure 1.1 demonstrates the basic operation of RTP.

A call either originates at switch P or is routed from another switch to switch P via forward routing. The called party is a customer that originally subscribed for service from switch R (incumbent local service provider) but currently subscribes to switch D.

Switch P sends an IAM with a Capability Indicator (CI) which indicates that switch P is RTP capable. Switch R, upon trying to complete the call, determines that the subscriber has moved to another service provider. Switch R

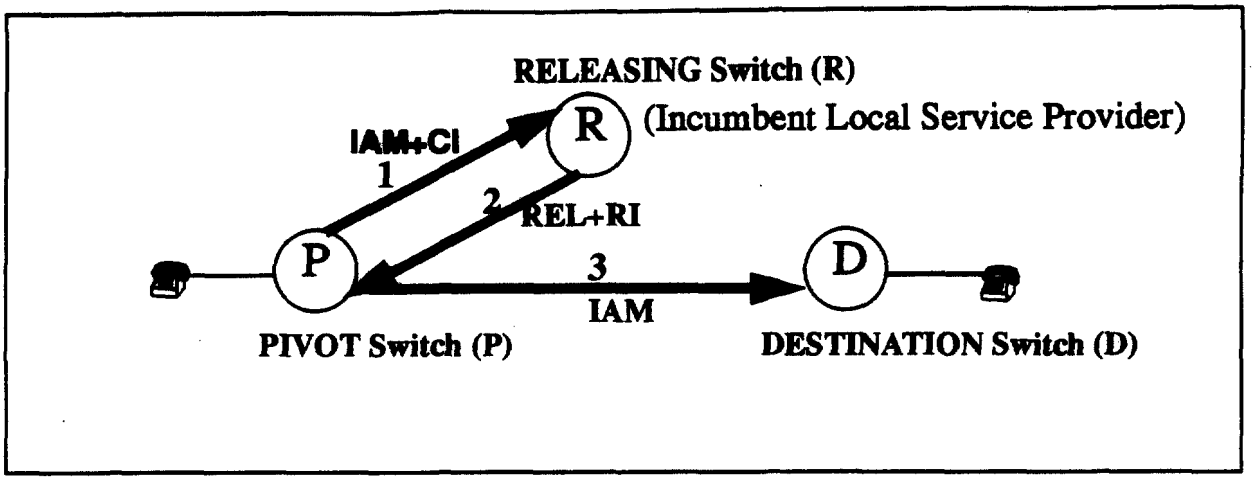


Figure 1.1

invokes RTP routing and sends a REL message with the Rerouting Information (RI). Switch P receives the REL + RI. The RI contains the Transit Network Selection (TNS) parameter and the Called Party Number parameter. The TNS parameter contains the Carrier Identification Code (CIC) parameter and the Circuit Code parameter. Switch P utilizing the CIC and the original Called Party Number and routing tables, determines, based on the trunk group number selected, that the call should be routed to switch D and sends an IAM.

Switches P and R must be SS7 capable. That is, any switch in the call path except P and R need not be SS7 capable. The Release Switch needs to make a distinction between ported numbers and vacant numbers.

The releasing switch (R) and the pivot switch (P) may be the same switch as illustrated in figure 1.2. As in the previous case, a call either originates at switch P/R or is routed from another switch to switch P/R via forward routing.

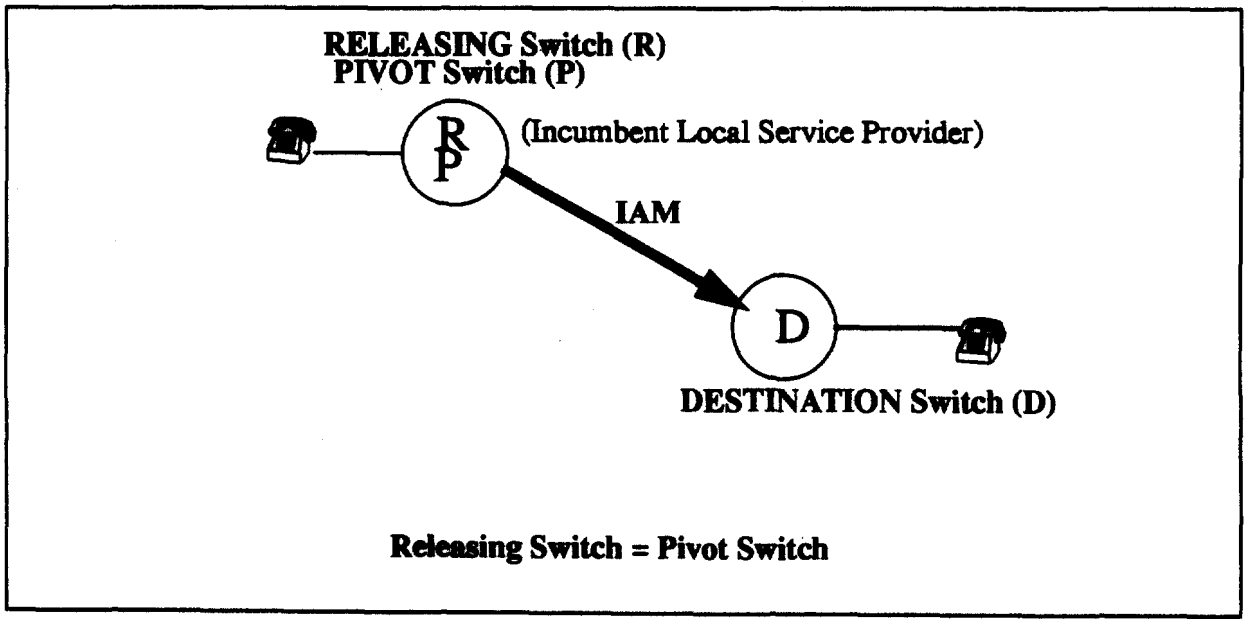


Figure 1.2

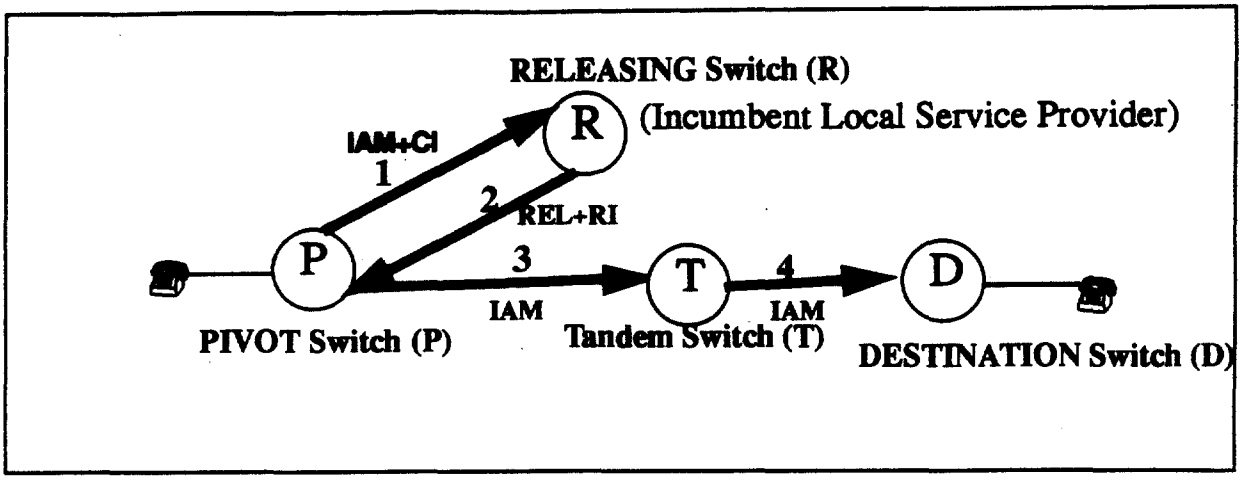


Figure 1.3

The called party is a customer that originally subscribed for service from switch P/R (incumbent local service provider) but currently subscribes to switch D.

Switch P/R upon trying to complete the call determines that the subscriber has moved to another service provider. Switch P/R invokes RTP routing and the release functionality determines the rerouting information (RI). Switch P/R utilizing the information provided in the RI and using the pivot functionality, uses the CIC and original Called Party Number to translate the call and routes the call to switch D by sending an IAM.

Figure 1.3 is similar to figure 1.1 except a Tandem Switch (T) is in the call path between the Pivot Switch (P) and the Destination Switch (D). When the route from P to D has a Tandem Switch in the call path, the Pivot Switch should do one additional step; include the TNS parameter in the IAM to the Tandem Switch. This is required because the tandem switch needs the CIC to route the call just as the Pivot Switch did.

The Tandem Switch, upon receiving an IAM with a TNS should route the call the same way the Pivot Switch did, utilizing the information received in the RI. That is, Switch T utilizing the CIC, original Called Party Number and routing tables, determines the call should be routed to switch D and sends an IAM. Under no conditions will the Tandem Switch need to include the TNS parameter in the IAM because the next switch should always be the terminating end office of the Called Party (subscriber).

4. Feature Requirements of Release to Pivot for Service Provider Number Portability

4.1 Feature Operation

This section of the document provides detailed requirements for the RTP feature as designed for Service Provider Number Portability.

4.2 Release to Pivot Call Processing

This section provides a brief description of the different types of call processing required for Service Provider Number Portability RTP. It includes required additions and changes to GR-2857-CORE to accommodate the use of RTP for Service Provider Number Portability.

4.2.1 General RTP Call Processing Capabilities

Section 3.1.1.1 of GR-2857-CORE provides the various options and basic capabilities required to support Service Provider Number Portability RTP. No changes are required to the above referenced section of GR-2857-CORE.

4.2.2 Pivot Initial Call Processing

The Pivot Switch RTP Call Processing can be subdivided into Pivot Switch Initial Call Processing and Pivot Switch Subsequent Call Processing. The Pivot Switch provides Initial Call Processing for Service Provider Number Portability as specified in GR-2857-CORE. In short, it allows the pivot switch when it first receives a call processing request, to determine if the next leg of the call is RTP capable. If it is RTP capable, a IAM+CI is sent. If it is not RTP capable, just an IAM would be sent. The IAM+CI is illustrated in figure A.1 in Appendix A. The RTP provisioning options are by Point Code, Trunk Group and RTP capable service basis and clearly specified in GR-2857-CORE, section 3.1.1.1.

For Service Provider Number Portability, there are no changes to the requirements specified in GR-2857-CORE, section 3.1.1.2.1, Pivot Initial Call Processing.

4.2.3 Release Switch Call Processing

This processing is started when the Release Switch, which is RTP capable, has received an IAM+CI message. This indicates the previous switch is eligible to be a Pivot switch. The Release Switch will try to terminate the call to the called party number it received in the IAM. The Release Switch will determine that the Called Party Number is no longer available and that the previous switch is RTP capable. The RTP Release function is then invoked. The Release Switch RTP Call Processing will send a REL+RI to the previous switch in the call path. The REL+RI is illustrated in figure A.2 in Appendix A. All variations of this processing are covered in GR-2857-CORE.

The Release Call Processing requirements for Service Provider Number Portability are specified in GR-2857-CORE, section 3.1.1.3 and should include the following changes.

Change R3-60:
The current requirement states "If the final RTP Service Indicator value is "REL+RI Allowed", then Release Call Processing shall send to SS7 Message Processing a "Send REL+RI" primitive along with the new destination address and/or transport network information for the call."

The *transport network information* to be included in the REL+RI is the Transit Network Selection Parameter which includes the Carrier Identification Code (CIC). For Service Provider Number Portability, the TNS parameter in the RI is required whenever an REL+RI is sent. In addition the REL+RI should provide the original Called Party Number (received in the IAM) in the Redirection Number Parameter (contained in the RI).

The revised requirement should read "If the final RTP Service Indicator value is "REL+RI Allowed", then Release Call Processing shall send to SS7 Message Processing a "Send REL+RI" primitive *and include the following.*

- *A new destination which is the previous switch in the call path.*
- *Transit Network Selection parameter (which contains the Carrier Identification Code)*
- *The Called Party Number (received in the IAM) should be placed in the Redirection Number Parameter*

4.2.4 Pivot Switch Subsequent Call Processing

This processing is started when the Pivot Switch, which is RTP capable, has previously sent an IAM+CI message and receives a REL+RI for further call processing. This indicates the Release Switch is releasing the call to the Pivot Switch. The Pivot Switch Subsequent Call Processing is invoked and will use the information provided in the RI to complete the call. The RI provides the Called Party Number and the TNS parameter which contains the CIC.

The Pivot Switch utilizes routing tables which are indexed by CIC. The first six digits of the Called Party Number are then input to the translation table. The output from the table is the outgoing trunk group number and the TNS parameter information which is not always required. This is discussed further in the next paragraph. If there is no TNS parameter information populated in the translation table, then the TNS is not required for the outgoing IAM. An example of the translation tables are illustrated in Tables 1 and 2.

The outgoing IAM on the new call segment will require the TNS parameter if the next switch in the call path (after Pivot) is not the final switch termination. If the next switch in the call path is a tandem switch (figure 1.3), the IAM will require the TNS parameter (i.e., CIC and Circuit Code) in addition to the Called Party Number Parameter to

select the next trunk group similar to the Pivot Switch translation described above.

The IAM with the TNS parameter is illustrated in figure A.3 in Appendix A.

The Pivot Switch Subsequent Call Processing for Service Provider Number Portability is specified in GR-2857-CORE, section 3.1.1.2.2, and should include the following additions and changes.

Additional Requirement -1:
The Pivot Switch should have translation tables that are indexed by Carrier Identification Code and the first six digits of the Called Party Number. The output of the translation table shall include a trunk group number and as an option a TNS parameter (CIC + Circuit Code).

Additional Requirement -2:
The trunk group number and optional TNS parameter shall be sent to SS7 Message Processing. SS7 Message Processing shall send the TNS parameter as part of the outgoing IAM whenever it receives a TNS parameter as an output from the translation described in Additional Requirement-1.

This above requirement applies to R3-34, R3-36, R3-47, and R3-49.

Additional Requirement -3:
For Service Provider Number Portability RTP, every outgoing trunk group number at the Pivot Switch will have the option of provisioning a CIC and at least four Circuit Codes. This concept is illustrated in Tables 1 and 2.

Change: R3-37:
The current requirement reads "If the RTP Service Indicator is "REL+RI Allowed", the Pivot Subsequent Call Processing shall send to SS7 Message Processing a "Send REL+RI" primitive along with the new destination and/or transporting network information to populate the Rerouting Information parameter."

A call should not be released in the backwards direction more than one network boundary (n-1). The reason for this is to prevent releasing a call too far in the backward direction which can result in complications in forward routing (e.g., if an interLATA call is released back to the originating network, the originating network might not have enough information about network providers throughout North America). The current requirements provide provisioning options for RTP SPCSs that will allow network providers enough flexibility to prevent a call from being released back beyond the n-1 network.

Additionally, the REL+RI shall always contain the TNS parameter for Service Provider Number Portability.

The new requirement should read - "If the RTP Service Indicator is "REL+RI Allowed", the Pivot Subsequent Call Processing shall send to SS7 Message Processing a "Send REL+RI" primitive along with the new destination and the *Transit Network Selection parameter and Called Party Number information* to populate the Rerouting Information parameter.

NOTE: In no case should the n-1 release a call in the backward direction across a network boundary."

Table 1: Translation Table CIC Index = 0288

NPA-NXX	TGN	CIC	CKT Code
415-542	2785	0288	08
415-545	3458	XXXX	xx
510-823	8459	XXXX	xx

NPA-NXX	TGN	CIC	CKT Code
510-867	6783	0288	09
510-284	7748	0288	10
510-939	8550	XXXX	xx
510-955	8948	0288	11

Table 2: Translation Table CIC Index = 0222

NPA-NXX	TGN	CIC	CKT Code
415-542	8848	0222	11
415-545	9837	XXXX	xx
510-823	9092	0222	10
510-867	9444	XXXX	xx
510-697	7738	XXXX	xx
707-988	8989	0222	09
408-889	2753	XXXX	xx

4.2.5 Tandem Switch Call Processing (After Pivot Switch)

This section applies only to switches that are in the call path between the Pivot Switch and the switch in which the call terminates. These Tandem Switches will require the TNS parameter in IAMs received for RTP calls. Specifically, a tandem switch will need to translate RTP calls differently then non-RTP calls. Tandem Switches that process calls that already have a Pivot Switch in the call path, will require translation tables similar to those described above for Pivot Switches. See the above section 4.2.4.

If the incoming IAM has a TNS parameter included, and the trunk group the call came in on is RTP capable, then the Tandem RTP Call Processing is invoked and will use the information provided in the TNS to complete the call. The TNS provides the CIC and the IAM provides the Called Party Number. The Tandem Switch utilizes routing tables which are indexed by CIC and Circuit Code to derive an outgoing route to the appropriate carrier. This is similar to what was described for the pivot switch in the preceding section.

From this Tandem Switch, the outgoing IAM will be sent to the appropriate carrier without the TNS. The next switch in the call should be the final terminating switch where the Called Party Number resides.

The IAM with the TNS parameter is illustrated in figure A.3 in Appendix A.

The Tandem Switch Call Processing requirements for Service Provider Number Portability are not specified in GR-2857-CORE, and are required.

Additional Requirement -4:
A Tandem Switch upon receiving an IAM+TNS from an RTP capable switch, should utilize routing tables which are indexed by CIC and the first six digits of the Called Party Number. The output of the translation table shall in-

clude a trunk group number.

4.3 RTP SS7 Message Processing Procedures

The generic requirements for establishing RTP connections augment the generic requirements for basic call control as defined in GR-317 and GR-394. Appendix A provides the messages, parameters and codings required for Service Provider Number Portability RTP.

NOTE:
R3-67 states "When formulating an IAM to establish a RTP capable call, the RTP SPCS shall not preclude the inclusion of other optional parameters and fields in the IAM, which are required to support other services not described in this document." The additional requirements specified in section 4.2.4 apply to this requirement. Specifically the inclusion of the TNS parameter in the outgoing IAM under conditions specified in section 4.2.4.

NOTE:
R3-68 states "If RTP SPCS SS7 Message Processing receives a "Send IAM" primitive from RTPCP, it shall follow existing call processing procedures described in GR-317-CORE and GR-394-CORE." The additional requirements specified in section 4.2.4 apply to this requirement. Specifically the inclusion of the TNS parameter in the outgoing IAM under conditions specified in section 4.2.4. are required.

Change R3-77:
This requirement states "If SS7 Message Processing receives a "Send REL+RI" from RTPCP, it shall formulate and send a REL message containing the Redirection Number parameter *and possibly* a Transit Network Selection parameter if provided. The coding of the Redirection Number parameter is proposed to be the same as the coding of the original Called Party Number parameter as defined in GR-246-CORE. The coding of the Transit Network Selection parameter is also defined in GR-246-CORE."

Service Provider Number Portability RTP requires that the RI always include the Transit Network Selection (TNS) parameter. Additionally, the Redirection Number parameter should always include the original Called Party Number.

The revised requirement should read - "If SS7 Message Processing receives a "Send REL+RI" from RTPCP, it shall formulate and send a REL message containing the Redirection Number parameter and the Transit Network Selection parameter. The the Redirection Number parameter is proposed to be the same as the original Called Party Number parameter as defined in GR-246-CORE. The coding of the Transit Network Selection parameter is also defined in GR-246-CORE."

4.4 Standard Interface Data Elements

Pacific Bell believes that network service providers do not all have to agree to one architecture/solution. Pacific Bell proposes that the information passed at the interface become standard across the industry. This will give each network provider the option of selecting the appropriate technical and economic solution that best meets their needs.

This section provides the data elements that Pacific Bell proposes become standard at the network interface.

For RTP the network interfaces of significance can be between the Pivot Switch and the Release Switch and/or between the Pivot Switch and the Destination Switch as illustrated in figure 2.1. As previously discussed, the Destination Switch can be a Tandem Switch and thus require the TNS parameter.

The data elements required between the Pivot Switch and the Release Switch for RTP are:
- the additional Capability Indicator (CI) and the Rerouting Information (RI) parameters.

The data elements between the Pivot Switch and the Destination Switch (or Tandem Switch) is:
- the TNS parameter.

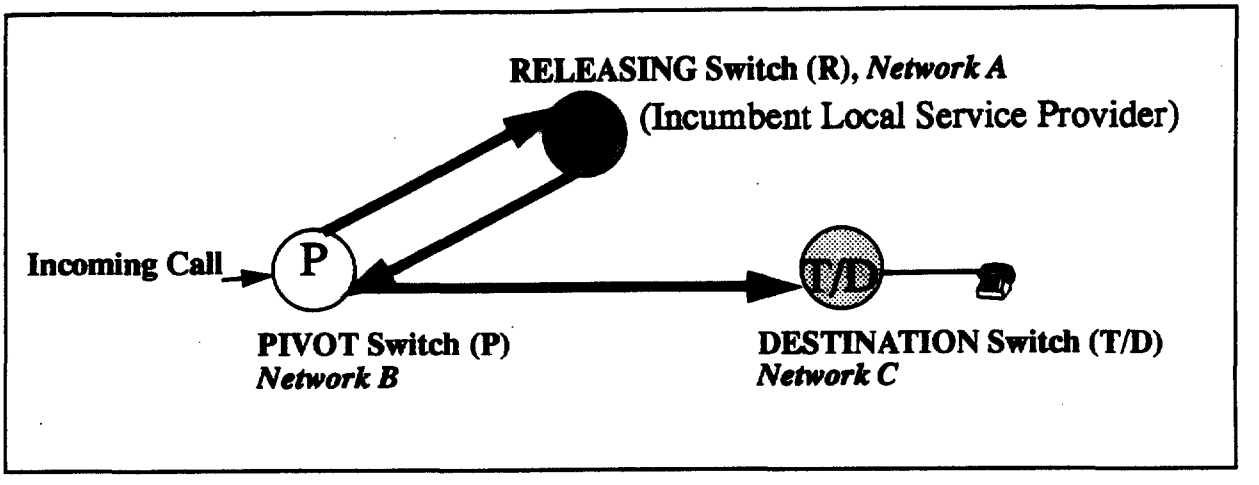


Figure 2.1

These parameters are clearly defined in appendix A of this document.

4.5 Administration

Change R3-80:
Add the following:

- Provision CIC and circuit codes for outgoing trunk groups.

This addition to the requirement is discussed further in section 4.2.4.

4.5.1 Provisioning Number Changes

The existing support systems for provisioning switch data will be used. However, an interface from these existing systems to the newly required Service Provider Number Portability "master line information data base" is required. This "master line information database" will be updated real time as customers port their existing numbers between different service providers. The data will then be downloaded to the existing support systems. Coordination of date and time of service change is for further study at this time.

4.6 Installation
Same as specified in GR-2857-CORE.

4.7 Modification and Retrofit
Same as specified in GR-2857-CORE.

4.8 Person/System Interface
Same as specified in GR-2857-CORE.

4.9 Traffic Measurements
Same as specified in GR-2857-CORE.

4.10Billing and Comptrollers

This section will be provided at a later date.

Appendix A: RTP SS7 Parameters for Service Provider Number Portability

This appendix contains the formats and codings for the ISDNUP parameters discussed in these requirements.

Additional ISDNUP parameters and codings can be found in GR-317-CORE and GR-394-CORE.

The additional parameters required to support RTP for SPNP that are not listed in the above referenced GRs are:

1. Capability Indicator (CI). This parameter is required in an Initial Address Message to Support RTP. Figure A.1.
2. A new REL message cause value parameter is needed, coded "RTP". Figure A.2.
3. The Called Party Number parameter should be added to the Release Message as part of the Rerouting Information (RI). This should be coded identical to the Called Party Number parameter defined in GR-246-Core. Figure A.2.
4. The Transit Network Selection parameter as specified in GR-394-CORE should be included in the Release Message as part of the RI. Figure A.2.
5. The Transit Network Selection parameter as specified in GR-394-CORE should be included in the IAM from the Pivot Switch if an REL+RI was received and the next switch in the call path is not the final switch in the call path. Figure A.3.

RTP ROUTING CAPABILITY:
IAM + CI (Capability Indicator) As Proposed in GR-2857-CORE

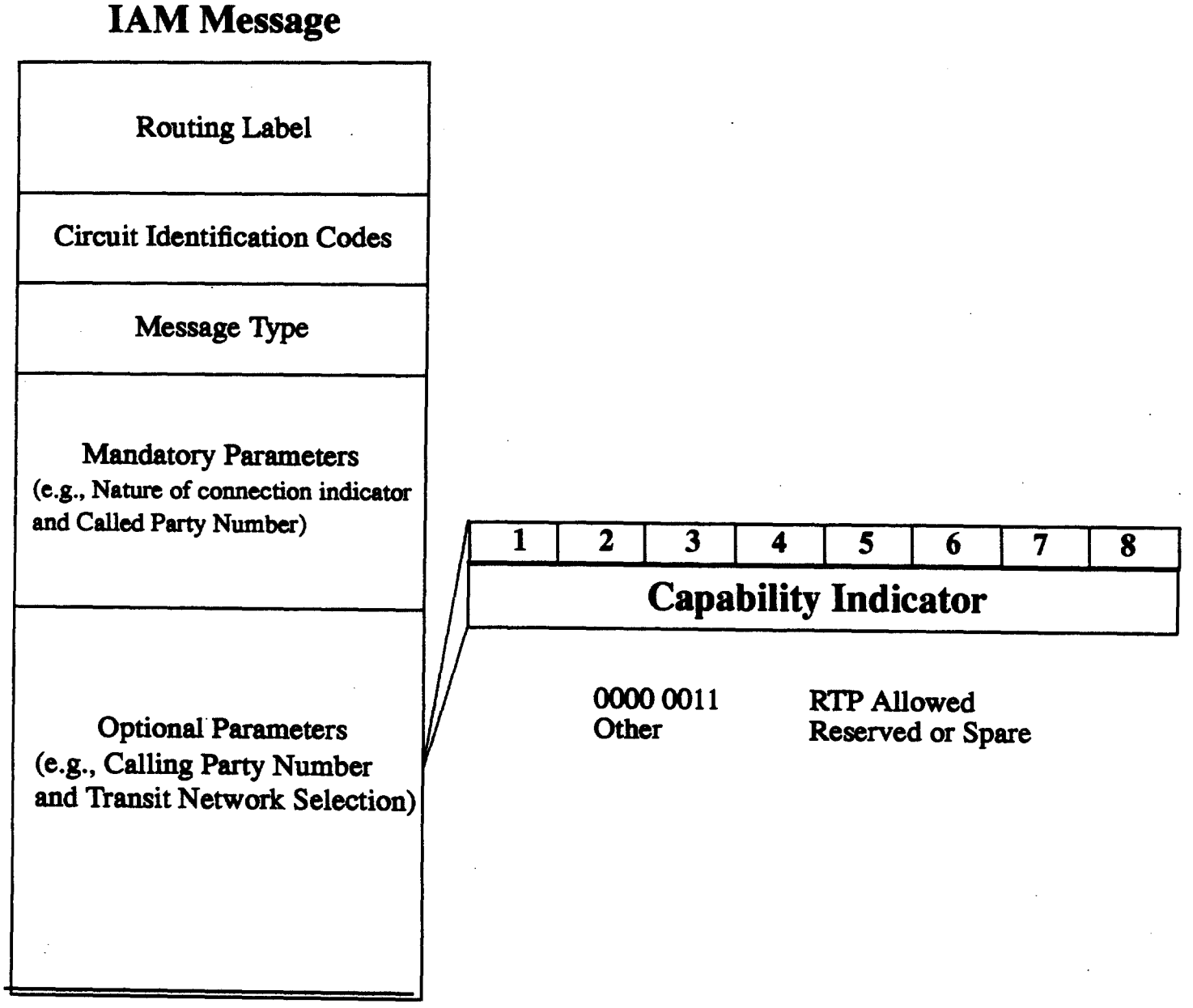
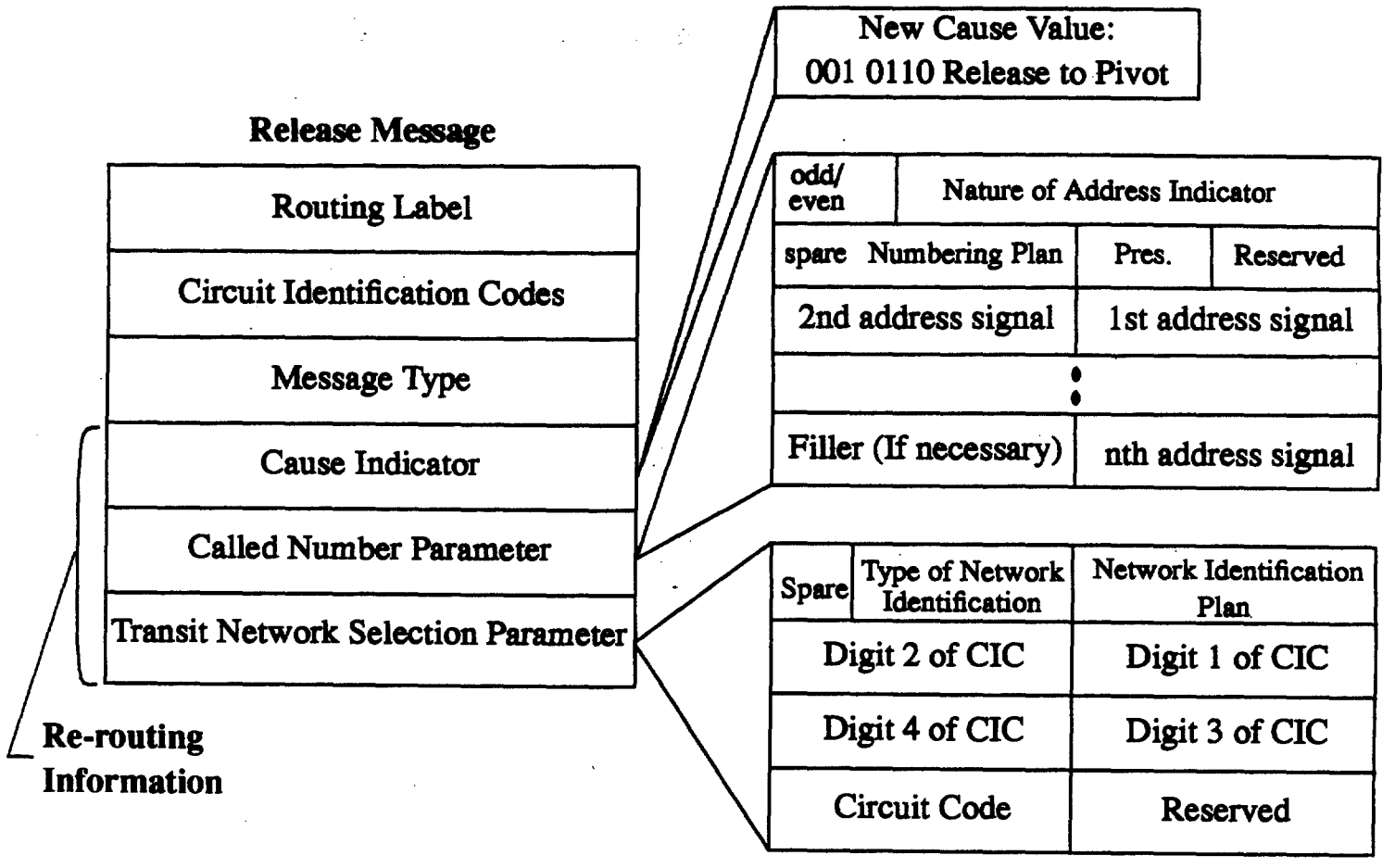


Figure A-1

RTP ROUTING CAPABILITY:
REL + RI (Re-routing Information) As Proposed in GR-2857-CORE



Note: Carrier Identification Code (CIC) is standard and assigned today.

Figure A-2

RTP ROUTING CAPABILITY:
IAM for Intermediate Pivot Switches

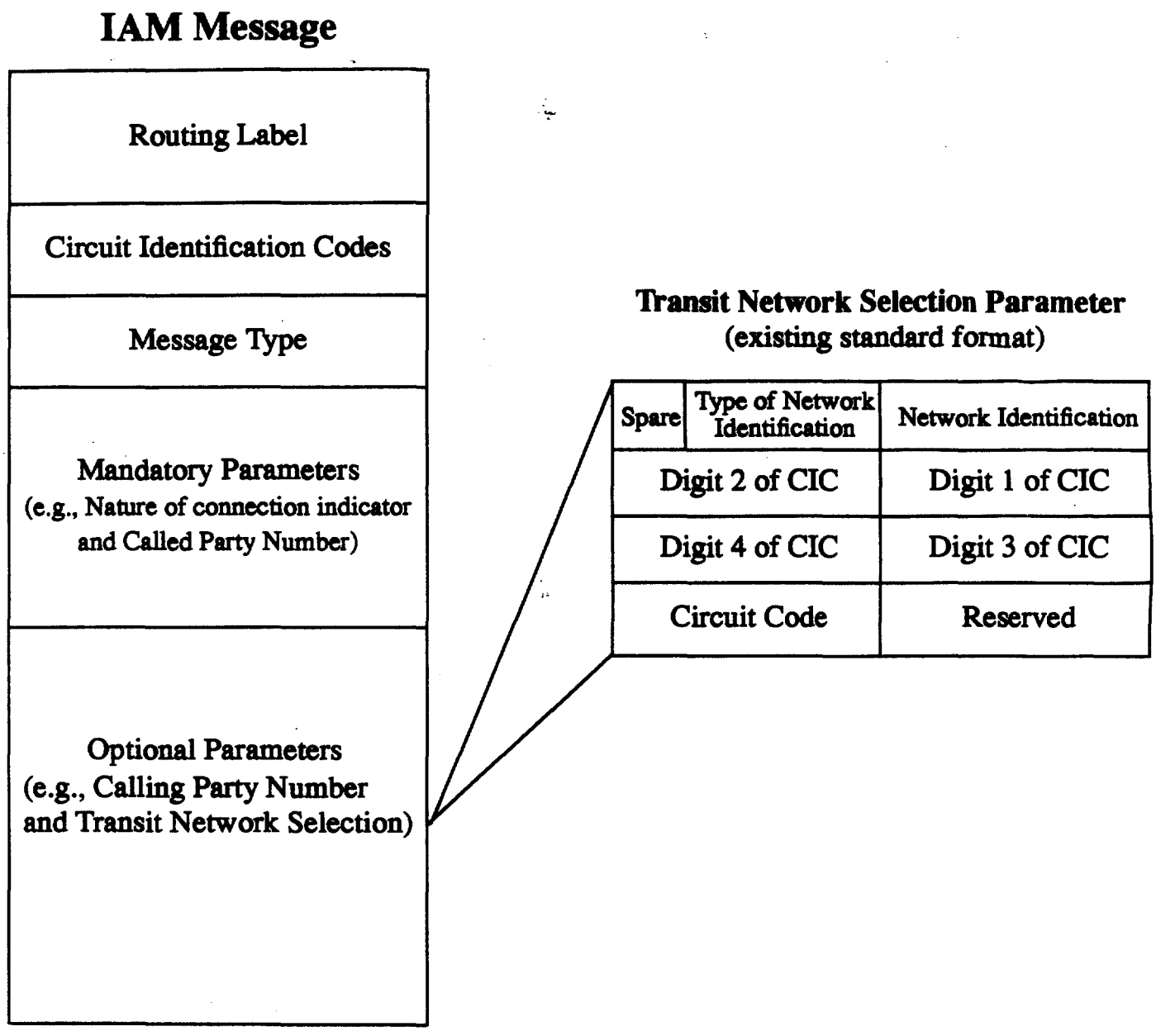


Figure A-3