TTC標準
Standard

JJ-22.04

Technical Specification on Called Party Subaddress Information Interface between Private SIP Networks

First Edition

Established on August 27, 2007

THE TELECOMMUNICATION TECHNOLOGY COMMITTEE

TTC Telecommunication Technology Committee

Introduction

This document provides the TTC original Standards formulated and put into effect by the Technical Assembly. It contains unabbreviated version of 'JJ-' Standards, which have not been defined as international standards.

In case of dispute, the original to be referred is the Japanese version of the text.

We trust that greater understanding of TTC Standards by a wider range of users will further contribute to the development of telecommunications.

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<Reference>

1. Introduction

Since last year, the Private Network Interface Sub-Working Group of the Private Network Special Committee has implemented the standardization of IP (Internet Protocol) based private networks (IP networks) between IP-PBXs (Private Branch eXchanges). Considering future trends in markets and international recommendations, it is necessary to study supplementary service technology and application linkage technology based on SIP (Session Initiation Protocol) within private networks. It has been decided to implement standardization by focusing on the latest technical trends in the new technical field mentioned above and the status of the responses of carriers to them.

Because of the background and reason stated below, this standard summarizes technical specifications on inter-connection interface between private SIP networks.

- Makes it possible to promptly accommodate unique, supplementary services required in a private network by newly defining the SIP protocol for private network.
- Increase connectivity by defining a light protocol for use in a private network , different from the one used in a carrier.

2. Revision History

Edition	Date of establishment	Description
First Edition	August 27, 2007	Established.

3. Miscellaneous

(1) Recommendations, standards, etc., referenced

TTC standard: TS-1008 Technical Specification on Called Party Subaddress Information Interface in Carrier SIP Networks

First Edition June 2, 2005

TTC standard: JJ-22.00 The Guideline for the Architecture of the Technical Specifications for Private SIP in TTC

Revison.11 December 6, 2007

TTC standard: JJ-22.01 Technical Specifications on Inter-connection Interface between Private SIP Networks

Revison.11 December 6, 2007

TTC standard: JJ-22.02 Inter-work Specifications between Private SIP Network and private ISDN Network.

Revison.11 December 6, 2007

(2) Associations with other domestic standards

No associations with other domestic standards.

4. Organizational Unit Preparing Standards

First Edition: Private Network Special Committee

1. Overview

1.1. Scope of this standard

This standard provides the interface specifications necessary for transferring the called party subaddress for use in a connection to a public network (IP network or circuit switched network) and a private network (circuit switching), by applying a connection interface (interface B, C, D, or F <GW connection only>) between inter-connected private SIP networks defined in a network connection architecture specified in JJ-22.00 <The Guideline for the Architecture of the Technical Specifications for Private SIP in TTC>.

Also, this standard is intended to ensure that in inter-connected private SIP networks, management in the private networks is facilitated while high interconnectivity is maintained, on the assumption that the private SIP networks conform to the provisions of this standard.

1.2. Purpose and provisions of this standard

This standard specifies the handling of subaddresses at the connection reference points specified in the Technical Specifications on Inter-connection Interface in Private SIP Networks.

<Called party subaddress information>

Number used by being exchanged between users via a private network for the purpose of specifying a called party, apart from the numbers specified in the ITU-T Recommendation E.164.

1.3 Terms

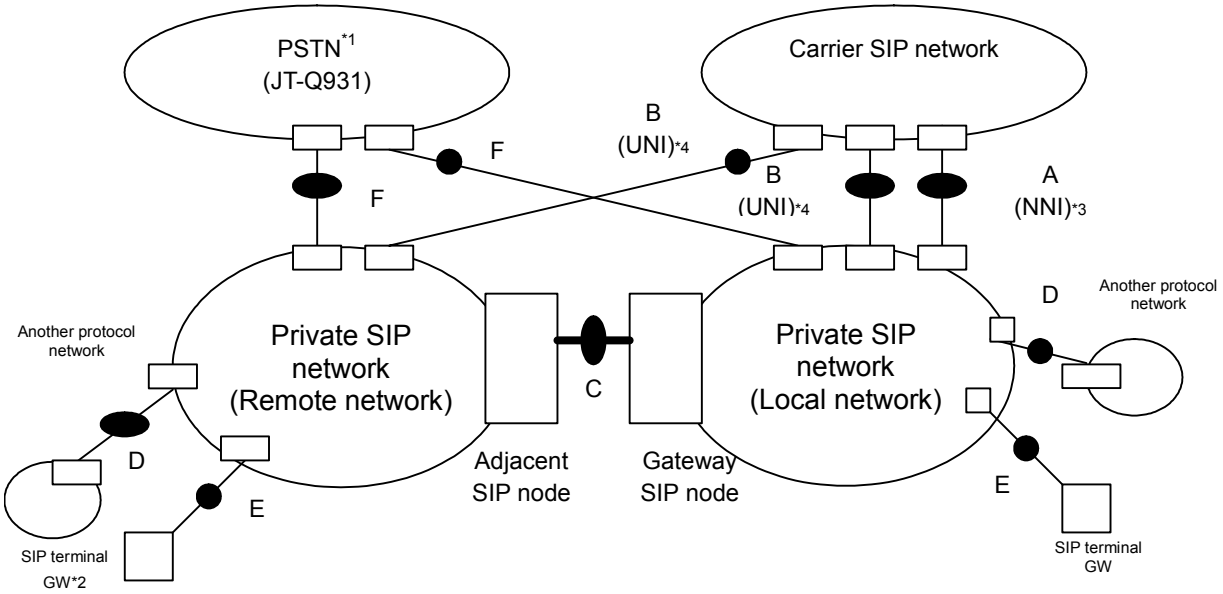
The terms used in this standard shall conform to JJ22.00, JJ22.01, and JJ22.02.

2. Connection Configurations

2.1. Basic connection configuration

This standard describes the conditions for connection interfaces to managed private SIP networks that are applicable to interfaces (only) B, C, D, and F specified in the private SIP network interconnection model shown in Figure 2-1.

In this standard, a private SIP network that has an interface conforming to the provisions for this standrad is called a "managed private SIP network". It is assumed in the remainder of this standard that the term private SIP network refers to a "managed private SIP network". (The private SIP network interconnection model shown below is the one cited from JJ-22.00.)



*1:PSTN・・Public Switched Telephone Networks
*2:GW・・・GateWay
*3:NNI・・・Network Network Interface
*4:UNI・・・User Nerwork Interface

Figure 2-1 Private SIP network interconnection model

2.2. Scope of this standard

The standard defines the provisions inter-server connetion (B, C, D, and F<GW>) .

3. Called Party Subaddresses

3.1 Contents of called party subaddress information

For the contents of called party subaddress information, domestic carriers handle numeric strings not exceeding 19 digits of 0 to 9. A private network shall, however, be capable of using all codes that is defined in IA5, considering international carriers.

3.2 Format of called party subaddress information

3.2.1 Format in SIP signals

In a SIP signal, called party subaddress information is set as the numeric string following a semicolon and "isub=" in the “user” part of the SIP URI of the Request-URI of an Initial INVITE request. The format of the “user” part of the SIP URI shall conform to the provisions of RFC3966.

3.2.2 Format in ISDN (Qsig)

A called party subaddress shall be represented in the format shown in Figure 3-1 as a parameter information element to be contained in the call setup (“Setup” message) in an ISDN signal. As for called party subaddress information, an operating agency shall be allowed to use all IA5 character codes. (The called party subaddress format in JT-Q931-a and JS11572 is shown below for reference.)

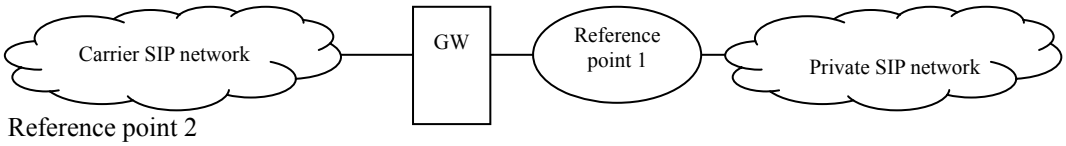
<table>
<tr><td rowspan="2">0</td><td colspan="7">Called party subaddress</td></tr>
<tr><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td></tr>
<tr><td colspan="8">Called party subaddress contents length</td></tr>
<tr><td>1
Expanded</td><td colspan="3">Subaddress type</td><td>Even/odd</td><td colspan="3">0 0 0
Reserved</td></tr>
<tr><td colspan="8">Subaddress information</td></tr>
</table>

Figure 3-1 Called party subaddress information elements

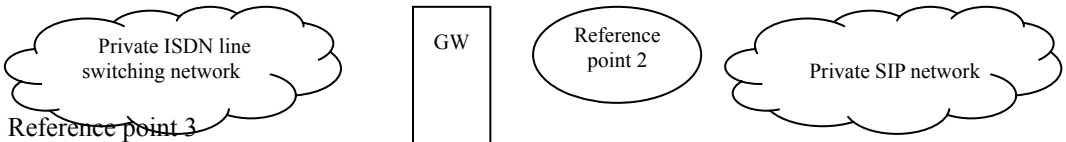
4. Transfer Process of Called Party Subaddress Information

This chapter specifies the handling of subaddresses at the connection reference points specified in the Technical Specifications on Inter-connection Interface in Private SIP Networks.

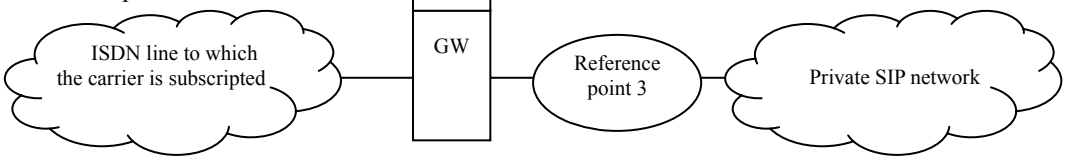
Reference point 1



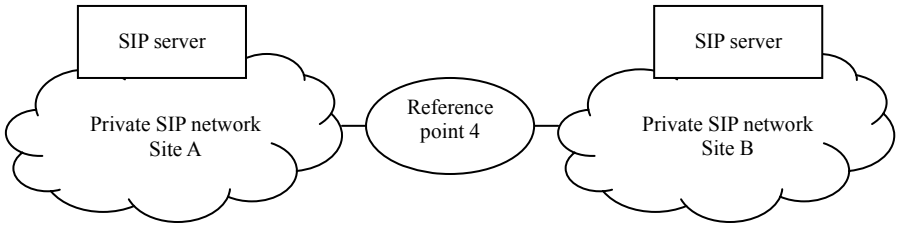
Reference point 2



Reference point 3



Reference point 4



4.1 Called party subaddress information processing at reference points 1, 2, 3, and 4

4.1.1 Processing in incoming access calls

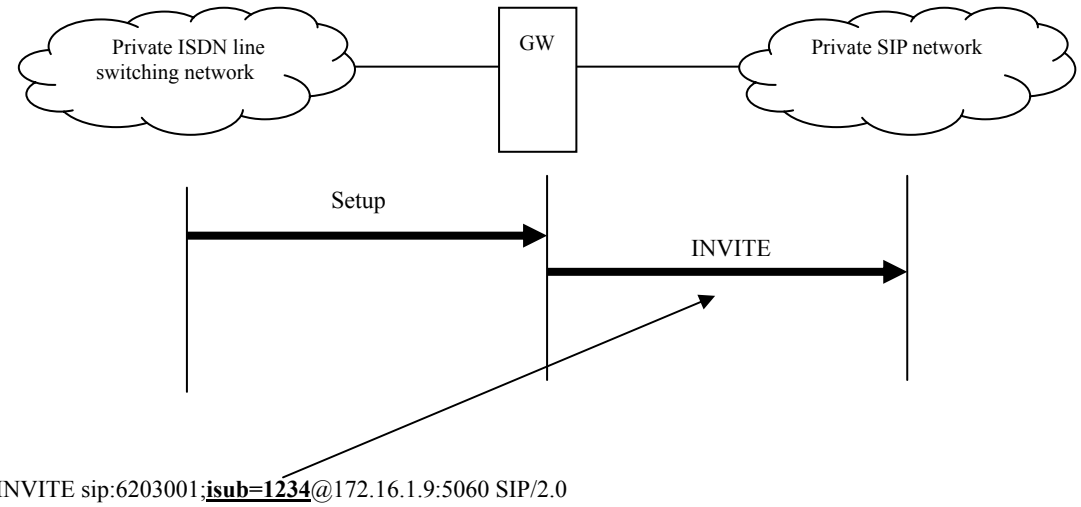
If called party subaddress information in the format specified in Section 3.2.1 is contained in the Request-URI of the Initial INVITE request received via reference point 1, 2, 3, or 4, the contained information may be interpreted and used as a called party subaddress.

4.1.2 Processing in outgoing access calls

Called party subaddress information in the format specified in Section 3.2.1 may be contained in the Request-URI of the Initial INVITE request to be sent via reference point 1, 2, 3, or 4.

In the Request-URI, the string in the "user" part of the SIP-URI shall conform to the global-number-digits format specified in the ABNF of the TEL-URI (RFC3966).

Appendix A. Called Party Subaddress Format Example



INVITE sip:6203001;**isub=1234**@172.16.1.9:5060 SIP/2.0

Via: SIP/2.0/UDP 172.16.1.33:5060;branch=z9hG4bK02b0oc30d81vd88gj4a0sr

From: <sip:6664001@sip.ttc.ne.jp>;tag=SD307h701-539162809

To: <sip:6203001@sip.ttc.ne.jp:5060>

Call-ID: SD307h701-6166a935d3ae09776a379e8cff265bde-v30u1v3

CSeq: 21 INVITE

Contact: <sip:6664001@172.16.1.33:5060;transport=udp>

Max-Forwards: 66

user-agent: SUA/4.0.26

supported: 100rel,timer

Privacy: none

Allow: INVITE, ACK, CANCEL, BYE, PRACK, UPDATE

Content-Type: application/sdp

Content-Length: 140

Date: Fri, 13 Feb 2004 07:47:31 GMT

Session-Expires: 180

v=0

o=- 0 0 IN IP4 172.16.1.33

s=-

c=IN IP4 172.16.1.33

t=0 0

m=audio 10624 RTP/AVP 0 18

a=rtpmap:0 PCMU/8000

a=rtpmap:18 G729/8000

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