AUSTRALIAN COMMUNICATIONS INDUSTRY FORUM

INDUSTRY GUIDELINE

INTERCONNECTION IMPLEMENTATION

ACIF G549:2002

Note: ACIF G500:2002, ACIF G500:2000 and ACIF G500:1998 are separate versions of signalling specifications for the interconnection of circuit switched networks in Australia. At the time of publication, inter-network interfaces based on either ACIF G500:1998 or ACIF G500:2000 are in operation and might continue to be used indefinitely.

Industry Guideline –***Interconnection Implementation***

This Guideline was issued in draft form for comment as DR ACIF G549:2002.
First published as ACIF G549:2000

ISBN: 1 74000 203 2

Disclaimers

1. Notwithstanding anything contained in this Guideline:

   (a) ACIF disclaims responsibility (including where ACIF or any of its officers, employees, agents or contractors has been negligent) for any direct or indirect loss, damage, claim, or liability any person may incur as a result of any:

      (i) reliance on or compliance with this Guideline;

      (ii) inaccuracy or inappropriateness of this Guideline; or

      (iii) inconsistency of this Guideline with any law; and

   (b) ACIF disclaims responsibility (including where ACIF or any of its officers, employees, agents or contractors has been negligent) for ensuring compliance by any person with this Guideline.

2. The above disclaimers will not apply to the extent they are inconsistent with any relevant legislation.

Copyright

Table of Contents

1 Introduction

1.1 Scope

This document provides information to assist with the consistent implementation of Interconnection Signalling based on ACIF G500:2002 [1] for a Point of Interconnection (POI) carrying circuit switched services using E1 based transmission and ISUP signalling (I-ISUP). It takes into consideration:

a) the Australian Numbering Plan, industry codes and existing methods of working,

b) the services, procedures and formats used in the previous Australian ISUP specification ACIF G500:2000 [2] (based on ITU-T ISUP-1992),

c) new services, procedures and formats based on ITU-T ISUP-2000 and ETSI ISUP version 4.

It also provides information on interworking between the ACIF G500:2000 [2] and ACIF G500:2002 [1] versions of ISUP as both Interconnection ISUPs may be in use in the Australian network at the same time. The interworking occurs within a network and not across a POI.

Implementation of an ACIF specification is voluntary and the details of such an implementation are dependent on the terms and conditions in bilateral agreements negotiated between the organisations using the specification.

Implementation of an ACIF specification cannot be mandated by ACIF. Government regulators might be able to mandate implementation of a specification but only under specific conditions.

Implementation of ACIF G549:2002 or any of the associated services, procedures or formats is dependent on the terms and conditions in bilateral agreements negotiated between the organisations using the specification. For example, a bilateral agreement may support a subset of the services, procedures or formats specified in ACIF G549:2002. Bilateral agreements usually take precedence over this document.

The process for deciding what is covered by a bilateral agreement is outside the scope of this document.

Note 1: ACIF G500:2002, ACIF G500:2000 and ACIF G500:1998 are separate versions of signalling specifications for the interconnection of circuit switched networks in Australia. At the time of publication, inter-network interfaces based on either ACIF G500:1998 or ACIF G500:2000 are in operation and might continue to be used indefinitely.

1.2 Participants

Representative	Organisation
Alan Arthurell	Alcatel
Ian Binnie	Hutchison/Orange
Brian Collath	Reach
Stephen Daines	Powertel
James Dam	Optus
Barry Dingle	Ericsson
Jack Fong	Nortel
Terry Gillespie	Optus
David Hawe	Telstra
Davorka Karacic	Vodafone
Sujeet Kumar	Vodafone
Yim Lee	Telstra
Gerry O'Reilly	Telstra
Tony Rayner	Telstra
Wayne Thomas	AAPT
Paul Thompson	PowerTel
Jaime Valle	Optus
Kamal Wanigatunga	Optus
Kim Yan	Cisco

James Duck of ACIF supplied project management support.

1.3 Abbreviations and Acronyms

Abbreviation / Acronym	Meaning
'14XY'	4 digits representing a Carrier Access Code that begins with '14'
'1WXY'	4 digits representing a Carrier Access Code
3G	3rd generation mobile network
3PTY	Three Party Service
'ABC'	3 digits representing mobile location information
ACA	Australian Communications Authority
ACIF	Australian Communications Industry Forum
APM	Application Transport Mechanism
C	Carrier
CAC	Carrier Access Code

CDMA	Code Division Multiple Access
CC	Country Code
CCBS	Completion of Calls to Busy Subscribers
CCITT	Consultative Committee on International Telegraph and Telephone (now ITU-T)
CCNR	Completion of Calls on No Reply
CD	Call Deflection
CdPN	Called Party Number
CFB	Call Forwarding Busy
CFNR	Call Forwarding No Reply
CFNRc	Call Forwarding Not Reachable
CFU	Call Forwarding Unconditional
CgGL	Calling Geodetic Location
CgPN	Calling Party Number
CLI	Calling Line Identification
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CONF	Conference Calling
CPC	Calling Party's Category
CSN	Carrier Specific Number
CSP	Carriage Service Provider
CUG	Closed User Group
CV	Cause Value
CW	Call Waiting
DDI	Direct-Dialling-In
E1	2.048 Mbit/s transmission system
ECT	Explicit Call Transfer
ETSI	European Telecommunications Standards Institute
FCI	Forward Call Indicators
GSM	Global Systems Mobile
GVNS	Global Virtual Network Services
GW	Gateway
HOLD	Call Hold
HTR	Hard To Reach
IAM	Initial Address Message
INAP	Intelligent Network Application Part
INN	Internal Network Number
Intl	International

ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
I-ISUP	Interconnection ISDN User Part
ISDN	Integrated Services Digital Network
ITU-T	International Telecommunications Union - Telecommunications Standardisation Sector
LN	Local Number
MAP	Mobile Application Part
MOLI	Mobile (origin) Location Information
MSN	Multiple Subscriber Number
MTP	Message Transfer Part (of Signalling System No. 7)
MWI	Message Waiting Indicator
Natl	National
NSN	National Significant Number
OASD	Originating Access Service Deliverer
PMTN	Public Mobile Telephone Number
PMTS	Public Mobile Telephone Service
POI	Point Of Interconnection
PSD	Prime Service Deliverer
PSTS	Public Switched Telephone Service
Q.SIG	ISO private network signalling based on Q.931 (also PSS1)
S	Service digits
SCCP	Signalling Connection Control Part
SUB	Sub-addressing
TAR	Temporary Alternative Routing
TASD	Terminating Access Service Deliverer
TCAP	Transaction Capability Application Part
TNS	Transit Network Selection
TP	Terminal Portability
UUS	User-to-User Signalling
WXY	See ‘1WXY’
XY	See ‘14XY’
ZZZ	Digits used in Special Calling Party Number

1.4 Definitions

Carrier Access Code	Corresponds to the 14XY network overrides codes assigned from the national numbering plan defined by the ACA [11]. May be expanded to include 15XY and 16XY codes.
Local Number	An 8 digit geographic number not preceded by an area code.
National Significant Number	Within this document, it is a number without the leading '0'. It has a number length of 9 digits.
National Significant Number Format	The format of a PSTS or PMTS number, or any other number, without the leading '0'.
Public Mobile Telephone Number	Within this document, it is a PMTS number.
Public Mobile Telephone Service	Includes 3G, GSM and CDMA based mobile networks.
Public Switched Telephone Service	ISDN and PSTN lines, assigned geographic numbers.
Special Calling Party Number	A number where either a 'real' Calling Party Number does not exist (i.e. one which could uniquely identify the calling origin), or the original Calling Party Number is not available.

1.5 References

	Publication No.	Title
[1]	ACIF G500:2002	Interconnection Signalling Specification for Circuit Switched Networks
[2]	ACIF G500:2000	Interconnection ISUP
[3]	ACIF G511:1998	1800/1300/13 Number Portability - Network Plan
[4]	ACIF G520:1999	Local Number Portability - Network Plan
[5]	ACIF G527:1999	Stage 3 Supplementary Service Description For Mobile Location Information - Mobile Origin Location
[6]	ACIF G530:1999	Mobile Location Indicator for Emergency Services - Stage 1 Service Description Interim Mobile Location Indicator
[7]	ACIF G532:1999	Mobile Location Indicator - 1800/13/1300
[8]	ACIF G549:2000	Interconnection Implementation Plan
[9]	ACIF G561:2002	Mobile Number Portability - Network Plan for Voice, Data and Fax Services
[10]	ACIF C515:1999	Pre-selection - Single Basket/Multi Service Deliverer
[11]	-	ACA Telecommunications Numbering Plan 1997 as amended

2 MTP

Timeslot 1 is specified in ACIF G500:2000 [2] for signalling. It was implied that 'user' E1 systems were to be used for signalling and that timeslot 1 in one or more 'user' E1 system were blocked and permanently used for signalling.

In ACIF G500:2002 [1], any timeslot in any 'user' E1 system can be used by mutual agreement. It is suggested that timeslot 1 should be used as a first preference because of its use in the past.

3 SCCP and TCAP Implementation

SCCP and TCAP can be used for some Supplementary Services specified in ACIF G500:2002 [1], for instance CCBS, CCNR and MWI.

SCCP and TCAP can also be used for services other than the Supplementary Services specified in ACIF G500:2002 [1]. For instance, MAP or INAP could be supported.

4 Regulatory Issues

Australian regulatory issues such as privacy for number presentation services, number portability and calling party location should be considered by the network operator. Other ACIF Codes and Guidelines may apply.

5 Interconnection Numbering

Interconnection Numbering is the key to consistent service provision and routing. It has evolved to facilitate the provision of a range of services to the customers of Australia's Switched Service Providers. It is intended to operate independently and as a supplement to the public numbering allocations determined by the ACA and its Numbering Advisory Committee.

Interconnection Numbering is used in gateway switches to determine the routing of each call. It is supported by G500:2002 [1] ISUP.

Interconnection Numbering is used by a variety of call types. Full descriptions of some examples of call types can be found in related documents:

ACIF G511 [3] - 1800/1300/13 Number Portability - Network Plan

ACIF G520 [4] - Local Number Portability - Network Plan

ACIF G530 [6] - Mobile Location Indicator for Emergency Services

ACIF G532 [7] - Mobile Location Indicator – 1800/13/1300

ACIF G561 [9] - Mobile Number Portability Network Plan for Voice, Data and Fax Services

ACIF C515 [10] - Pre-Selection – Single Basket / Multi Service Deliverer

This document identifies all Interconnection Numbering allocations. This document will be amended or reissued if new call types (or prefix digits) are added to the interconnect environment.

5.1 Carrier network and Service identification

5.1.1 Carrier Access Codes (CAC)

The CAC digits are numbers that are used to identify a particular service or Service Provider.

Interconnection Numbering is based on the ACA's Numbering Plan [11] for carrier identification i.e. the 14XY (and possibly the 15XY and 16XY) number range. These CAC digits are represented by '1WXY' and are decadic (i.e. digits 0 to 9).

5.1.2 Service Digits (S)

To identify different call types or services, Australian networks use 'Service Digits' (S). The Service Digits consists of zero, one, two or three digits that are carried immediately after the CAC digits.

5.1.3 Carriage of CAC and Service Digits

The CAC digits and the Service Digits are carried either as:

a) digits in the Transit Network Selection (TNS) parameter in the IAM message, or

b) an interim, as the first digits in the Called Party Number (CdPN) parameter.

The general formats of the information in both carriage options are shown respectively in Figures 5-1 and 5-2.

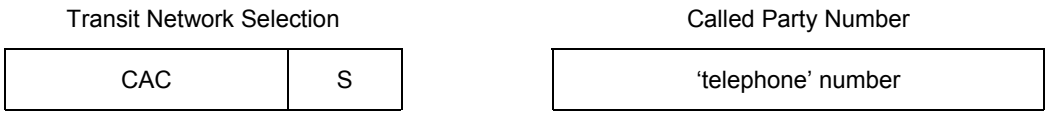

Figure 5–1

Coding using the Transit Network Selection parameter

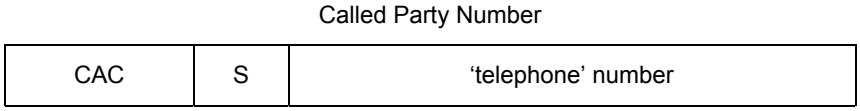

Figure 5–2

Coding using only the Called Party Number parameter (interim)

Although it is recognising that there are current restrictions in the concatenated addressing method in regard to number length, carrier access codes and service digits, the move from the present concatenated method should not be mandatory for the implementation of G500:2002 [1].

The use of the Transit Network Selection parameter to carry the Carrier Access Codes and Service digits could occur at a later time in the life of the specification as industry/regulatory needs dictate.

5.1.4 Service Digit Allocations

Table 5.1 below explains the current usage of the Service Digit(s). It also shows typical usage of the Carrier Access Codes, the Service Digits and the Called Number information.

The table shows the TNS digits and the CdPN digits separately. If the option to concatenate this information into the CdPN parameter is used, the numbers in the column with the heading "CdPN Digit Length (min/max)" have to have the number of TNS digits added to them to give the new min/max lengths.

<table>
<tr><th>Service Digit/s 'S'</th><th>CdPN Digit Length (min/max)</th><th colspan="3">Description/Examples</th></tr>
<tr><td>'0'</td><td></td><td colspan="3">Originating Access – Override Access
PSTS end user dials on a call by call basis a Carrier Access Code "1WXY" to select a specific PSD for a preselectable service. The OASD provides call hand-over to the PSD, using the same CAC. (Note 1)
Reference: ACIF C515:1999 [10] - Pre-Selection – Single Basket / Multi Service Deliverer.</td></tr>
<tr><td></td><td></td><td>Dialled digits</td><td>TNS digits</td><td>CdPN digits</td></tr>
<tr><td></td><td>10</td><td>1WXY-LN</td><td>1WXY-</td><td>0-NSN</td></tr>
<tr><td></td><td>9-10</td><td>1WXY-0-NSN</td><td>1WXY-</td><td>0-NSN</td></tr>
<tr><td></td><td>6-19</td><td>1WXY-0011-CC-NSN</td><td>1WXY-</td><td>0011-CC-NSN</td></tr>
<tr><td></td><td>6-19</td><td>1WXY-0012-CC-NSN</td><td>1WXY-</td><td>0012-CC-NSN</td></tr>
<tr><td>'1'</td><td></td><td colspan="3">Operator Assistance – Override Access
PSTS end user dials on a call by call basis a Carrier Access Code "1WXY" to select a specific PSD for a preselectable operator service. The OASD provides call hand-over to the PSD, using the same CAC. (Note 1)
Reference: ACIF C515:1999 [10] - Pre-Selection – Single Basket / Multi Service Deliverer.
Codes 1220, 1223 and 1236 are Common numbers and are not preselectable.</td></tr>
<tr><td></td><td></td><td>Dialled digits</td><td>TNS digits</td><td>CdPN digits</td></tr>
<tr><td></td><td>4</td><td>1WXY-122(1-2, 4-9)</td><td>1WXY-</td><td>122n</td></tr>
<tr><td></td><td>4</td><td>1WXY-123(0-5,7-9)</td><td>1WXY-</td><td>123n</td></tr>
</table>

<table>
<tr><th>Service Digit/s 'S'</th><th>CdPN Digit Length (min/max)</th><th colspan="3">Description/Examples</th></tr>
<tr><td rowspan="13">2</td><td rowspan="13"></td><td colspan="3">Terminating Access to non-geographic numbers
End-user dials a non-geographic number and call handover occurs to a TASD. (Note 4.)
1WXY is the CAC of the TASD.
Reference: ACIF G561:2002 [9] - Mobile Number Portability Network Plan for Voice, Data and Fax Services.</td></tr>
<tr><td>Dialled digits</td><td>TNS digits</td><td>CdPN digits</td></tr>
<tr><td>3</td><td>000</td><td>1WXY-2</td><td>000</td></tr>
<tr><td>9-10</td><td>PMTN</td><td>1WXY-2</td><td>PMTN</td></tr>
<tr><td>6</td><td>13n xxx</td><td>1WXY-2</td><td>13nxxx</td></tr>
<tr><td>6</td><td>134 nxx</td><td>1WXY-2</td><td>134nxx</td></tr>
<tr><td>8</td><td>1345 xxxx</td><td>1WXY-2</td><td>1345 xxxx</td></tr>
<tr><td>10</td><td>130x xxx xxx</td><td>1WXY-2</td><td>130x xxx xxx</td></tr>
<tr><td>10</td><td>1800 xxx xxx</td><td>1WXY-2</td><td>1800 xxx xxx</td></tr>
<tr><td>10</td><td>1801 xxx xxx</td><td>1WXY-2</td><td>1801 xxx xxx</td></tr>
<tr><td>7</td><td>180n xxx</td><td>1WXY-2</td><td>180n xxx</td></tr>
<tr><td>6-25 (Note 2)</td><td>188 xx …</td><td>1WXY-2</td><td>188 xx …</td></tr>
<tr><td>5</td><td>189 xx …</td><td>1WXY-2</td><td>189 xx …</td></tr>
<tr><td>10</td><td>190x xxx xxx</td><td>1WXY-2</td><td>190x xxx xxx</td></tr>
<tr><td rowspan="4">3</td><td rowspan="4"></td><td colspan="3">Terminating Access to geographic numbers
Terminating access is required to a geographic number of a TASD. The CAC used is that of TASD.</td></tr>
<tr><td>Dialled digits</td><td>TNS digits</td><td>CdPN digits</td></tr>
<tr><td>10</td><td>LN</td><td>1WXY-3</td><td>0-NSN</td></tr>
<tr><td>10</td><td>0-NSN</td><td>1WXY-3</td><td>0-NSN</td></tr>
</table>

Service Digit/s 'S'	CdPN Digit Length (min/max)	Description/Examples		
4'S'		***Access to the Recipient Network for termination of a Ported Number***		
42		***Ported Non-geographic numbers*** Access required to recipient network for a ported non-geographic number. The CAC is that of the recipient (TASD) network. (Note 4.) References: ACIF G511:1998 [3] - 1800/13/1300 Number Portability - Network Plan ACIF G561:2002 [9] - Mobile Number Portability Network Plan for Voice, Data and Fax Services.		
		Dialled digits	***TNS digits***	***CdPN digits***
	9-10	PMTN	1WXY-42	PMTN
	6	13n xxx	1WXY-42	13n xxx
	6	134 nxx	1WXY-42	134 nxx
	8	1345 xxxx	1WXY-42	1345 xxxx
	10	130x xxx xxx	1WXY-42	130x xxx xxx
	10	1800 xxx xxx	1WXY-42	1800 xxx xxx
	10	1801 xxx xxx	1WXY-42	1801 xxx xxx
	7	180n xxx	1WXY-42	180n xxx
43		***Ported Geographic Number*** Terminating Access required into a recipient network for a ported geographic number. The CAC is that of the recipient. Reference: ACIF G520:1999 [4] - Local Number Portability - Network Plan.		
		Dialled digits	***TNS digits***	***CdPN digits***
	10	LN	1WXY-43	0-NSN
	10	0-NSN	1WXY-43	0-NSN
44		***Ported Mobile Number - TASD not determined*** PSTS (mobile & fixed) end user dials a mobile service. The PSD provides call handover to the carrier holding the allocation of number block that contains the dialled number. PSD has not determined that the carrier it is passing the call to is the TASD. Reference: ACIF G561:2002 [9] - Mobile Number Portability Network Plan for Voice, Data and Fax Services.		
		Dialed digits	***TNS digits***	***CdPN digits***
	9-10	PMTN	1WXY-44	PMTN

<table>
<tr><th>Service Digit/s 'S'</th><th>CdPN Digit Length (min/max)</th><th colspan="3">Description/Examples</th></tr>
<tr><td>5</td><td></td><td colspan="3">Originating Access – Preselection
PSTS customer dials a preselectable service, without the use of a Carrier Access Code. The preselection choice applies; requiring the OASD to pass the call to the customer's preselected PSD.
The OASD provides call hand-over to the PSD, using the PSD's allocated CAC.
Reference: ACIF C515:1999 [10] - Pre-Selection - Single Basket / Multi Service Deliverer.</td></tr>
<tr><td></td><td></td><td>Dialled digits</td><td>TNS digits</td><td>CdPN digits</td></tr>
<tr><td></td><td>4</td><td>122(1-2, 4-9)</td><td>1WXY-5</td><td>122n</td></tr>
<tr><td></td><td>4</td><td>123(0-5,7-9)</td><td>1WXY-5</td><td>123n</td></tr>
<tr><td></td><td>5</td><td>12711</td><td>1WXY-5</td><td>12711</td></tr>
<tr><td></td><td>10</td><td>LN</td><td>1WXY-5</td><td>0-NSN</td></tr>
<tr><td></td><td>10</td><td>0-NSN</td><td>1WXY-5</td><td>0-NSN</td></tr>
<tr><td></td><td>9-10</td><td>PMTN</td><td>1WXY-5</td><td>PMTN</td></tr>
<tr><td></td><td>6-19</td><td>0011-CC-NSN</td><td>1WXY-5</td><td>0011-CC-NSN</td></tr>
<tr><td></td><td>6-19</td><td>0012-CC-NSN</td><td>1WXY-5</td><td>0012-CC-NSN</td></tr>
</table>

Service Digit/s 'S'	CdPN Digit Length (min/max)	Description/Examples		
6'S'		***Mobile Location indicator***		
62		***Mobile Location Indicator - non-ported non-geographic (transitional use only - see 13.1.1)*** Under bilateral agreements, Mobile Location Indicator (MoLI) may be forwarded on calls made from a mobile network. 1WXY is that of the recipient. Mobile Location Indicator is inserted into the Called Party Number address digits in the form of the additional 'ABC' digits. These digits may be used to implement geographic dependant-routing features. Reference: ACIF G532:1999 [7] - Mobile Location Indicator - 1800/13/1300.		
		Dialled digits	***TNS digits***	***CdPN digits***
	6	000	1WXY-62	000ABC
	9	13n xxx	1WXY-62	13nABCxxx
	9	134 nxx	1WXY-62	134ABCnxx
	11	1345xxxx	1WXY-62	1345xxABCxx
	13	130x xxx xxx	1WXY-62	130xxxABCxxxx
	13	1800 xxx xxx	1WXY-62	1800xxABCxxxx
	13	1801 xxx xxx	1WXY-62	1801xxABCxxxx
	10	180n xxx	1WXY-62	180nxxABCx
642		***Mobile Location Indicator - ported non-geograhic (transitional use only - see 13.1.1)*** Under bilateral agreements, Mobile Location Indicator (MoLI) may be forwarded on calls made from a mobile network. 1WXY is that of the recipient. Mobile Location Indicator is inserted into the Called Party Number address digits in the form of the additional 'ABC' digits. These digits may be used to implement geographic dependant-routing features. (Note - '644' is not supported.) Reference: ACIF G532:1999 [7] - Mobile Location Indicator - 1800/13/1300.		
		Dialled digits	***TNS digits***	***CdPN digits***
	6	000	1WXY-642	000ABC
	9	13n xxx	1WXY-642	13nABCxxx
	9	134 nxx	1WXY-642	134ABCnxx
	11	1345xxxx	1WXY-642	1345xxABCxx
	13	130x xxx xxx	1WXY-642	130xxxABCxxxx
	13	1800 xxx xxx	1WXY-642	1800xxABCxxxx
	13	1801 xxx xxx	1WXY-642	1801xxABCxxxx
	10	180n xxx	1WXY-642	180nxxABCx

<table>
<tr><th>Service Digit/s 'S'</th><th>CdPN Digit Length (min/max)</th><th>Description/Examples</th></tr>
<tr><td>7'S'</td><td></td><td>Inter-Carrier Wholesale Services

The recipient carrier provides a wholesale service to national or international destinations. The digit '7' can prefix any other Service Digit.

Use of service digit '7' indicates that call traffic is of a wholesale nature. Billing is at an aggregate level only, as opposed to billing on a per-CLI basis as may occur with service digits '0' and '5', and CLI-screening conditions may differ.

The CAC is that of the recipient carrier. Typical call cases are listed below.

<table>
<tr><th>Dialled digits</th><th>TNS digits</th><th>CdPN digits</th></tr>
<tr><td>6-19</td><td>-</td><td>1WXY-7</td><td>0011-CC-NSN</td></tr>
<tr><td>10</td><td>0-NSN</td><td>1WXY-73</td><td>0-NSN</td></tr>
<tr><td>9-10</td><td>PMTN</td><td>1WXY-72</td><td>PMTN</td></tr>
<tr><td>10</td><td>-</td><td>1WXY-72</td><td>1300 xxx xxx (Note 3)</td></tr>
<tr><td>4</td><td>122x</td><td>1WXY-7</td><td>122x</td></tr>
<tr><td>10</td><td>0-NSN</td><td>1WXY-75</td><td>0-NSN</td></tr>
<tr><td></td><td>(see '62' and '642' above)</td><td>1WXY-76</td><td>(see '62' and '642' above)</td></tr>
</table></td></tr>
<tr><td>8</td><td></td><td>Spare</td></tr>
<tr><td>9'S'</td><td></td><td>Transit Carriage

(i) When used as a transit carriage service, the CAC sent to the transit carrier is that of the terminating carrier as pre-determined by the originating carrier. In the transit case, the Transit Carrier will not send the service digit '9'. The digit '9' can prefix any other Service Digit.

(ii) Service digit '9' may also be used under bilateral arrangements by a Carrier for overflow or temporary routing, to overcome a POI outage or similar event.

<table>
<tr><th>Call Case</th><th>TNS digits</th><th>CdPN digits</th></tr>
<tr><td>9-10</td><td>Natl. Transit Override Call</td><td>1WXY-9</td><td>0-NSN</td></tr>
<tr><td>6-19</td><td>Intl. Transit Override Call</td><td>1WXY-9</td><td>0011-CC-NSN</td></tr>
<tr><td>9-10</td><td>Natl. Transit Preselected Call.</td><td>1WXY-95</td><td>0-NSN</td></tr>
<tr><td>6-19</td><td>Intl. Transit Preselected Call</td><td>1WXY-95</td><td>0011-CC-NSN</td></tr>
<tr><td>-</td><td>Transit Call to CSN</td><td>1WXY-92</td><td>CSN</td></tr>
<tr><td>10</td><td>Transit Terminating Access Call</td><td>1WXY-93</td><td>0-NSN Note 5</td></tr>
<tr><td>-</td><td>Transit call ported CSN</td><td>1WXY-942</td><td>CSN</td></tr>
<tr><td>10</td><td>Transit Call ported terminating access</td><td>1WXY-943</td><td>0-NSN Note 5</td></tr>
</table></td></tr>
</table>

Table 5-1

Assignment of Service Digits 'S' and carriage of 'CAC', 'S' and Number information

Note 1: A distinct Service Digit does not exist; the Service Digit is implied from the subsequent digit associated with these call cases.

Note 2: Some access networks may not support 25 digits (in the 'not concatenated' format) or the 30 digits (in the 'concatenated' format).

Note 3: This call case may be redundant after 1800/1300 number portability.

Note 4: From 1st January 2003, the TASD must accept service digits 42, as an alternative to 2 for calls to PMTS numbers which have transferred between technologies within their network [9].

Note 5: NSN should only be a geographic number in these cases (refer to service digit 3).

6 Calling Party Number parameter

The CLI information can be carried by I-ISUP in either national or international format. For an originating call where the Calling Party Number information is from the ACA Numbering Plan (1997 plus amendments) [11], the Calling Party Number parameter will have the 'Nature of Address' field set to "national (significant) number".

> **Note:** In ACIF G500:2002 Address Presentation Restriction Indicator "Address Not Available" is not supported therefore Address Digits are required in the Calling Party Number Parameter.

In ACIF G500:2000 [2], the Calling Line Identification (CLI) was only carried in the "national (significant) number" (NSN) format in the Calling Party Number (CgPN) parameter. This did not allow for the carriage of international numbers. With the growth of international roaming of mobile phones, the ability to carry international numbers provides a useful service to end users.

An international CLI (eg. from a roaming international terminal calling from Australia) will be carried with the 'Nature of Address' set to "international" format ie. with a number beginning with the country code digit(s).

Interworking of international format and national format Calling Party Numbers in ACIF G500:2002 [1] with the national format Calling Party Number in ACIF G500:2000 [2] is described in Section 13.1.1.

6.1 Special Calling Party Number Assignments

Special calling party numbers should not be used unless the actual CLI is not available. If they must be used, the special call origin assignment codes in Sections 6.1.1 through 6.1.5 should be used where possible.

If additional 'carrier codes' such as '15XY' and possibly '16XY' are introduced, a different format will be used (see 6.1.6).

For special call types, it is necessary that the Calling Party Number parameter be set according to an Industry standard. In such cases either a 'real' Calling Party Number does not exist (ie. one which could uniquely identify the calling origin), or the original Calling Party Number is not available. In these instances, originating networks shall apply a 'special Calling Party Number to enable identification of these special call types.

These special call types include (but are not limited to) :

(a) National Operator Originated Calls

(b) National Operator A-Party Charged Calls

(c) National Operator Reverse Charge Calls

(d) International Customer or Payphone Calls

(e) International Operator Calls

New services may require additional bilaterally agreed special calling party number assignments.

Special calling party numbers have a number length of 9 digits in NSN format.

6.1.1 National Operator Originated Calls

National Operator Originated Calls will have the following Calling Party Number Parameter applied to the call:

Code point	Value
Odd/even indicator	odd
Nature of address indicator	national significant number
Calling party number incomplete indicator	complete
Numbering plan indicator	ISDN numbering plan
Address presentation restricted indicator	presentation restricted
Screening indicator	network provided
Address Signal	015XYSZZZ Note 1
Filler	included

Table 6-1

Calling Party Number Parameter - National Operator Originated Calls

Note 1:

XY is a two digit Carrier/CSP identifier of the operator service carrier, and XY aligns with the last two digits of the 14XY Carrier Access Code (CAC).

S is a single digit geographic based identifier which describes the State/Territory in which the Operator exchange resides. That is, S=2 for NSW, S=3 for Vic/Tas, S=6 for ACT, S=7 for Qld, S=8 for SA/NT and S=9 for WA.

ZZZ are three digits assigned by the Carrier/CSP to the Operator exchange. Default setting is '000'.

6.1.2 National Operator A-Party Charged Calls

National Operator A-Party Charged Calls can have either of the two options listed below for the Calling Party Number Parameter applied to the call :

Option 1 :

This option allows the originating Calling Party Number Parameter to be transferred unmodified through the Operator exchange from which the call is connected :

Calling Party Number Parameter = received Calling Party Number Parameter

Option 2 :

This option allows a Carrier/CSP which is unable to, or may not wish to implement Option 1, to use the same Calling Party Number Parameter for the Operator Originated Call case for it's Operator A-Party Charge calls.

Code point	Value
Odd/even indicator	odd
Nature of address indicator	national significant number
Calling party number incomplete indicator	complete
Numbering plan indicator	ISDN numbering plan
Address presentation restricted indicator	presentation restricted
Screening indicator	network provided
Address Signal	015XYSZZZ Note 1
Filler	included

Table 6-2

Calling Party Number Parameter - National Operator A-Party Charged Calls

Note 1:

XY is a two digit Carrier/CSP identifier of the operator service carrier, and XY aligns with the last two digits of the 14XY Carrier Access Code (CAC).

S is a single digit geographic based identifier which describes the State/Territory in which the Operator exchange resides. That is, S=2 for NSW, S=3 for Vic/Tas, S=6 for ACT, S=7 for Qld, S=8 for SA/NT and S=9 for WA.

ZZZ are three digits assigned by the Carrier/CSP to the Operator exchange. Default setting is '000'.

6.1.3 National Operator Reverse Charge Calls

National Operator Reverse Charge Calls will have the following Calling Party Number Parameter applied to the call :

Code point	Value
Odd/even indicator	odd
Nature of address indicator	national significant number
Calling party number incomplete indicator	complete
Numbering plan indicator	ISDN numbering plan
Address presentation restricted indicator	presentation restricted
Screening indicator	network provided
Address Signal	014XYSZZZ Note 1
Filler	included

Table 6-3

Calling Party Number Parameter - National Operator Reverse Charge Calls

Note 1:

XY is a two digit Carrier/CSP identifier of the operator service carrier, and XY aligns with the last two digits of the 14XY Carrier Access Code (CAC).

S is a single digit geographic based identifier which describes the State/Territory in which the Operator exchange resides. That is, S=2 for NSW, S=3 for Vic/Tas, S=6 for ACT, S=7 for Qld, S=8 for SA/NT and S=9 for WA.

ZZZ are three digits assigned by the Carrier/CSP to the Operator exchange. Default setting is '000'.

6.1.4 International Customer or Payphone Calls

International Customer or Payphone Calls will have the following Calling Party Number Parameter applied to the call:

Code point	Value
Odd/even indicator	odd
Nature of address indicator	national significant number
Calling party number incomplete indicator	complete
Numbering plan indicator	ISDN numbering plan
Address presentation restricted indicator	presentation restricted
Screening indicator	network provided
Address Signal	011XYSZZZ Note 1
Filler	included

Table 6-4

Calling Party Number Parameter - International Customer or Payphone Calls

Note1:

XY is a two digit Carrier/CSP identifier of the operator service carrier, and XY aligns with the last two digits of the 14XY Carrier Access Code (CAC).

S is a single digit value nominated by the Carrier/CSP to indicate the exchange in which the special Calling Party Number Parameter was inserted. Or alternatively, is a single digit geographic based identifier which describes the State/Territory location of the exchange which inserted the special Calling Party Number Parameter. That is, S=2 for NSW, S=3 for Vic/Tas, S=6 for ACT, S=7 for Qld, S=8 for SA/NT and S=9 for WA.

ZZZ are three digits assigned by the Carrier/CSP to the International Gateway exchange. Default setting is '000'.

6.1.5 International Operator Calls

International Operator Calls will have the following Calling Party Number Parameter applied to the call:

Code point	Value
Odd/even indicator	odd
Nature of address indicator	national significant number
Calling party number incomplete indicator	complete
Numbering plan indicator	ISDN numbering plan
Address presentation restricted indicator	presentation restricted
Screening indicator	network provided
Address Signal	010XYSZZZ Note 1
Filler	included

Table 6-5

Calling Party Number Parameter - International Operator Calls

Note 1:

XY is a two digit Carrier/CSP identifier of the operator service carrier, and XY aligns with the last two digits of the 14XY Carrier Access Code (CAC).

S is a single digit value nominated by the Carrier/CSP to indicate the exchange in which the special Calling Party Number Parameter was inserted. Or alternatively, a 'default' single digit nominated by the Carrier/CSP can be applied to these calls.

ZZZ are three digits assigned by the Carrier/CSP to the International Gateway exchange. Default setting is '000'.

6.1.6 Support for additional Carrier Access Codes

The format of special calling party numbers with a CAC of '14XY' removes the leading '14' digits and only carries the 'XY' digits. The introduction of '15XY' and possibly '16XY' makes this formatting inappropriate.

For '15XY' and possibly '16XY' CACs, the special calling party number CLI format shall be:

01AXYS1(5/6)Z

where

01A = the type of service (see 6.1.1 through 6.1.5)

XY = last two digits of the 15XY or 16XY CACs

S = State (see 6.1.1 through 6.1.5)

5/6 = 5 if CAC = 15XY and 6 if CAC = 16XY

Z = a code assigned by the operator. Default = 0.

All other formatting is according to the appropriate Sections 6.1.1 - 6.1.5.

7 Calling Party's Category

The Australian specific Calling Party's Category codepoints have been removed from ACIF G500:2002 [1] and some of the standard CPC codepoints reinstated. The Interworking Section 13.1.1 describes how the old and new codepoints are mapped.

The valid CPC codes (see G500:2002 Q.763 section 3.11) are:

CPC Value	ACIF G500:2002 meaning
0	CPC unknown
1	*Note*
2	International operator, language English
3,4,5,6,7,8	*Note 1*
9	National Operator
10	Ordinary calling subscriber
11,12	*Note 1*
13	Test call
14	*Note 1*
15	Payphone
16 to 255	*Note 1*

Table 7-1

Valid CPC Codes

Note 1: These (unused) CPC values are not recognised in this Guideline. If a point of interconnection receives these CPC values, then the incoming gateway exchange may:

(a) accept the received CPC parameter and map the parameter to a valid CPC parameter (see 13.1.1),
(b) accept the received CPC parameter and pass the parameter on unchanged, or
(c) release the call.

The Calling Party's Category information is determined to be originating end user service information. It can be used within a national network to:

(a) identify the originating end user, or network preferred, method of charging for all calls from that originating end user line. For example, it provides information on whether the national network must generate multimeter pulses for call charging.

(b) determine if this category of originating end user should be provided with access to specific network destinations or network services.

(c) provide information for national network feature-related actions

8 Cause values

The range of Cause values that can be used is shown in ACIF G500:2002 [1] Part A.5. The ACIF G500:2002 defined cause values must be transported or be converted in a bilaterally agreed manner. A level of consistency in the use of cause values will assist in fault analysis.

A minimum subset that provides a high degree of consistency is proposed in Table 8-1 below.

Cause value	Meaning
000 0001 (1)	unallocated (unassigned) number
000 0011 (3)	no route to destination
001 0000 (16)	normal call clearing
001 0001 (17)	user busy
001 0010 (18)	no user responding
001 0011 (19)	no answer from user (user alerted)
001 0100 (20)	subscriber absent (eg. mobile)
001 0101 (21)	call rejected
001 0110 (22)	number changed
001 0111 (23)	redirection to new destination
001 1011 (27)	destination out of order
001 1100 (28)	address incomplete
001 1111 (31)	normal unspecified
010 0010 (34)	no circuit/channel available (CCBS)
010 0110 (38)	network out of order
010 1111 (47)	resource unavailable — unspecified
011 0010 (50)	requested facility not subscribed
011 1010 (58)	bearer capability not presently available
011 1111 (63)	service/option not available — unspecified
100 0001 (65)	bearer capability not implemented
100 0101 (69)	requested facility not implemented
100 1111 (79)	service or option not implemented, unspecified
101 1000 (88)	incompatible destination
101 1111 (95)	invalid message — unspecified
110 0001 (97)	message type non existent or not implemented
110 0011 (99)	parameter nonexistent or not implemented - discarded
110 0110 (102)	recovery on timer expiry.
110 0111 (103)	parameter nonexistent or not implemented - passed on
110 1110 (110)	message with unrecognised parameter discarded
110 1111 (111)	protocol error — unspecified
1111111 (127)	interworking unspecified

Table 8-1

Suggested minimum subset of Cause values

9 Calling Geodetic Location parameter

The Calling Geodetic Location parameter (CgGL) carries information about the location of an area on the earth that a call is being made from. The information can be used for emergency services and for location services. It can apply to fixed or mobile terminals.

The CgGL parameter can also indicate the shape of the location area, the uncertainty (in metres), the confidence (in percent) and the height of the area above sea level. The defined shapes include a point, a circle, an area that can describe mobile radio cells, cell sectors, cell annulus or cell sector annulus.

ISUP does not determine any of the location/shape/height information. It only carries the information. G500:2002 [1] Part A.2 Sections 3.17, 4.44 - 4.47, 4.114 and 4.115 provide considerable information about the terms used in this parameter including diagrams that assist with understanding. G500:2002 [1] Part A.3 Section 3.88 describes the formatting of the parameter.

ACIF G527:1999 [5] defines the minimum requirements for MOLI. It describes the coding of some of the Calling Geodetic location parameter fields.

In ACIF G500:2000 [2], the special ‘ABC’ location digits were carried in the Called Party Number using Service digit = ‘6’. This was used as an interim (see ACIF G.532). The interworking of ‘ABC’ digits with Calling Geodetic Location parameter values is described in Section 13.1.1.

10 Hard to Reach service

In addition to ISUP signalling, a management process is required to share Hard to Reach information between C/CSPs before the HTR function can be supported.

11 Temporary Alternative Routing service

In addition to ISUP signalling, a management process is required for Temporary Alternative Routing between C/CSPs before the TAR function can be supported.

12 Supplementary Services - implementation issues

The following Supplementary Services are inherently supported by the basic call control procedures of ACIF G500:2002 [1]:

a) DDI

b) MSN

c) CLIP/CLIR

12.1 UUS (expl.1, 2, 3)

UUS3 Information flow restrictions may need to be introduced by originating and terminating exchanges to protect the signalling network.

12.2 GVNS

In addition to ISUP signalling, a management process is required to share GVNS information between C/CSPs before the GVNS function can be supported.

GVNS is supported instead of CUG.

12.3 INAP

Support for INAP across the POI shall be based on bilateral agreement. This should be based on the ETSI INAP CS1 specification.

13 Interworking between ACIF G500:2000 and ACIF G500:2002

Signalling for Interconnection can make use of ACIF G500:2002 [1] or ACIF G500:2000 [2] as the basis to provide a range of capabilities that can be selectively included in a bilateral agreement between the two network operators.

ACIF G549:2000 [8] provides implementation information for ISUP defined in ACIF G500:2000 [2].

The interworking of ISUP services between G500:2000 and G500:2002 is based on the following Messages and Parameters.

If messages or parameters are to be sent across the POI and that message or parameter is not supported, then the message or parameter will be discarded unless otherwise indicated below.

If G500:2000 does not support a message/parameter that message/parameter should be discarded irrespective of any compatibility information contained in that message/parameter.

The tables below indicate the interworking between existing parameters and fields in specific messages that may have fields or field code points added or changed. Individual field code points are described only when there are interworking issues relating to particular code points in a field. Any new parameters/fields that have interworking implications are also described.

Some parameters are included in several messages. The interworking is shown for one message only if the same interworking applies to all cases.

The interworking of Message and Parameter compatibility parameters is not described as they may be altered by a switch depending on the capability of the switch and its knowledge of the network.

In the following tables, the direction of interworking is shown by arrows → and ←.

13.1 Mapping of Initial Address Messages

G500:2000	Direction	G500:2002
Nature of connection indicators:		
Satellite indicator	→ ←	Satellite indicator
Continuity check indicator ('continuity check not required')	→ ←	Continuity check indicator ('continuity check not required')
Continuity check indicator ('continuity check not required')	←	Continuity check indicator (continuity check required on this circuit)
Continuity check indicator ('continuity check not required')	←	Continuity check indicator (continuity check performed on a previous circuit)
Echo control device indicator	→ ←	Echo control device indicator
Calling party's category: Note 1		
0000 1010 (Intl. customer or payphone)	→ ←	0000 1010 (Customer) + FCI*Note2 = 'Intl'
0000 1010 (Intl. customer or payphone)	←	0000 1111 (Payphone) + FCI* Note2 = 'Intl'
1110 1111 (239) (Inhibit call diversion)	→	0000 1010 (Customer) + FCI* Note2 = 'Natl'
1111 0001 (241) (International operator)	→ ←	0000 0010 (Operator, English) + FCI* Note2 = 'Intl'
1111 0010 (242) (National operator)	→ ←	0000 1001 (National operator)) + FCI* Note2 = 'Natl'
1111 0011 (243) (Ordinary customer)	→ ←	0000 1010 (Customer) + FCI* Note2 = 'Natl'
1111 0100 (244) (Special calling party number)	→	0000 1010 (Customer) + FCI* Note2 = 'Natl'
1111 0111 (247) (Mobile)	→	0000 1010 (Customer) + FCI* Note2 = 'Natl'
1111 1011 (251) (Test call)	→ ←	0000 1101 (Test call) + FCI* Note2 = 'Natl'
1111 1101 (253) (Payphone)	→ ←	0000 1111 (Payphone) + FCI* Note2 = 'Natl'

G500:2000	Direction	G500:2002
Called party number (concatenated): (see Sections 5 and 13.1.1)		
Nature of address indicator set to 'unknown'	→ ←	Nature of address indicator set to 'unknown'
INN indicator (only value '0' is valid)	→ ←	INN indicator (only value '0' is valid)
Numbering plan indicator	→ ←	Numbering plan indicator
CAC digits as preceding digits	→ ←	CAC digits as preceding digits
Service digit(s) following CAC digits in CdPN address field (see above)	→ ←	Service digit(s) following CAC digits in CdPN address field (see above)
Address digits	→ ←	Address digits
Called party number (not concatenated): (see Sections 5 and 13.1.1)		
Nature of address indicator set to 'unknown'	→ ←	Nature of address indicator set to 'unknown'
INN indicator (only value '0' is valid)	→ ←	INN indicator (only value '0' is valid)
Numbering plan indicator	→ ←	Numbering plan indicator
CAC digits as preceding digits in CdPN address field	→ ←	CAC digits as preceding digits in TNS
Service digit(s) following CAC digits in CdPN address field (see above)	→ ←	Service digit(s) following CAC digits in TNS (see above)
Address digits	→ ←	Address digits
Transit Network Selection Parameter: (see Section 5.1.3)		
Discard Parameter and map CAC + Service digits in TNS Parameter to digits preceding Address Digits in Called Party Number Parameter as concatenated address digits	←	Transit Network Selection Parameter.

G500:2000	Direction	G500:2002
Calling party number (national):		
Nature of address indicator set to 'national (significant) number'	→ ←	Nature of address indicator set to 'national (significant) number'
INN indicator (only value '0' is valid)	→ ←	INN indicator (only value '0' is valid)
Numbering plan indicator	→ ←	Numbering plan indicator
Presentation indicator - 'presentation allowed'	→ ←	Presentation indicator - 'presentation allowed'
Presentation indicator - 'presentation restricted'	→ ←	Presentation indicator - 'presentation restricted'
Presentation indicator - 'presentation restricted'	←	Presentation indicator - 'presentation restricted by network'
Presentation indicator - 'address not available'	→	Presentation indicator – presentation restricted by network Map information contained in the Redirecting Number parameter to the Calling Party Number parameter
Screening	→ ←	Screening
Address digits *Note3	→ ←	Address digits *Note3
Calling party number (international):		
Nature of address indicator set to 'national (significant) number'	←	Nature of address indicator set to 'international number'
INN indicator (only value '0' is valid)	←	INN indicator (only value '0' is valid)
Numbering plan indicator	←	Numbering plan indicator
Presentation indicator - 'presentation allowed'	←	Presentation indicator - 'presentation allowed'
Screening	←	Screening
Special Calling Party number inserted and Presentation indicator set to 'presentation restricted'	←	'CC' + Address digits *Note3

G500:2000	Direction	G500:2002
Redirection information:		
Redirecting Reason - Unknown / Not Available	←	Redirecting Reason – Deflection during alerting
Redirecting Reason - Unknown / Not Available	←	Redirecting Reason – Deflection immediate response
Redirecting Number		
Nature of address indicator set to 'national (significant) number'	→ ←	Nature of address indicator set to 'national (significant) number'
INN indicator (only value '0' is valid)	→ ←	INN indicator (only value '0' is valid)
Numbering plan indicator	→ ←	Numbering plan indicator
Presentation indicator - 'presentation allowed'	→ ←	Presentation indicator - 'presentation allowed'
Presentation indicator - 'presentation restricted'	→ ←	Presentation indicator - 'presentation restricted'
Presentation indicator - 'presentation restricted'	←	Presentation indicator - 'presentation restricted by network'
Screening	→ ←	Screening
Address digits *Note3	→ ←	Address digits Note3
User-to-user indicators:		
Inter-working described in G500:2002 G:18 Table1-1, 1-2 and 1-3	→ ←	Inter-working described in G500:2002 G:18 Table1-1, 1-2 and 1-3.

Table 13-1

Mapping of Initial Address Messages

Note 1: The national CPCs (>200 in value) are valid in the previous version of G500 ISUP but not in this version. If received, they shall be mapped to a valid CPC parameter as indicated or, as an interim measure, passed unchanged. A CPC of 10 has different meaning in G500:2002 and G500:2000 and although supported cannot be directly mapped between versions.

Note 2: FCI = Forward Call Indicators. (Bit A indicates 'National' (bit=0) or 'International' (bit=1)).

Note 3: Address digits beginning with area code without a leading '0'.

13.1.1 Mapping of Location Information

Where a Service digit starts with '6', it indicates the interim MOLI coding method is being used. That involves transferring some 'ABC' digits in the Called Party Number. It may take some time before equipment can be converted to support the Calling Geodetic Location (CgGL) parameter.

Any transitional phase may involve bilateral decisions that could allow for the sending of both 'ABC' digits and the Calling Geodetic Location parameter. Several options are allowed for in the mappings in Table 13-2 below.

G500:2000	Direction	G500:2002
Location Information:		
'ABC' digits embedded in called number digits and Service Digit = '62' or '642'	→	'ABC' digits embedded in called number digits and Service Digit = '62' or '642' AND Calling Geodetic Location
'ABC' digits embedded in called number digits and Service Digit = '62' or '642'	→ ←	'ABC' digits embedded in called number digits and Service Digit = '62' or '642'
'ABC' digits embedded in called number digits and Service Digit = '62' or '642'	→ ←	Calling Geodetic Location

Table 13-2

Mapping of Location Information

Note 1: The mapping of 'ABC' digits and Calling Geodetic Location is for further study.

Note 2: If the Calling Geodetic Location parameter is being used solely to transfer calling location information, service digits starting with '6' shall not be used. If location information is being provided in both the Calling Geodetic Location parameter and the Called Party Number parameter as 'ABC' digits, then the '6' prefix shall be present.

13.2 Mapping of the Address Complete Messages

G500:2000	Direction	G500:2002
Cause indicators:		
Coding standard (only 'CCITT/ITU std.' is valid)	→ ←	Coding standard (only 'CCITT/ITU std.' is valid)
Location	→ ←	Location
Recommendation (only 'Q.931' is valid)	→ ←	not included - Q.931 implied
Cause value [Note1]	→ ←	Cause value [Note1]

Table 13-3

Mapping of Address Complete Messages

Note 1: Mappings from G500:2002 Cause codes that are not supported by G500:2000 to Cause codes that are supported are shown in section 13.5. Cause Value mappings are subject to bilateral arrangement.

13.3 Mapping of the Call Progress Messages

In addition to the mapping shown against the Address Complete Message, the following mapping is relevant.

G500:2000	Direction	G500:2002
Event information: Note 2		
Alerting	→ ←	Alerting
Progress	→ ←	Progress
In-band information or an appropriate pattern is now available	→ ←	In-band information or an appropriate pattern is now available
Progress	←	'Any other indication'
Cause indicators:		
Cause indicators Note1	→ ←	Cause indicators Note1

Table 13-4

Mapping of the Call Progress Messages

Note 1: Mappings from G500:2002 Cause codes that are not supported by G500:2000 to Cause codes that are supported are shown in section 13.5. Cause Value mappings are subject to bilateral arrangement.

Note 2: This parameter can contain repeated access information elements - priority set to "no prioritized order".

13.4 Mapping of the Release Messages

G500:2000	Direction	G500:2002
Cause indicators:		
Cause indicators Note1	→ ←	Cause indicators Note1

Table 13-5

Mapping of the Release Messages

Note 1: Mappings from G500:2002 Cause codes that are not supported by G500:2000 to Cause codes that are supported are shown in section 13.5. Cause Value mappings are subject to bilateral arrangement.

13.5 Mapping of Cause Codes

Mappings from G500:2002 Cause codes that are not supported by G500:2000 to Cause codes that are supported are shown in the Table below. Cause Value mappings are subject to bilateral arrangement.

G500:2002				G500:2000		
Cause			Cause Definition	Cause		
Class	Value	No.		Class	Value	No.
000	0100	4	Send special information tone →	001	1111	31
001	0100	20	Subscriber absent →	001	0010	18
001	1001	25	Exchange routing error →	001	1111	31
011	0010	50	Requested facility not subscribed →	011	1111	63
011	1110	62	Inconsistency in designated outgoing access information and subscriber class →	011	1111	63
100	0101	69	Requested facility not implemented →	100	1111	79
100	0110	70	Only restricted digital information bearer capability is available →	100	1111	79
101	1011	91	Invalid transit network selection →	000	0101	5

Table 13-6

Mapping of Cause Codes

Appendix A - List of ACIF G500:2002 Specifications

Category	Service	G500 : 2002 Part Number	ITU-T Base [1] Document	ETSI Base Document [2]
Introduction		Introduction	Not Applicable	Not Applicable
ISUP		Part A.1	Q.761 (12/99)	EN 300 356-1 V4.2.1 (05/2001)
		Part A.2	Q.762 (12/99)	EN 300 356-1 V4.2.1 (05/2001)
		Part A.3	Q.763 (12/99)	EN 300 356-1 V4.2.1 (05/2001)
		Part A.4	Q.764 (12/99)	EN 300 356-1 V4.2.1 (05/2001)
		Part A.5	Q.850 (05/98) Q.850 Addendum 1 (06/2000)	EN 300 485 V1.3.1 (09/2000)
		Part A.6	Q.765 (/2000)	EN 301 069-1 V1.3.1 (02/2001)
		Part A.7	Q.765.1(05/98)	EN 301 062-1 V1.2.3 (10/1999)
TCAP		Part B.1	Q.771 (06/97)	ETS 300 287-1: November 1996
		Part B.2	Q.772 (06/97)	ETS 300 287-1: November 1996
		Part B.3	Q.773 (06/97)	ETS 300 287-1: November 1996
		Part B.4	Q.774 (06/97)	ETS 300 287-1: November 1996
		Part B.5	Q.775 (06/97)	ETS 300 287-1: November 1996
SCCP		Part C.1	Q.711 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
		Part C.2	Q.712 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
		Part C.3	Q.713 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
		Part C.4	Q.714 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
		Part C.5	Q.715 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
		Part C.6	Q.716 (07/96)	EN 300 009-1 V1.4.3 (2001-02)
MTP		Part D.1	Q.701 (03/93)	EN 300 008-1 V1.3.1 (2000-09)
		Part D.2	Q.702 (11/88)	EN 300 008-1 V1.3.1 (2000-09)
		Part D.3	Q.703 (09/96)[4]	EN 300 008-1 V1.3.1 (2000-09)
		Part D.4	Q.704 (07/96)[4]	EN 300 008-1 V1.3.1 (2000-09)
		Part D.5	Q.705 (03/93)[4]	EN 300 008-1 V1.3.1 (2000-09)
		Part D.6	Q.706 (03/93)[4]	EN 300 008-1 V1.3.1 (2000-09)
		Part D.7	Q.707 (11/88)	EN 300 008-1 V1.3.1 (2000-09)
Call Diversion Services	**CFU Stage 1**	Part E.1	I.252.4 (08/92)	ETS 300 200 (12/1994) [3]
	CFB Stage 1	Part E.2	I.252.2 (08/92)	EN 300 199 V1.2.1 (2001-06) [3]
	CFNR Stage 1	Part E.3	I.252.3 (08/92)	EN 300 201 V1.2.1 (2001-05) [3]
	CD Stage 1	Part E.4	I.252.5 (08/92)	ETS 300 202: December 1994 + Amendment 1: September 1996 [3]
	Call Div. Stage 3	Part E.5	Q.732.2-5 (12/99)	EN 300 356 -15 V4.2.1 (2001-05)

Presentation Services	**CLIP Stage 1**	Part F.1	I.251.3 (08/92)	EN 300 089 V3.1.1 (2000-12) [3]
	CLIR Stage 1	Part F.2	I.251.4 (08/92)	EN 300 090 V1.2.1 (2000-12) [3]
	COLP Stage 1	Part F.3	I.251.5 (02/95)	EN 300 094 V2.1.1 (2000-06) [3]
	COLR Stage 1	Part F.4	I.251.6 (02/95)	ETS 300 095 (01/92) [3]
	CLIP Stage 3 **CLIR Stage 3** **COLP Stage 3** **COLR Stage 3**	Part F.5	Q.731.3,4,5,6 (03/93)	EN 300 356-3 V4.2.1 (2001-05) EN 300 356-4 V4.2.1 (2001-05) EN 300 356-5 V4.1.2 (2001-05) EN 300 356-6 V4.1.2 (2001-05)
Miscellaneous Services	**Call Hold Stage 1**	Part G.1	I.253.2 (08/92)	ETS 300 139 (03/92) [3]
	Call Hold Stage 3	Part G.2	Q.733.2 (03/93)	EN 300 356-16 V4.1.2 (2001-05)
	CW Stage 1	Part G.3	I.253.1 (07/90)	ETS 300 056 (10/91) [3] ETS 300 056 A1 (09/96) [3]
	CW Stage 3	Part G.4	Q.733.1 (02/92)	EN 300 356-17 V4.1.2 (2001-05)
	ECT Stage 1	Part G.5	I.252.7 (05/97)	EN 300 367 V1.2.1 (1998-10) [3]
	ECT Stage 3	Part G.6	Q.732.7 (07/96)	EN 300 356-14 V4.2.1 (2001-05)
	3PTY Stage 1	Part G.7	I.254.2 (08/92)	ETS 300 186 (07/93) [3]
	3PTY Stage 3	Part G.8	Q.734.2 (07/96)	EN 300 356-19 V4.2.1 (2001-05)
	TP Stage 1	Part G.9	I.258.1 (10/95)	ETS 300 053 (10/91) [3]
	TP Stage 3	Part G.10	Q.733.4 (03/93)	EN 300 356-7 V4.1.2 (2001-05)
	CONF Stage 1	Part G.11	I.254.1 (11/88)	ETS 300 183 (10/92) [3] ETS 300 183 A1 (02/98) [3]
	CONF Stage 3	Part G.12	Q.734.1 (03/93)	EN 300 356-12 V4.2.1 (2001-05)
	Sub Address Stage 1	Part G.13	I.251.8 (08/92)	ETS 300 059 (10/91) [3]
	Sub Address Stage 3	Part G.14	Q.731.8 (1992)	EN 300 356-10 V4.1.2 (2001-05)
	GVNS Stage 1	Part G.15	F.16 (02/95)	Not Available
	GVNS Stage 3	Part G.16	Q.735.6 (07/96)	Not Available
	User to User Stage 1	Part G. 17	I. 257.1 (10/95)	ETS 300 059 (10/91)
	User to User Stage 3	Part G. 18	Q.737.1 (06/97)	EN 300 356-8 V4.2.1 (2001-05)
	ISDN user part supplementary services	Part G.19	Q.730 (12/99)	EN 300 356-2 V4.1.2 (2001-05)

TCAP/SCCP Services	**CCBS Stage 1**	Part H.1	I.253.3 (07/96)	EN 300 357 V1.2.1 (05/2001) [3]
	CCBS Stage 3	Part H.2	Q.733.3 (06/97)	EN 300 356-18 v 040101 (9/2000)
	CCNR Stage 1	Part H.3	I.253.4 (07/96)	EN 301 134 V1.1.1 (1998-10) [3]
	CCNR Stage 3	Part H.4	Q.733.5 (12/99)	EN 300 356-20 v 040101c
	MWI Stage 1	Part H.5	Not Available	ETS 300 650 (June 1998) [3]
	MWI Stage 3	Part H.6	Not Available	ETS 300 754-1: July 1997

Table A-1

List of ACIF G500:2002 Specifications

Note 1: The full ITU-T text has been included as the basis for the G500:2002 [1].

Note 2: Any ETSI additions or exclusions with respect to the ITU-T text have been used to mark up the ITU-T text using underlines or strikeout fonts. (There may be other non-ETSI changes as agreed by the ACIF NRP working committee number 12.)

Note 3: The Stage 1 documents provide service description information from an end user perspective. These do not constitute requirements at the point of interconnection. The ITU-T specification has been included as part of G500 and marked "informative" only.

Note 4: An ITU-T Recommendation with an * indicates that current ITU-T Q Series Implementation Guidelines have been applied as well.

ACIF is an industry owned, resourced and operated company established by the telecommunications industry in 1997 to implement and manage communication self-regulation within Australia.

ACIF's role is to develop and administer technical and operating arrangements to foster a thriving, effective communications industry serving the Australian community through

- the timely delivery of Standards, Codes and other documents to support competition and protect consumers;
- driving widespread compliance; and
- the provision of facilitation, coordination and implementation services to enable the cooperative resolution of strategic and operational industry issues.

ACIF comprises a Board, an Advisory Assembly, seven standing Reference Panels, various task specific Working Committees, a number Industry Facilitation/Coordination Groups and a small Executive.

The ACIF Standards and Codes development process involves the ACIF Board, Reference Panels, Working Committees and the ACIF Executive. The roles and responsibilities of all these parties and the required operating processes and procedures are specified in the ACIF Operating Manual.

ACIF Standards, Codes and other documents are prepared by Working Committees made up of experts from industry, consumer, government and other bodies. The requirements or recommendations contained in ACIF published documents are a consensus of views of representative interests and also take into account comments received from other stakeholders.

Care should be taken to ensure that material used is from the current version of the Standard or Industry Code and that it is updated whenever the Standard or Code is amended or revised. The number and date of the Standard or Code should therefore be clearly identified. If in doubt please contact ACIF.

Published by:

THE AUSTRALIAN COMMUNICATIONS INDUSTRY FORUM LTD

Level 9, 32 Walker Street
North Sydney NSW 2060

Correspondence: PO Box 444
Milsons Point NSW 1565

Telephone: (02) 9959 9111
Facsimile: (02) 9954 6136

E-mail: acif@acif.org.au

Web Site: http://www.acif.org.au/

ISBN: 1 74000 203 2