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«Identification of Inbound International Calls for Purposes of Differential Interconnect Accounting»

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Identification of Inbound International Calls

Proposed Solution

1. Introduction

The requirements received from PNO-IG and reproduced in Section 2 below apply to all calls terminating in the UK national network and are in addition to the requirements for a basic call. The proposed solution to fulfil these requirements is shown in Section 4.

2. Requirements

2.1 It shall be possible on all calls which terminate in the UK National network to identify those calls which have entered the UK National network from the International network.

2.2 The ability to identify the calls described in 2.1 above shall be available in the call set-up phase.

2.3 The ability to identify the calls described in 2.1 above shall be available to all transit and terminating networks interconnected by IUP or ISUP within the UK National network.

3. Existing Capabilities

Both of the C7 protocols currently used for interconnect have the ability to indicate whether the call has entered the UK network from the international network.

3.1 IUP

In the I(F)AM:

The Message Indicators parameter bit C International Indicator has the following values:

0 No further information on call origin
1 Call incoming via international network

The first two Address Signals contained in the Called Address parameter are one of the following:

00 – indicating an outbound international call
0X – indicating a terminating national call
XY – indicating a “UK Specific address” (e.g. a service address or indirect access code).

Where X is 1-9 and Y is 0-9.

3.2 UK ISUP

In the IAM:

The Forward Call Indicators parameter bit A National/international call indicator has the following values:

"0 call to be treated as a national call"
"1 call to be treated as an international call"

The Called party number parameter, Nature of Address indicator has the following values:

"3 National (significant) number" (terminating national call)
"4 International number" (outbound international call)
"126 UK Specific address" (e.g. Service address or Indirect access code etc)

3.3 Interworking IUP and UK ISUP

At a protocol interworking gateway conforming to PNO-ISC Spec 008 the IUP I(F)AM Message Indicators parameter bit C and UK ISUP Forward Call Indicators parameter bit A are mapped one to one, and the address signals and UK ISUP Nature of Address indicator are mapped appropriately.

4. Proposed Solution

4.1 IUP

It may be seen from 3 above that the existing functionality provides a clear indication in IUP that the call has entered the UK network from the International network (even if the call originated in ISUP).

4.2 ISUP

In UK ISUP the existing functionality provides in the vast majority of cases a clear indication that the call has entered the UK network from the International network. The only point of ambiguity is that the call which is marked as "call to be treated as an international call" may be a call destined for the International network rather than one that has arrived from the International network.
To resolve this possible ambiguity the Called party number parameter, Nature of Address indicator may be examined. If a call is destined for the International network then the Nature of Address indicator will have a value of 4 "International number", if the call has entered the UK network from the International network then the Nature of Address indicator will have a value of 3 "National (significant) number".

4.3 Interworking IUP and UK ISUP

If a call containing the ambiguity described in 4.2 above had interworked from UK ISUP to IUP via a Spec 008 gateway then the Message Indicators parameter bit C International Indicator would be set to value 1 "Call incoming via international network" and the initial Address Signals contained in the Called Address parameter will be "00". Whereas a call that has entered the UK network from the International network would contain initial Address Signals which were not "00".

4.4 Summary

The above sections 4.1.to 4.3 are best captured in the tables set out below.

IUP

Initial Address Signals	International Indicator value	
	0	1
Not “00”	National Call	I/C International Call
“00”	O/G International Call	O/G International Call

ISUP

Nature of Address Indicator value	International Indicator value	
	0	1
3	National Call	I/C International Call
4	O/G International Call	O/G International Call

5. Conclusion

It is possible in both IUP and UK ISUP to identify calls entering the UK network from the International network by using existing functionality hence:

a) there is no requirement to enhance existing protocols

b) at a point of interconnect the functionality described in 4 above shall be used to identify an inbound international call.

The Application Protocols Working Party is invited to endorse this CP and to recommend to PNO-ISC that this be promulgated as the UK standard.

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