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Supplement 4

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SERIES Q: SWITCHING AND SIGNALLING

Number portability – Call control for capability set 1 service provider portability

ITU-T Q-series Recommendations – Supplement 4

(Previously CCITT Recommendations)

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SUPPLEMENT 4 TO ITU-T Q-SERIES RECOMMENDATIONS

NUMBER PORTABILITY – CALL CONTROL FOR CAPABILITY SET 1 SERVICE PROVIDER PORTABILITY

Summary

This Supplement describes the additions required to support Service Provider Portability in a Signalling System Number No. 7 network for Number Portability Capability Set 1 (NPCS-1).

The Portability Number Call Control for Service Provider Portability (PNCC-SPP) in a Signalling System Number No. 7 network provides the core function to support portability for geographic numbers using the "onward routing" and "all call query" methods.

Source

Supplement 4 to ITU-T Q-series Recommendations was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 5 procedure on the 15th of May 1998.

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The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

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Supplement 4 to Q-series Recommendations

NUMBER PORTABILITY – CALL CONTROL FOR CAPABILITY SET 1 SERVICE PROVIDER PORTABILITY

(Geneva, 1998)

1 Scope

This Supplement describes the additions required to support Service Provider Portability in a Signalling System Number No. 7 network for Number Portability Capability Set 1 (NPCS-1). The definition for Service Provider Portability is defined in reference [1].

The Portability Number Call Control for Service Provider Portability (PNCC-SPP) in a Signalling System Number No. 7 network provides the core function to support portability for geographic numbers using the "onward routing" and "all call query" methods.

The signalling requirements for the support of NPCS-1 PNCC-SPP are contained in this supplement.

Annex A contains the additional requirements for the support of PNCC-SPP when Intelligent Network (IN) is involved.

2 References

[1] Supplement 3 to Q-series Recommendations, *Number portability – Scope and capability set 1 architecture.*

3 Terms and definitions

For a complete set of definitions and terms, see reference [1]. Any additional definitions and terms specific to this Supplement will be provided in this clause.

4 Abbreviations

For a complete set of abbreviations, see reference [1]. Any additional abbreviations specific to this Supplement are provided below:

CC	Country Code
FE	Functional Entity
ISC	International Switching Centre
ISDN	Integrated Services Digital Network
NDC	National Destination Code
NNA	National Numbering Activity Authority
PBX	Private Branch Exchange
PNCC-SPP	Portable Number Call Control – Service Provider Portability
POTS	Plain Old Telephone Service
ROA	Recognized Operating Agency

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SDL	Specification and Description Language
TCAP	Transaction Capability Application Part

5 General

The PNCC-SPP network capability delivers the following information to each exchange in the call path, once routing information has been obtained:

1) the original dialled number;

2) the necessary routing information;

3) an indication that NP routing information has been obtained.

In addition, for calls originating from a ported numbers, PNCC-SPP delivers the portable number as the calling party number and location-related information about the calling party.

The capabilities of the PNCC-SPP build upon the existing SS7 capabilities. Backward compatibility is an important requirement. Only the new capabilities, not covered by existing ITU-T Recommendations, required for PNCC-SPP are described here.

Number portability affects any service that makes an assumption that an E.164 directory number indicates the correct network address. NP supports the use of numbers that do not directly provide an indication of the network address. NP is used with numbers that have traditionally contained network location information (e.g. numbering plan).

To route a call dialled with a non-geographic number (e.g. 800), the dialled number is often translated to a geographic number. How to obtain such a translation is beyond the scope of this Supplement. If the resulting translated geographic number is portable, the PNCC-SPP network capabilities apply.

Deployment of NP may require other network capabilities and network interfaces related to:

a) database architecture;

b) exchange internal call processing;

c) network operations and administration.

These network capabilities and interfaces are outside the scope of PNCC-SPP.

The functions described in this Supplement support number portability within the national domain and therefore should not be invoked for outgoing international calls.

5.1 Purpose

Number Portability (NP) allows end users of public switched networks to retain their E.164 telephone numbers when they change their service provider (service provider portability), location within a specific geographical area (location portability), or network service (service portability).

Table 1 below shows the supported combinations between E.164 numbers and the types of number portability.

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Table 1 – Scope of the Number Portability Service

E.164	Type					
	Location Portability		Service Portability		Service Provider Portability	
	Int'l	National	Int'l	National	Int'l	National
1) Country Code for geographic area						
a) NDC beginning with area code	Case 1	Case 2 (Note)	Case 3	Case 4	Case 5	**Case 6** (Note)
b) NDC beginning with service access code	Case 7	Case 8	Case 9	Case 10	Case 11	Case 12 (Note)
c) NDC beginning with destination network code	Case 13	Case 14	Case 15	Case 16	Case 17	Case 18
2) Country Code for global services	Case 19	Case 20	Case 21	Case 22	Case 23	Case 24
3) Country Code for Networks	Case 25	Case 26	Case 27	Case 28	Case 29	Case 30

NOTE – Case 6 is the focus of this Supplement. Some aspects of Cases 2 and 12 are also supported. Cases where portability is not possible or not supported by this Supplement are shaded in this Table.

Examples:

1a) +81 3 XXXX XXXX (POTS/ISDN in Japan: "3" is area code of Tokyo);

1b) +81 120 XXXX XXXX (International Direct Dialling of Japan Domestic Freephone Number: "120" is service access code);

1c) +81 50XX XXXXX (Personal Handyphone System in Japan: 50XX is DN for Personal Handyphone System provider);

2) +800 XXXXXXXX (Universal International Freephone Number);

3) +881 X XX....X (Global Mobile Satellite System).

- The number beginning with "Country Code for geographic area" [1) in Table 1] is the number that ITU assigns to each country (or countries in an integrated numbering plan). The National Numbering Activity Authority (NNA) administers the number following the CC.
- The number beginning with the "Country Code for global service" [2) in Table 1] is the number that ITU assigns the global service.
- The number beginning with "Country Code for Networks" [3) in Table 1] is the number that ITU assigns the two or more international Networks (typically ROAs). The following digits identify each international Network.

5.2 Application

PNCC-SPP is to support the implementation of Service Provider Number Portability in the competitive local service environment.

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