Schedule 1 Part 5

INTERCARRIER INTERFACE SPECIFICATION

"Feature Group D" Access
Using Common Channel Signalling
System Number Seven (CCS7)

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This Schedule has been jointly prepared by Unitel and SRCI on behalf of its owner companies, through the Joint Technical Committee in accordance with the direction given in CRTC Decision 92-12 and is subject to applicable regulatory directives and may be revised from time-to-time, with the mutual consent of both parties.

Recommended by:

Title: Co-Chair, Technical Interface Sub-Committee
Unitel Communications Inc.

Date: _____

Title: Co-Chair, Technical Interface Sub-Committee
Stentor Resource Centre Inc.

Date: _____

Title: Co-Chair, Joint Technical Committee
Unitel Communications Inc.

Date: _____

Title: Co-Chair, Joint Technical Committee
Stentor Resource Centre Inc.

Date: _____

Revision History

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1. ACKNOWLEDGEMENT

In order to remain consistent with accepted industry standards and definitions, substantial portions of this Schedule are based on publications of the American National Standards Institute, and other industry sources as noted herein. The documents referred to herein shall be interpreted in the context of the Canadian regulatory framework.

For specific definitions of terms used in this Schedule, refer to Schedule 3 of the Technical Interconnection Arrangements.

2. GENERAL

This Schedule provides the technical requirements for interfacing the Unitel network with the network of the Stentor owners, in paired interface combinations to provide "Feature Group D" Access using Common Channel Signalling System Number Seven. Conformance to the requirements specified in this Schedule is intended to ensure acceptable compatibility. Compatible operation is the ability of an end user to establish, maintain, and disconnect a desired connection through the use of the interconnected networks such that the functionality described herein is maintained for Unitel in a uniform manner.

This Schedule describes a common channel signalling interface between the Unitel network and the network of the Stentor owners. The interface described herein uses standard signalling and interfaces. For this network access arrangement, the destination (Unitel) network is determined by the Stentor owners' switch as a result of either Unitel being the predesignated long distance carrier (eg: through SAC assignment or presubscription) or by the calling end user dialling the Unitel carrier access code. The call is then routed to the specified point of presence of the Unitel network.

This schedule does not specify all Stentor owner-Unitel interfaces.

Effort has been made to conform to official, or otherwise defacto, industry standards wherever possible. Where conflicts between standards are encountered, the following policy will be adopted:

1. The interface is based on ANSI standards, wherever equivalent Canadian national standards do not exist.

2. It is recognized that for initial implementation, the Stentor owner switch software will be based on Bellcore documentation. No changes to this software will be requested by Unitel for initial implementation.

3. If discrepancies exist between the ANSI standards and the Bellcore-based implementation which are not software-affecting (i.e.: do not require supplier modifications to switch software), ANSI standards will prevail. This is not intended to exclude the consideration of other standards, where jointly agreed.

4. If discrepancies exist which are software-affecting, such discrepancies will be resolved by mutual Unitel/Stentor owner agreement on a case-by-case basis.

3. INTERFACE

3.1 Location

The point of interface between the Unitel network and the network of a Stentor owner is located at the transmission facility termination.

3.2 Characteristics

Common channel signalling as described in the following documentation is employed across the interface. The interface shall conform to the following industry standards and references as applicable, with clarifications as noted below:

a) T1.110-1988, ANSI, "Telecommunications - Signalling System Number 7 (SS7) - General Information", New York, New York.

b) T1.111-1988, ANSI, "Telecommunications - Signalling System Number 7 - Functional Description of the Signalling System Message Transfer Part (MTP)", New York, New York.

c) T1.112-1988, ANSI, "Telecommunications - Signalling System Number 7 - Signalling Connection", New York, New York.

d) T1.113-1988, ANSI, "Telecommunications - Signalling System Number 7 (SS7) - Integrated Services Digital Network (ISDN) User Part", New York, New York.

e) CCITT Recommendation Q.706, Vol VI.7, Message Transfer Part Signalling Performance, VIII Plenary Assembly, October 1984.

f) TR-TSY-000082, Bellcore, "Signalling Transfer Point Generic Requirements", Issue 2, June 1987, Rev. 1 December 1988, Rev. 2 June 1990, Piscataway, New Jersey.

g) TR-NPL-000246, Bellcore, "Bell Communications Research Specification of

Signalling System Number 7", Issue 1, June 1985, Rev. 1 February 1986, Rev. 2, June 1987, Rev. 3, June 1989, Piscataway, New Jersey.

h) SR-TSV-002275, Bellcore, "Numbering Plan and Dialling Procedures." In BOC Notes on the LEC Networks - 1990, Piscataway, New Jersey.

i) TR-TSY-000394, Bellcore, "Switching System Requirement for Interexchange Carrier Interconnection Using the Integrated Services Digital Network User Part (ISDNUP)", Issue 3, August 1991, Piscataway, New Jersey.

j) TR-TSV-000905, Bellcore, "Common Channel Signalling (CCS) Network Interface Specification", Issue 1, August 1989, Supplement 1 July 1991, Piscataway, New Jersey, with the following clarifications:

Section 2. "CCS Network Interconnection Architecture": Only Stentor owner's STP pair to Unitel STP pair architecture is applicable, A-links (Access links) between Stentor owner's and Unitel are not applicable.

Section 2.1.1, "Overview": "B-links (Bridge links) are normally referred to as D-links by Stentor owners, but there is no functional difference.

Section 2.1.2, "CCS Network Interconnection Architecture": A-links (Access links) between Stentor owners and Unitel are not applicable.

Section 2.1.4, "CCS Network Engineering": Link engineering requirements in Stentor owner's companies specify a normal expected traffic load of 0.35 erlang (or lower) on each link.

Section 2.1.5, "BCC - ICN Interconnection": A-links (Access links) between Stentor owners and Unitel are not applicable.

Section 3.1.5.1, "Transfer Prohibited/Transfer Cluster Prohibited Message": Method B "Response Mode" shall be used.

Section 3.1.6, "BCC STPs to ICN SP Interface Alternative": A-links (Access links) between Stentor owners and Unitel are not applicable.

Section 3.2.3.2, "BCC Procedures at Receiving Switch": both procedures shall be supported and configurable on a per-link-set basis.

Section 3.2.12.2, "BCC Procedures at Receiving Switch": procedure 1 shall be supported, i.e.: When a UCIC is received for an outgoing circuit on which a

second call attempt has been made, an REL is sent in the backward direction, the cause value field is coded "temporary failure".

Section 4.1.3.1, "Dialing Plan": calls for both WZ1 and non-WZ1 destinations shall be supported.

Section 6.2, "Diverse Physical Facility Paths": A-links (Access links) between Stentor owners and Unitel are not applicable.

The following clarifications apply to all of the above documents:

Calls to Service Access Codes (SACs) shall be supported.

Some Stentor owners' payphones may not support the use of "#" to end dialling sequences.

Calling Party Number shall be provided wherever available. The Calling Party Number must not be made available to the end user if the Presentation Parameter associated with the Calling Party Number indicates "Presentation-Restricted" or if the Presentation Parameter is not available.

Charge Number shall be provided wherever available. The Charge Number Information must not be made available to the end user.

Address information for calls to all World Zone One (WZ1) destinations shall conform to the North American Numbering Plan.

Facility Codes and Service Codes will not be available at the date of initial implementation.

Operator Services Signalling is not initially being implemented.

The initial implementation will use three digit Carrier Identification Codes.

When dialling 10XXX+1+7/10D, the "1" shall always prefix the 7/10D to ensure uniformity.

Calls to Unitel from Stentor owner payphones, with the exception of SACs as referenced in the next paragraph, must be dialled using 10XXX. Billing for these calls must be accomplished through the provisioning of billing information directly by the end user to Unitel (e.g. collect, third number, card).

At the date of initial implementation, only 1+800+7D dialling shall be supported for calls to SACs originated from Stentor owner payphones.

10XXX+0+/- calls will not be routed to Unitel via Stentor owner Toll Operator Position System (TOPS) switches, and will not use Operator Services Signalling.

Unitel operators calling to perform busy line verification (BLV) or busy line interrupt (BLI) must dial the appropriate NPA+Operator Service Access Tandem Code followed by the Operator Service Code for the desired service (e.g.: 121 for BLV/BLI). Operator Service Access Tandem Codes shall be determined during verification testing. At the time of initial implementation, BLI will not be available in the territory of Newfoundland Telephone, and BLV will not be available in the territories of Newfoundland Telephone and New Brunswick Telephone.

Directory assistance calls from Unitel must be routed by Unitel to the Stentor owner access tandem switch providing directory assistance for the specified NPA. These access tandem switches will be identified by the applicable Stentor owner.

3.3 Trunk Directionality

Trunk directionality refers to the way a trunk may be used in establishing a connection. A one-way trunk from A to B can only be used to extend a connection in the A-to-B direction. A two-way trunk between A and B can be used for A-to-B and B-to-A connections. "Feature Group D" CCS7 Access signalling protocol, used for delivering calls between Stentor owners and Unitel, is capable of operating over one-way or two-way trunk groups.

4. PARAMETERS

4.1 Grade of Service

The Stentor owners shall provision the access to Unitel's network, on the basis of a probability of blocking of 1% (one call blocked out of one hundred call attempts) during the four high consecutive week busy hour, as measured from the caller's serving switch to the Stentor owner AT switch. This reflects the current Stentor owner provisioning criteria. It is recognized that the ability of the Stentor owners to sustain this level of blocking is dependent upon the provisioning of Stentor owner/Unitel interconnecting access trunks in the necessary quantities to carry the traffic delivered by the Stentor owners, based on the same probability of blocking.

5. ACCESS PERFORMANCE

The parameters identified in the following paragraphs are provided as indications of access performance. These shall be used as the basis for identifying problems on the Stentor owner's network. There is no requirement for the Stentor owners to provide any specific ongoing reports or measurements to Unitel.

5.1 Post-Dial Delay

The objective for post-dial delay is that Unitel shall not be disadvantaged with respect to the Stentor owners beyond any limitations imposed by the nature of this "Feature Group D" interconnecting architecture and CCS7 signalling.

5.2 Intra-Switch Blocking

The Stentor owner's switches shall be maintained such that intra-switch blocking for calls to the Unitel network shall be comparable to that for calls within the Stentor owner's network.

6. REFERENCES

T1.110-1988, ANSI, "Telecommunications - Signalling System Number 7 (SS7) - General Information", New York, New York.

T1.111-1988, ANSI, "Telecommunications - Signalling System Number 7 - Functional Description of the Signalling System Message Transfer Part (MTP)", New York, New York.

T1.112-1988, ANSI, "Telecommunications - Signalling System Number 7 - Signalling Connection", New York, New York.

T1.113-1988, ANSI, "Telecommunications - Signalling System Number 7 (SS7) - Integrated Services Digital Network (ISDN) User Part", New York, New York.

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TR-TSV-000905, Bellcore, "Common Channel Signalling (CCS) Network Interface Specification", Issue 1, August 1989, Supplement 1 July 1991, Piscataway, New Jersey.