Country Protocol

Changes the layer 3 implementation to the applicable version for the country involved

Protocol version

- **Only appears if country protocol is 1** (USA), 10 (UK), 12 (France), 13 (Germany), or ETSI, and is only applicable to the G3V3 and later software loads

  ⇒ If the country protocol is **1** (USA and Canada) then Protocol Versions are:

a = AT&T Custom Interface

- For the layer 3 messaging or 4ESS/5ESS messaging type (Maintenance Protocol Discriminator 03) (TR41449/TR41459)
- Normally used by Long Distance Companies
- 4ESS is strictly AT&T Custom for FAS/NFAS
- DMS 100/250 is AT&T Custom for FAS/NFAS (software load BCS.36 or later)
- DSC DEX600E is AT&T Custom for FAS/NFAS (used BY MCI and Frontier as central offices)

b = National ISDN - 2

- Bellcore protocol (5ESS LEC messaging for NFAS and DCBU applications, the only way the 5ESS can be set up for NFAS and DCBU) (Maintenance Protocol Discriminator 43) (TR1268)
- Normally used by LECs
- DMS 100 will do NI-2 FAS/NFAS (started in the BCS.37 load of software)
- Starting with the 5E9.0 software load in the 5ESS
- Normal protocol for connection to Siemen's EWSD
- Normal protocol for connection to GTE GTD5

  Note: With R10 software support will be added for Telcordia/Bellcore National ISDN - 3 (the addition of SERVICE/SERVICE_ACK messages for trunk maintenance) also known as 1998 National ISDN

  Note: National ISDN-1 is not fully supported by the G3 and should not be used (TR268 Bellcore)

Admin Value [Country Code - Protocol Version]	Country	Protocol Supported	B-channel Mtce Msg	Interworking Message
1-a	US-Canada	AT&T TR41449/41459	SERVICE	PROGRESS
1-b	US	Bellcore TR1268; NIUF.302; ANSI T1.607	RESTART	PROGRESS
1-c	US-Canada	A211	SERVICE	PROGRESS
1-d	US	Bellcore TR3268	SERVICE	PROGRESS
2	Australia	AUSTEL TS014.1; Telcom Australia TPH 1856	RESTART	PROGRESS
3	Japan	NTT INS-NET	RESTART	ALERTING
4	Italy	ETS 300 102	RESTART	PROGRESS
5	Netherlands	ETS 300 102	RESTART	PROGRESS
6	Singapore	ETS 300 102	RESTART	PROGRESS
7	Mexico	ETS 300 102	RESTART	PROGRESS
8	Belgium	ETS 300 102	RESTART	ALERTING
9	Saudi Arabia	ETS 300 102	RESTART	PROGRESS
10-a	UK	ETS 300 102 (Connect to DASS II/DPNSS through external converter)	RESTART	PROGRESS
10-b	UK	ETS 300 102 (Mercury) British Telcom ISDN 30	NONE	ALERTING
11	Spain	Telefonica ISDN Spec	RESTART	PROGRESS
12-a	France	VN4(French National PRI)	NONE	ALERTING
12-b	France	modified ETS 300 102 according to P10-20 (Euronumeris)	NONE	ALERTING
13-a	Germany	FTZ 1 TR 6(German National PRI)	NONE	ALERTING
13-b	Germany	ETS 300 102	RESTART	ALERTING
14	Czech Republic / Slovakia	ETS 300 102	RESTART	PROGRESS
15	RUSSIA (CIS)	ETS 300 102	RESTART	PROGRESS
16	Argentina	ETS 300 102	RESTART	PROGRESS
17	Greece	ETS 300 102	RESTART	PROGRESS
18	China	ETS 300 102	RESTART	PROGRESS
19	Hong Kong	ETS 300 102	RESTART	PROGRESS
20	Thailand	ETS 300 102	RESTART	PROGRESS
21	Macedonia	ETS 300 102	RESTART	PROGRESS
22	Poland	ETS 300 102	RESTART	PROGRESS
23	Brazil	ETS 300 102	RESTART	PROGRESS
ETSI-a	Europe, etc.	ETS 300 102	RESTART	PROGRESS
ETSI-b		ETS 300 102	NONE	PROGRESS
QSIG	Private Network	ETS 300 102	RESTART	PROGRESS

- c = Northern Telcom Custom Protocol (A211 or NTNA or NTP or NI1)

  [This is simply protocol version “a” with the appropriate layer 3 timer values adjusted to match Northern Telcom Custom Protocol layer 3 timers, it is not an actual implementation of A211]

- d = National ISDN – 3 or 1998 National ISDN (R10)

Symptom: B-channels are always OOS-FE in the Definity when the CO sees them as in-service or are always in “lock out” in the CO when the Definity sees them as in service.

Problem: There is a mismatch between the protocol setting in the G3 and the setting in the CO or PBX at the other end of the interface. One side is running a “National” type protocol and the other side is running a “Custom” type protocol.

Testing: An MST or protocol analyzer capture of the D-channel messaging will show the protocol discriminator of the Service messages being sent by the “National” side as 0x43 and the protocol discriminator on the custom side as 0x03.

Solution: Toggle the appropriate sides protocol to match the far end.

Symptom: B-channels are always OOS-FE in the Definity when the Nortel CO or PBX sees them as in-service.

Problem: There is a mismatch between the protocol setting in the G3 and the setting in the CO or PBX at the other end of the interface. The G3 is running protocol version “a” or “c” and the Nortel switch is running NTNA but does not have SERVICE messages enabled.

Testing: An MST or protocol analyzer capture of the D-channel messaging will show the G3 sending SERVICE messages but the Nortel switch never responding.

Solution: Enable Service messages in the Nortel switch.

Symptom: B-channels are always OOS-FE in the Definity when the CO sees them as in-service or are always in “lock out” in the CO when the Definity sees them as in service.

Problem: There is a mismatch between the protocol setting in the G3 and the setting in the CO or PBX at the other end of the interface. The G3 is running protocol version “d” and the CO switch is running NI-2 but does not have SERVICE messages enabled, or the CO is running NI-3 [i.e. NI-2 w/ SERVICE messages] but the G3 is running protocol version “b”.

Testing: An MST or protocol analyzer capture of the D-channel messaging will show the G3 sending SERVICE messages, but the CO switch never responding or the reverse.

Solution: As appropriate enable/disable SERVICE messages in the CO switch or toggle the protocol versions “b” or “d” in the G3.

Symptom: Definity is experiencing a lot of ISDN-TRK 3841 errors during high traffic conditions, customer is complaining about a lot of outgoing calls not completing during high traffic conditions.

Problem: The G3 is running protocol version “a” AT&T custom protocol and the CO or PBX at the other end of the interface is a Nortel running NTNA.

Testing: Error log is recording a lot of Error type 1 aux data 4 errors against the signaling group with 3841 errors against the ISDN trunk members.

Solution: Set the G3 protocol version to “c” to match up the layer 3 T305 DISCONNECT message timers.

Symptom: Primary and Secondary D-channels are down, toggling between wait and out-of-service states

Problem: There is a mismatch between the protocol setting in the G3 and the setting in the CO or PBX at the other end of the interface. One side is running a “National” type protocol and the other side is running a “Custom” type protocol.

Testing: An MST or protocol analyzer capture of the D-channel messaging will show the protocol discriminator of the Service messages being sent by the “National” side as 0x43 and the protocol discriminator on the custom side as 0x03.

Solution: Toggle the appropriate sides protocol to match the far end.

Note: When speaking with the LECS they may refer to the following different protocol specs among others:

A211 = Northern Telcom North American PRI spec (used by DMS-100/250 only)

N/U449, N/U459 = the 4ESS, 5ESS protocol specs our “A” setting

TR1268 = Bellcore NI-2 protocol spec our “B” setting (5ESS)

TR3268 = Bellcore/Telcordia NI-3 or 1998 National ISDN

Note: Northern Telcom numbers their software loads called the North American loads, as either NA004 or LECB004 or later software loads that are NI-2 compatible. Depending upon the networking packages that the CO has purchased the software loads can also be “CUSTOM” compatible.

DS1 CIRCUIT PACK

Location: 01C14 Name: ISDN->g3ips1

Bit Rate: 1.544 Line Coding: ami-zcs

Line Compensation: 1 Framing Mode: esf

Signaling Mode: isdn-pri

Connect: pbx Interface: network

TN-C7 Long Timers? n Country Protocol: 1

Interworking Message: PROGress Protocol Version: a

Interface Companding: mulaw CRC? n

Idle Code: 11111111

DCP/Analog Bearer Capability: 3.1kHz

Slip Detection? n Near-end CSU Type: other

⇒ If country protocol is 10 (UK)

a = ETS 300 102 (Connect to DASS II/DPNSS through external converter)

b = ETS 300 102 (Mercury) British Telcom ISDN 30

⇒ If country protocol is 12 (France)

a = VN4(French National PRI)

b = modified ETS 300 102 according to P10-20 (Euronumeris)

⇒ If country protocol is 13 (Germany)

a = FTZ 1 TR 6 protocol

b = ETS 300 102 protocol

⇒ If country protocol is ETSI

a = ETS 300 102 protocol(RESTART/PROGRESS)

b = ETS 300 102 protocol(NONE/PROGRESS)