

Services and Protocol for Advanced Networks (SPAN); Codepoints for V5 and derived protocols



Reference

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

Introduction

The narrowband V5.x interface signalling protocol standards were the original documents which defined a set of message and information element codepoints. Subsequently other standards have re-used and extended the set. The present document contains a consolidated list of the superset of message and information element codepoints. Its purpose is to maintain the current styles and make allocating new unique codepoints easier. It was for this reason that the work was initiated by the ETSI Technical Working Group SPAN.

1 Scope

The present document specifies the codepoints for messages and information elements used in V5 based standards. It is the ETSI master list and as such its purpose is to avoid duplication and aid in the correct allocation of new codepoints.

The present document is initially applicable to V5.1 [1], V5.2 [2], NMDS [3] and the ATM Forum LES using AAL2 [4].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, subsequent revisions do apply.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ETSI EN 300 324-1 (V1.2): "V interfaces at the digital Local Exchange (LE); V5.1 interface for the support of Access Network (AN); Part 1: V5.1 interface specification".
- [2] ETSI EN 300 347-1 (V2.2): "V interfaces at the digital Local Exchange (LE); V5.2 interface for the support of Access Network (AN); Part 1: V5.2 interface specification".
- [3] ETSI EN 301 141 (V2.0): "Integrated Services Digital Network (ISDN); Narrowband Multi-service Delivery System (NMDS)".
- [4] STR-VMOA-LES-01.00 (May 2000): "Voice and Multimedia Over ATM - Loop Emulation Service Using AAL2".

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AAL2	ATM Adaption Layer number 2
AN	Access Network
ATM	Asynchronous Transfer Mode
BCC	Bearer Channel Control
CID	Channel IDentifier
ISDN	Integrated Services Digital Network
LE	Local Exchange
LES	Loop Emulation Service
NMDS	Narrowband Multi-service Delivery System
NTN	Network Termination Node
PSTN	Public Switched Telephone Network
VMOA	Voive and Multimedia Over ATM

4 Message Type Codepoints

4.1 Guidance Rules

New message type codepoints shall be allocated as the next available codepoint for the protocol to which the message relates. Where both a new protocol and a new message is required the new protocol shall be chosen to be unique and allow for enough messages to meet the immediate need and allow for some future expansion. In general the protocol is defined by bits 7 to 5 (or 4) of the message name codepoint, and the message number is defined by bits 1 to 3 (or 4) of the message name codepoint. This approach allows for a maximum of either 8 or 16 messages per protocol which has hitherto been sufficient.

4.2 Currently Defined Codepoints

Table 4.1 shows the message types allocated to the V5 based interfaces and protocols. Currently those standards included are the ETSI V5.1 [1], V5.2 [2] and NMDS [3] interfaces.

Table 4.1: Message Type codepoints used within the V5 based interfaces

Bits							Message types
7	6	5	4	3	2	1	
0	0	0	-	-	-	-	PSTN protocol message types
0	0	0	0	0	0	0	ESTABLISH
0	0	0	0	0	0	1	ESTABLISH ACKNOWLEDGE
0	0	0	0	0	1	0	SIGNAL
0	0	0	0	0	1	1	SIGNAL ACKNOWLEDGE
0	0	0	1	0	0	0	DISCONNECT
0	0	0	1	0	0	1	DISCONNECT COMPLETE
0	0	0	1	1	0	0	STATUS ENQUIRY
0	0	0	1	1	0	0	MAINTENANCE STATUS ENQUIRY (NMDS only)
0	0	0	1	1	0	1	STATUS
0	0	0	1	1	0	1	MAINTENANCE STATUS (NMDS only)
0	0	0	1	1	1	0	PROTOCOL PARAMETER
0	0	1	0	-	-	-	Control protocol message types
0	0	1	0	0	0	0	PORT CONTROL
0	0	1	0	0	0	1	PORT CONTROL ACKNOWLEDGE
0	0	1	0	0	1	0	COMMON CONTROL
0	0	1	0	0	1	1	COMMON CONTROL ACKNOWLEDGE
0	0	1	1	-	-	-	Protection protocol message types
0	0	1	1	0	0	0	SWITCH-OVER REQUEST
0	0	1	1	0	0	1	SWITCH-OVER COMMAND
0	0	1	1	0	1	0	OS SWITCH-OVER COMMAND
0	0	1	1	0	1	1	SWITCH-OVER ACKNOWLEDGE
0	0	1	1	1	0	0	SWITCH-OVER REJECT
0	0	1	1	1	0	1	PROTOCOL ERROR
0	0	1	1	1	1	0	RESET SN COMMAND
0	0	1	1	1	1	1	RESET SN ACKNOWLEDGE
0	1	0	-	-	-	-	BCC protocol message types
0	1	0	0	0	0	0	ALLOCATION
0	1	0	0	0	0	1	ALLOCATION COMPLETE
0	1	0	0	0	1	0	ALLOCATION REJECT
0	1	0	0	0	1	1	DE-ALLOCATION
0	1	0	0	1	0	0	DE-ALLOCATION COMPLETE
0	1	0	0	1	0	1	DE-ALLOCATION REJECT
0	1	0	0	1	1	0	AUDIT
0	1	0	0	1	1	1	AUDIT COMPLETE
0	1	0	1	0	0	0	AN FAULT
0	1	0	1	0	0	1	AN FAULT ACKNOWLEDGE
0	1	0	1	0	1	0	PROTOCOL ERROR
0	1	1	0	-	-	-	Link control protocol message types
0	1	1	0	0	0	0	LINK CONTROL
0	1	1	0	0	0	1	LINK CONTROL ACKNOWLEDGE

NOTE: All other values are reserved.

5 Information Element Codepoints

5.1 Guidance Rules

New information element codepoints shall be allocated as the next available codepoint in the sequence associated with the protocol to which the message (or messages) which are to carry the information element belong. On occasion this may require starting a new block of information element codepoints to avoid the situation of a codepoint being used for more than one protocol but with a different meaning and information element contents in each case. Every effort shall be made to maintain uniqueness and when allocating new blocks to allow for future expansion.

5.2 Currently Defined Codepoints

Table 5.1 shows the information elements allocated to the V5 based interfaces and protocols. Currently those standards included are the ETSI V5.1 [1], V5.2 [2], NMDS [3] and LES using AAL2 [4] interfaces.

Table 5.1: Information elements allocated to the V5 based interfaces

Bits								Protocol	Information element	(Sub)clause Reference
8	7	6	5	4	3	2	1			
0	-	-	-	-	-	-	-		VARIABLE LENGTH INFORMATION ELEMENTS	
0	0	0	0	0	0	0	0	PSTN	Sequence-number	14 [2] (13.4.7.1 [1])
0	0	0	0	0	0	0	1	PSTN	Cadenced-ringing	14 [2] (13.4.7.2 [1])
0	0	0	0	0	0	1	0	PSTN	Pulsed-signal	14 [2] (13.4.7.3 [1])
0	0	0	0	0	0	1	1	PSTN	Steady-signal	14 [2] (13.4.7.4 [1])
0	0	0	0	0	1	0	0	PSTN	Digit-signal	14 [2] (13.4.7.5 [1])
0	0	0	1	0	0	0	0	PSTN	Recognition-time	14 [2] (13.4.7.6 [1])
0	0	0	1	0	0	0	1	PSTN	Enable-autonomous-acknowledge	14 [2] (13.4.7.7 [1])
0	0	0	1	0	0	1	0	PSTN	Disable-autonomous-acknowledge	14 [2] (13.4.7.8 [1])
0	0	0	1	0	0	1	1	PSTN	Cause	14 [2] (13.4.7.9 [1])
0	0	0	1	0	1	0	0	PSTN	Resource-unavailable	14 [2] (13.4.7.10 [1])
0	0	0	1	1	1	1	0	PSTN (NMDS)	PSTN-GW Status Response	7.3.1.1.2 [3]
0	0	0	1	1	1	1	1	PSTN (NMDS)	ISDN UNI Status Response	7.3.1.2.2 [3]
0	0	1	0	0	0	1	0	PSTN	Enable-metering	14 [2] (13.4.7.11 [1])
0	0	1	0	0	0	1	1	PSTN	Metering-report	14 [2] (13.4.7.12 [1])
0	0	1	0	0	1	0	0	PSTN	Attenuation	14 [2] (13.4.7.13 [1])
0	0	1	0	0	0	0	0	Control	Control function element	15.4 [2] (14.4.2.5.4 [1])
0	0	1	0	0	0	0	1	Control	Control function identification	15.4 [2] (14.4.2.5.5 [1])
0	0	1	0	0	0	1	0	Control	Variant	15.4 [2] (14.4.2.5.6 [1])
0	0	1	0	0	0	1	1	Control	Interface-ID	15.4 [2] (14.4.2.5.7 [1])
0	0	1	1	0	0	0	0	Link control	Link control function	16.3.2.2 [2]
0	1	0	0	0	0	0	0	BCC	User port identification	17.4.2.1 [2]
0	1	0	0	0	0	0	1	BCC	ISDN port channel identification	17.4.2.2 [2]
0	1	0	0	0	0	1	0	BCC	V5 time slot identification	17.4.2.3 [2]
0	1	0	0	0	0	1	1	BCC	Multi-slot map	17.4.2.4 [2]
0	1	0	0	0	1	0	0	BCC	Reject cause	17.4.2.5 [2]
0	1	0	0	0	1	0	1	BCC	Protocol error cause	17.4.2.6 [2]
0	1	0	0	0	1	1	0	BCC	Connection incomplete	17.4.2.7 [2]
0	1	0	0	0	1	1	1	BCC (LES)	Information Transfer Capability	5.3.1.1.1 [4]
0	1	0	0	1	0	0	0	BCC (LES)	CID Assignment	5.3.1.1.1 [4]
0	1	0	1	0	0	0	0	Protection	Sequence number	18.5.2 [2]
0	1	0	1	0	0	0	1	Protection	Physical C-channel identification	18.5.3 [2]
0	1	0	1	0	0	1	0	Protection	Rejection cause	18.5.4 [2]
0	1	0	1	0	0	1	1	Protection	Protocol error cause	18.5.5 [2]
1	-	-	-	-	-	-	-		SINGLE OCTET INFORMATION ELEMENTS	
1	0	0	0	X	X	X	X	PSTN	Line information	14 [2] (13.4.6.2 [1])
1	0	0	1	X	X	X	X	PSTN	State	14 [2] (13.4.6.3 [1])
1	0	1	0	X	X	X	X	PSTN	Autonomous signalling sequence	14 [2] (13.4.6.4 [1])
1	0	1	1	X	X	X	X	PSTN	Sequence response	14 [2] (13.4.6.5 [1])
1	1	0	0	0	0	0	0	PSTN	Pulse-notification	14 [2] (13.4.6.1 [1])
1	1	0	1	0	0	0	0	PSTN (NMDS)	PSTN-GW Status Request	7.3.1.1.1 [3]
1	1	0	1	0	0	0	1	PSTN (NMDS)	ISDN UNI Status Request	7.3.1.2.1 [3]
1	1	1	0	X	X	X	X	Control	Performance grading	15.4 [2] (14.4.2.5.2 [1])
1	1	1	1	X	X	X	X	Control	Rejection cause	15.4 [2] (14.4.2.5.1 [1])

NOTE 1: All other values are reserved.

NOTE 2: References within parentheses are references to relevant subclause in a cross referenced document.

History

Document history		
V1.1.1	June 2000	Publication