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SERIES Q: SWITCHING AND SIGNALLING

DSS1 and DSS2 messages and information element identifiers

ITU-T Q-series Recommendations – Supplement 37

(Formerly CCITT Recommendations)

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Supplement 37 to ITU-T Q-series Recommendations

DSS1 and DSS2 messages and information element identifiers

Summary

This Supplement to the Q series of ITU-T Recommendations lists DSS1 and DSS2 message and information element identifiers. It also lists ITU-T Recommendations X.36 and X.76 message and information element identifiers since they use the same protocol discriminator as DSS1. Finally the Supplement records DSS2 message, information elements identifiers and information element code points reserved to the ATM Forum.

Source

Supplement 37 to ITU-T Q-series Recommendations was prepared by ITU-T Study Group 11 (2001-2004) and approved under the WTSA Resolution 5 procedure on 6 December 2000.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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Supplement 37 to ITU-T Q-series Recommendations

DSS1 and DSS2 messages and information element identifiers

1 Introduction

DSS1 and DSS2 message and information element identifiers are defined in several Recommendations of the Q-series [1] to [24]. Frame Relay DTE-DCE and NNI signalling defined in ITU-T X.36 and X.76 [25] and [26] use the same protocol discriminator as DSS1 and therefore the same identifier spaces. In addition, several message and information element identifiers have been allocated to the ATM Forum from DSS2 identifier spaces and some information element code points have been reserved to the ATM Forum.

The purpose of this Supplement is to record in one place DSS1 and DSS2 message and information element identifiers defined in the following Recommendations:

- DSS1 Recommendations: ITU-T Q.931, Q.932 and Q.952 [1], [2] and [4]
- DSS2 Recommendations: ITU-T Q.2931 and other Recommendations [5] to [24]
- Frame relay Recommendations: ITU-T Q.933, X.36 and X.76 [3], [25] and [26]

In addition, this Supplement records DSS2 message and information element identifiers and DSS2 information element code points reserved to the ATM Forum.

The Supplement is structured as follows: Clause 1.1 lists ITU-T Recommendations referred to in this Supplement. Clause 1.2 explains the convention used to create the two tables of DSS1 and DSS2 messages and information elements. Clauses 2 and 3 list DSS1 and DSS2 messages and information elements respectively. Finally, clause 4 records DSS2 information element code points reserved to the ATM Forum.

1.1 References

[1] ITU-T Q.931 (1998), *ISDN user-network interface layer 3 – General aspects.*

[2] ITU-T Q.932 (1998), *Digital subscriber signalling system No. 1 (DSS1) – Generic procedures for the control of ISDN supplementary services.*

[3] ITU-T Q.933 (1995), *Digital subscriber signalling system No. 1 (DSS1) – Signalling specifications for frame mode switched and permanent virtual connection control and status monitoring.*

[4] ITU-T Q.952 (1993), *Stage 3 description for call offering supplementary services using DSS1 – Diversion supplementary services.*

[5] ITU-T Q.2931 (1995), *Digital subscriber signalling system No. 2 – User-Network Interface (UNI) layer 3 specification for basic call/connection control.*

[6] ITU-T Q.2932.1 (1996), *Digital subscriber signalling system No. 2 – Generic functional protocol: Core functions.*

[7] ITU-T Q.2933 (1996), *Digital subscriber signalling system No. 2 – Signalling specification for Frame Relay service.*

[8] ITU-T Q.2941.1 (1997), *Digital subscriber signalling system No. 2 – Generic identifier transport.*

[9] ITU-T Q.2955.1 (1997), Stage 3 description for community of interest supplementary services using B-ISDN digital subscriber signalling system No. 2 (DSS2): Closed User Group (CUG).

[10] ITU-T Q.2957.1 (1995), *Stage 3 description for additional information transfer supplementary services using B-ISDN digital subscriber signalling system No. 2 (DSS2) – Basic call: User-to-user signalling (UUS).*

[11] ITU-T Q.2959 (1996), *Digital subscriber signalling system No. 2 – Call priority.*

[12] ITU-T Q.2961.1 (1995), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Additional signalling capabilities to support traffic parameters for the tagging option and the sustainable cell rate parameter set.*

[13] ITU-T Q.2961.2 (1997), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Support of ATM transfer capability in the broadband bearer capability information element.*

[14] ITU-T Q.2961.3 (1997), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Signalling capabilities to support traffic parameters for the available bit rate (ABR) ATM transfer capability.*

[15] ITU-T Q.2961.4 (1997), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Signalling capabilities to support traffic parameters for the ATM Block Transfer (ABT) ATM transfer capability.*

[16] ITU-T Q.2961.5 (1999), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Additional traffic parameters for cell delay variation tolerance indication .*

[17] ITU-T Q.2961.6 (1998), *Digital subscriber signalling system No. 2 – Additional traffic parameters: Additional signalling procedures for the support of the SBR2 and SBR3 ATM transfer capabilities.*

[18] ITU-T Q.2962 (1998), *Digital subscriber signalling system No. 2 – Connection characteristics negotiation during call/connection establishment phase.*

[19] ITU-T Q.2963.1 (1999), *Digital subscriber signalling system No. 2 – Connection modification: Peak cell rate modification by the connection owner .*

[20] ITU-T Q.2964.1 (1996), *Digital subscriber signalling system No. 2 – Basic look-ahead.*

[21] ITU-T Q.2965.2 (1999), *Digital subscriber signalling system No. 2 – Signalling of individual Quality of Service parameters.*

[22] ITU-T Q.2971 (1995), *Digital subscriber signalling system No. 2 – User-network interface layer 3 specification for point-to-multipoint call/connection control.*

[23] ITU-T Q.2982 (1999), *Broadband integrated services digital network (B-ISDN) – Digital subscriber signalling system No. 2 (DSS2) – Q.2931-based separated call control protocol.*

[24] ITU-T Q.2983 (1999), *Broadband integrated services digital network (B-ISDN) – Digital subscriber signalling No. 2 (DSS2) – Bearer control protocol.*

[25] ITU-T X.36 (2000), *Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for public data networks providing frame relay data transmission service by dedicated circuit.*

[26] ITU-T X.76 (2000), *Network-to-network interface between public networks providing PVC and/or SVC frame relay data transmission service.*

1.2 Conventions

- For DSS1 and DSS2 messages and information elements, Tables of three columns are provided with the following information:
  - Message and information element names;
  - Message and information element numerical identifiers in binary;
  - The reference(s) where message or information elements are defined or used.
- Messages and information elements are listed in numerical ascending order of their identifiers.
- When a message or information element identifier is not assigned, the last two columns of the Tables are left blank. When four or more consecutive identifiers are unassigned, only the first and last values of the range are listed in the first column and it is explicitly stated that the range is unassigned.

2 DSS1 and DSS2 message identifiers

Message identifier	Message name	Reference
Call establishment messages		
0000 0001	ALERTING	Q.931, Q.2931, X.76
0000 0010	CALL PROCEEDING	Q.931, Q.2931, X.36, X.76
0000 0011	PROGRESS	Q.931, Q.2931, X.76
0000 0100		
0000 0101	SETUP	Q.931, Q.2931, X.36, X.76
0000 0110		
0000 0111	CONNECT	Q.931, Q.2931, X.36, X.76
0000 1000	)	
Through	) Unassigned	
0000 1100	)	
0000 1101	SETUP ACKNOWLEDGE	Q.931, Q.2931
0000 1110		
0000 1111	CONNECT ACKNOWLEDGE	Q.931, Q.2931
0001 0000	)	
Through	) Unassigned	
0001 0100	)	
0001 0101	CO-BI SETUP	Q.2932.1
0001 0110		
0001 0111		
0001 1000	CALL SETUP	Q.2982
0001 1001	)	
Through	) Unassigned	
0001 1111	)	

Message identifier	Message name	Reference
Call information messages		
0010 0000	USER INFORMATION	Q.931
0010 0001	SUSPEND REJECT	Q.931
0010 0010	RESUME REJECT	Q.931
0010 0011		
0010 0100	HOLD	Q.932
0010 0101	SUSPEND	Q.931
0010 0110	RESUME	Q.931
0010 0111		
0010 1000	HOLD ACKNOWLEDGE	Q.932
0010 1001	)	
Through	) Unassigned	
0010 1100	)	
0010 1100		
0010 1101	SUSPEND ACKNOWLEDGE	Q.931
0010 1110	RESUME ACKNOWLEDGE	Q.931
0010 1111		
0011 0000	HOLD REJECT	Q.932
0011 0001	RETRIEVE	Q.932
0011 0010		
0011 0011	RETRIEVE ACKNOWLEDGE	Q.932
0011 0100		
0011 0101		
0011 0110		
0011 0111	RETRIEVE REJECT	Q.932
0011 1000	)	
Through	) Unassigned	
0011 1111	)	
Call clearing messages		
0100 0000	DETACH	Note
0100 0001	)	
Through	) Unassigned	
0100 0100	)	
0100 0101	DISCONNECT	Q.931, X.36
0100 0110	RESTART	Q.931, Q.2931, X.36, X.76
0100 0111		
0100 1000	DETACH ACKNOWLEDGE	Note
0100 1001	)	
Through	) Unassigned	
0100 1100	)	

Message identifier	Message name	Reference
0100 1101	RELEASE	Q.931, Q.2931, X.36, X.76
0100 1110	RESTART ACKNOWLEDGE	Q.931, Q.2931, X.36, X.76
0100 1111	)	
Through	) Unassigned	
0101 1001	)	
0101 1010	RELEASE COMPLETE	Q.931, Q.2931, X.36, X.76
0101 1011	)	
Through	) Unassigned	
0101 1111	)	
Miscellaneous messages		
0110 0000	SEGMENT	Q.931
0110 0001		
0110 0010	FACILITY	Q.932, Q.2932.1
0110 0011		
0110 0100	REGISTER	Q.932
0110 0101		
0110 0110		
0110 0111		
0110 1000	CANCEL ACKNOWLEDGE	Note
0110 1001		
0110 1010	FACILITY ACKNOWLEDGE	Note
0110 1011		
0110 1100	REGISTER ACKNOWLEDGE	Note
0110 1101		
0110 1110	NOTIFY	Q.931, Q.2931
0110 1111		
0111 0000	CANCEL REJECT	Note
0111 0001		
0111 0010	FACILITY REJECT	Note
0111 0011		
0111 0100	REGISTER REJECT	Note
0111 0101	STATUS ENQUIRY	Q.931, Q.2931, X.36, X.76
0111 0110	Reserved	Appendix III/Q.2931
0111 0111	Rserved	Appendix III/Q.2931
0111 1000		
0111 1001	CONGESTION CONTROL	Q.931
0111 1010		
0111 1011	INFORMATION	Q.931, Q.2931
0111 1100		
0111 1101	STATUS	Q.931, Q.2931, X.36, X.76

Message identifier	Message name	Reference
0111 1110	Reserved	Appendix III/Q.2931
0111 1111	Reserved	Appendix III/Q.2931
DSS2 Point-to-multipoint connection messages		
1000 0000	ADD PARTY	Q.2971
1000 0001	ADD PARTY ACKNOWLEDGE	Q.2971
1000 0010	ADD PARTY REJECT	Q.2971
1000 0011	DROP PARTY	Q.2971
1000 0100	DROP PARTY ACKNOWLEDGE	Q.2971
1000 0101	ADD PARTY ALERTING	Q.2971
1000 0110		
1000 0111		
1000 1000	MODIFY REQUEST	Q.2963.1
1000 1001	MODIFY ACKNOWLEDGE	Q.2963.1
1000 1010	MODIFY REJECT	Q.2963.1
1000 1011	CONNECTION AVAILABLE	Q.2963.1, Q.2931
1000 1100	CONNECTION TRACE	Reserved to the ATM Forum
1000 1101	CONNECTION TRACE ACKNOWLEDGE	Reserved to the ATM Forum
1000 1110	)	
Through	) Unassigned	
1111 1110	)	
1111 1111	Reserved for DSS2 extension mechanism	Q.2931

3 DSS1 and DSS2 information element identifiers

Information element identifier	Information element name	Reference
Single octet information elements (DSS1 only)		
1000 ----	reserved	Q.931
1001 ----	shift	Q.931
1010 0000	more data	Q.931
1010 0001	sending complete	Q.931
1010 0010	)	
Through	) Unassigned	
1010 1111	)	
1011 ----	congestion level	Q.931
1100 ----		

	Information element identifier	Information element name	Reference
	1101 ----	repeat indicator	Q.931
	1110 ----		
	1111 ----		
	Variable length information elements (DSS1 and DSS2)		
	0000 0000	segmented message	Q.931
*	0000 0001		
*	0000 0010		
*	0000 0011		
	0000 0100	bearer capability	Q.931, Q.932, Q.2931, X.36, X.76
*	0000 0101	VPN indicator	Q.931
*	0000 0110		
*	0000 0111		
	0000 1000	cause	Q.931, Q.2931, X.36, X.76
*	0000 1001		
*	0000 1010	called party SPVC	X.76
*	0000 1011	calling party SPVC	X.76
	0000 1100	connected address	Note
*	0000 1101	extended facility	Q.932
*	0000 1110		
*	0000 1111		

* Comprehension required (DSS1)

NOTE – These code points are reserved to ensure backward compatibility with earlier versions of DSS1 Recommendations.

0001 0000	call identity	Q.931
0001 0001		
0001 0010		
0001 0011		
0001 0100	call state	Q.931, Q.932, Q.2931, X.36, X.76
0001 0101		
0001 0110		
0001 0111		
0001 1000	channel identification	Q.931, Q.932
0001 1001	data link connection identifier	Q.933
0001 1010		
0001 1011		
0001 1100	facility	Q.932, Q.2932.1

Information element identifier	Information element name	Reference
0001 1101		
0001 1110	progress indicator	Q.931, Q.2931, X.76
0001 1111		
0010 0000	network specific facilities	Q.931
0010 0001		
0010 0010		
0010 0011		
0010 0100	terminal capabilities	Note
0010 0101		
0010 0110		
0010 0111	notification indicator	Q.931, Q.932, Q.2931
0010 1000	display	Q.931
0010 1001	date/time	Q.931
0010 1010		
0010 1011		
0010 1100	keypad facility	Q.931
0010 1101		
0010 1110		
0010 1111		
0011 0000	keypad echo	Note
0011 0001	Transit counter	Annex H/Q.931
0011 0010	information request	Q.932
0011 0011		
0011 0100	signal	Q.931
0011 0101		
0011 0110	switchhook	Note
0011 0111		
0011 1000	feature activation	Q.932
0011 1001	feature indication	Q.932
0011 1010	service profile identification	Q.932
0011 1011	endpoint identifier	Q.932
0011 1100	)	
Through	) Unassigned	
0011 1111	)	
0100 0000	information rate	Q.931
0100 0001	precedence level	Q.955.3
0100 0010	end-to-end transit delay	Q.931, Q.2931, Q.2965.2, X.76

Information element identifier	Information element name	Reference
0100 0011	transit delay selection and indication	Q.931, Q.2965.2
0100 0100	packet layer binary parameters	Q.931
0100 0101	packet layer window size	Q.931
0100 0110	packet size	Q.931
0100 0111	closed user group	Q.931, Q.2955.1, X.36
0100 1000	link layer core parameters	Q.933, Q.2933, X.36, X.76
0100 1001	link layer protocol parameters	Q.933, Q.2933, X.36, X.76
0100 1010	reverse charging indication	Q.931, X.36, X.76
0100 1011		
0100 1100	connected number	Q.951, Q.2951, X.36, X.76
0100 1101	connected subaddress	Q.951, Q.2951, X.36, X.76
0100 1110		
0100 1111		
0101 0000	X.213 priority	Q.933, X.76
0101 0001	report type	Q.933, X.36, X.76
0101 0010		
0101 0011	link integrity verification	Q.933, X.36, X.76
0101 0100	endpoint reference	Q.2971
0101 0101	endpoint state	Q.2971
0101 0110		
0101 0111	PVC status	Q.933, X.36, X.76
0101 1000	ATM adaptation layer parameters	Q.2931
0101 1001	ATM traffic descriptor	Q.2931
0101 1010	connection identifier	Q.2931
0101 1011	OAM traffic descriptor	Q.2931
0101 1100	quality of service parameter	Q.2931, Q.2965.1
0101 1101	broadband high layer information (B-HLI)	Q.2931
0101 1110	broadband bearer capability	Q.2931
0101 1111	broadband low layer information (B-LLI)	Q.2931
0110 0000	broadband locking shift	Q.2931
0110 0001	broadband non-locking shift	Q.2931
0110 0010	broadband sending complete	Q.2931
0110 0011	broadband repeat indicator	Q.2931
0110 0100	transaction number	Q.2931
0110 0101	SPC status	Q.2931
0110 0110	SPC report type	Q.2931
0110 0111	Transit network identification	X.76
0110 1000	closed user group interlock code	X.76

Information element identifier	Information element name	Reference
0110 1001	call identification	X.76
0110 1010	Priority and service class parameters	X.36 and X.76
0110 1011	Clearing network identification	X.76
0110 1100	calling party number	Q.931, Q.2931, X.36, X.76
0110 1101	calling party subaddress	Q.931, Q.2931, X.36, X.76
0110 1110	Generic application transport	X.76
0110 1111	Reserved	X.36 and X.76
0111 0000	called party number	Q.931, Q.2931, X.36, X.76
0111 0001	called party subaddress	Q.931, Q.2931, X.36, X.76
0111 0010		
0111 0011		
0111 0100	redirecting number	Q.931
0111 0101		
0111 0110	redirection number	Q.952
0111 0111		
0111 1000	transit network selection	Q.931, Q.2931, X.36, X.76
0111 1001	restart indicator	Q.931, Q.2931
0111 1010		
0111 1011		
0111 1100	low layer compatibility	Q.931, Q.2931
0111 1101	high layer compatibility	Q.931, Q.2931, X.76
0111 1110	user-user	Q.931, Q.2957.1, X.36, X.76
0111 1111	escape for extension (DSS1)	Q.931
Variable length information elements (DSS2 only)		
0111 1111	Generic identifier transport	Q.2941.1
1000 0000		
1000 0001	minimum acceptable traffic descriptor	Q.2962
1000 0010	alternative ATM traffic descriptor	Q.2962
1000 0011	network look-ahead indicator	Q.2964.1
1000 0100	ABR setup parameters	Q.2961.3
1000 0101		
1000 0110	CDVT descriptor	Q.2961.5
1000 0111		
1000 1000	priority	Q.2959
1000 1001	broadband report type	Q.2931

Information element identifier	Information element name	Reference
1000 1010	)	
Through	) Unassigned	
1000 1111	)	
1001 0000	call identifier	Q.2982
1001 0001	bearer identifier	Q.2983
1001 0010	call capability	Q.2982
1001 0011	call association	Q.2983
1110 0000	)	
through	) reserved to the ATM Forum	
1110 1011	)	
1110 1100	extended QoS parameters	Q.2965.2
1110 1101	)	
through	) reserved to the ATM Forum	
1111 1001	)	
1111 1111	escape for extension (DSS2)	Q.2931

4 DSS2 information elements code points reserved to the ATM Forum

4.1 Broadband bearer capability information element

BTC field (octet 5a)

Bits

7 6 5 4 3 2 1

0 0 0 1 1 1 0 GFR 1

0 0 0 1 1 1 1 GFR 2

4.2 ATM traffic descriptor information element

Subfield identifiers

Bits

8 7 6 5 4 3 2 1

1 0 1 1 1 0 0 0 Forward MFS

1 0 1 1 1 0 0 1 Backward MFS

1 0 1 1 1 0 1 0 Forward BCT

1 0 1 1 1 0 1 1 Backward BCT

4.3 Broadband repeat indicator information element

Broadband repeat indicator field (octet 5)

Bits	
4 3 2 1	
1 0 1 0	Last in, first out stack

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