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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

Infrastructure of audiovisual services – Communication procedures

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Gateway control protocol: DCME interworking package

ITU-T Recommendation H.248.42

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ITU-T Recommendation H.248.42

Gateway control protocol: DCME interworking package

Summary

The DCME Package is used for interfacing Digital Circuit Multiplication Equipment (DCME). DCME types are for instance defined by ITU-T Recs G.763, G.767 or G.768. There is a signalling interface defined between DCME and a so-called "International Switching Centre" (ISC). ITU-T Rec. Q.50 defines such an interface. The DCME Package scopes DCME with Q.50 interfaces.

Source

ITU-T Recommendation H.248.42 was approved on 29 May 2006 by ITU-T Study Group 16 (2005-2008) under the ITU-T Recommendation A.8 procedure.

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ITU-T Recommendation H.248.42

Gateway control protocol: DCME interworking package

1 Scope

The DCME Package is used for interfacing Digital Circuit Multiplication Equipment (DCME). DCME types are for instance defined by ITU-T Recs G.763 [7], G.767 [9] or G.768 [10]. There is a signalling interface defined between DCME and a so-called "International Switching Centre" (ISC). ITU-T Rec. Q.50 [3] defines such an interface. The DCME Package scopes DCME with Q.50 interfaces (see Figure 1).

NOTE 1 – Relation to PCME [8]: the DCME package may be applied in principles as well for PCME types with Q.50-based CME signalling and E1/PDH trunk interface types. The final decision is still for further studies, e.g., due to dependencies with still open clause 19/G.765 [8] on dynamic load control.

NOTE 2 – Relation to IP-CME [11]: the DCME package may be applied for IP-CME types with Q.50-based CME signalling and E1/PDH trunk interface types. Other trunk facilities are for further studies.

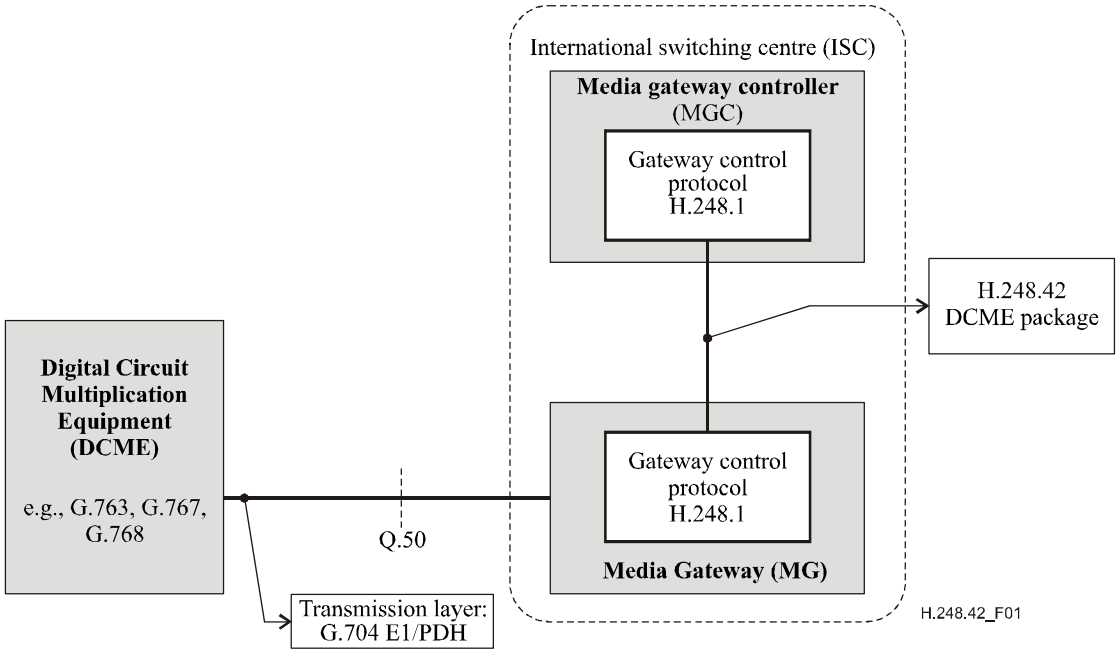

Figure 1/H.248.42 – Scope of the DCME Package

The DCME Package must support DCME-ISC signalling interface functions. The required Package capabilities may be summarized by following overview from ITU-T Recs G.763 and Q.50. There are three major groups of functions:

- *Transmission resource management*

  Facilitates the dynamic load control process within the ISC and the DCME concurrently, based on the status of the traffic loading on the DCME system.

- *Seizure/release of 64 kbit/s circuits*

  Used in the DCME for the generation of internal assignment and disconnection messages and in the ISCs for the validation of circuit seizure selection/release based on acknowledgement from the DCME.

- *Maintenance information*

  Facilitates information exchange between the DCME and the ISCs pertaining to the maintenance status. Maintenance status information may be exchanged between the DCME and the ISC.

2 References

2.1 Normative references

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[1] ITU-T Recommendation H.248.1 (2005), *Gateway control protocol: Version 3*.

[2] ITU-T Recommendation H.248.8 (2005), *Gateway control protocol: Error code and service change reason description*.

[3] ITU-T Recommendation Q.50 (2001), *Signalling between Circuit Multiplication Equipment (CME) and International Switching Centres (ISC)*.

[4] ITU-T Recommendation G.704 (1998), *Synchronous frame structures used at 1544, 6312, 2048, 8448 and 44 736 kbit/s hierarchical levels*.

2.2 Informative references

[5] ITU-T Recommendation Q.50.1 (2001), *Signalling between International Switching Centres (ISC) and Digital Circuit Multiplication Equipment (DCME) including the control of compression/decompression*.

[6] ITU-T Recommendation G.726 (1990), *40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)*.

[7] ITU-T Recommendation G.763 (1998), *Digital circuit multiplication equipment using G.726 ADPCM and digital speech interpolation*.

[8] ITU-T Recommendation G.765 (1992), *Packet circuit multiplication equipment*.

[9] ITU-T Recommendation G.767 (1998), *Digital circuit multiplication equipment using 16 kbit/s LD-CELP, digital speech interpolation and facsimile demodulation/remodulation*.

[10] ITU-T Recommendation G.768 (2001), *Digital circuit multiplication equipment using 8 kbit/s CS-ACELP*.

[11] ITU-T Recommendation G.769/Y.1242 (2004), *Circuit multiplication equipment optimized for IP-based networks*.

3 Terms and definitions

None.

4 Abbreviations

This Recommendation uses the following abbreviations:

2PTY	Two-Party
3PTY	Three-Party
C2C	Circuit-to-Circuit
C2P	Circuit-to-Packet
CAS	Channel Associated Signalling
CME	Circuit Multiplication Equipment
CSN	Circuit-Switched Network
DCME	Digital Circuit Multiplication Equipment
DS	Dual Seizure
IP-CME	CME optimized for IP-based networks
ISC	International Switching Centre
MG	Media Gateway
MGC	Media Gateway Controller
MPTY	Multiparty
NGN	Next-Generation Network
NROR	No Response On Release
P2P	Packet-to-Packet
PCM	Pulse Code Modulation
PCME	Packet Circuit Multiplication Equipment
PSN	Packet-Switched Network
RDSD	Remote DCME Signalling Disabled
SNOT	Seizability NOT yet enabled
TDM	Time Division Multiplexing
TRM	Transmission Resource Management
TS	Time-slot
UKLS	UnKnown Line State

5 DCME interworking package

Package Name: DCME Interworking package

PackageID: dcme (0x0x009e)

Description: This package defines the H.248 signals and events for a decomposed International Switching Centre (ISC) following ITU-T Rec. Q.50 [3]. The intention of this package is to be independent of ITU-T Rec. Q.50 Annexes A and B implementation. The H.248 MG provides PCM30 ITU-T Rec. G.704 [4] compliant 2 Mbit/s interface(s), whereas time-slot 16 is used to carry the ISC-DCME signalling protocol. The "term PCM30" is defined in 3.1/H.248.33.

Version: 1

Extends: None

5.1 Properties

5.1.1 DCME protocol

Property Name: DCME Protocol

PropertyID: cmeprotocol (0x0001)

Description: The specific protocol (ISC ↔ DCME) supported for a 2 Mbit/s interface. Note that the MG shall provision this property for the physical termination representing time-slot 16. For the other physical terminations of the 2 Mbit/s interface, this is optional.

Type: Enumeration

Possible values: "None" (0x0001)

"Q50AnnexA" (0x0002)

"Q50AnnexB" (0x0003)

Default: Provisioned

Defined in: TerminationState

Characteristics: read

5.2 Events

5.2.1 No trunk(s) available for 3.1 kHz audio or speech

Event Name: Trunk unavailable

EventID: tunav (0x0001)

Description: Generated when no bearer capacity for additional 3.1 kHz audio or speech trunk(s) is available. This event is used by the DCME transmission resource management (TRM).

5.2.1.1 EventDescriptor parameters

None.

5.2.1.2 ObservedEventsDescriptor parameters

None.

5.2.2 No channels(s) available for 3.1 kHz

Event Name: Channel unavailable

EventID: cunav (0x0002)

Description: Generated when no bearer capacity for additional 3.1 kHz channel(s) is available. This event is used by the DCME transmission resource management (TRM) to retain backward compatibility only and is not to be used in implementations based on 1993 or later versions of ITU-T Rec. Q.50.

5.2.2.1 EventDescriptor parameters

None.

5.2.2.2 ObservedEventsDescriptor parameters

None.

5.2.3 Trunk(s) available for 3.1 kHz audio or speech

Event Name: Trunk available

EventID: tav (0x0003)

Description: Generated to notify the end of "No trunk available for 3.1 kHz audio or speech" condition. This event is used by the DCME transmission resource management (TRM).

5.2.3.1 EventDescriptor parameters

None.

5.2.3.2 ObservedEventsDescriptor parameters

None.

5.2.4 No 64 kbit/s capacity available

Event Name: 64 kbit/s capacity unavailable

EventID: kb64Unav (0x0004)

Description: Generated when no 64 kbit/s capacity is available, i.e., only bearer capabilities for speech and 3.1 kHz audio are available. This event is used by the DCME transmission resource management (TRM).

5.2.4.1 EventDescriptor parameters

None.

5.2.4.2 ObservedEventsDescriptor parameters

None.

5.2.5 Trunk(s) available for 64 kbit/s

Event Name: 64 kbit/s capacity available

EventID: kb64Av (0x0005)

Description: Generated to notify the end of "No 64 kbit/s capacity available" overload condition, i.e., all bearer capabilities are available thus corresponds to DCME normal operation. This event is used by the DCME transmission resource management (TRM).

5.2.5.1 EventDescriptor parameters

None.

5.2.5.2 ObservedEventsDescriptor parameters

None.

5.2.6 64 kbit/s positive acknowledgement

Event Name: 64 kbit/s positive acknowledgement

EventID: kb64PosAck (0x0006)

Description: Generated upon a positive acknowledgement is received from DCME equipment due to a previously sent 64 kbit/s request. This event is used by the DCME bearer service selection.

5.2.6.1 EventDescriptor parameters

None.

5.2.6.2 ObservedEventsDescriptor parameters

None.

5.2.7 64 kbit/s negative acknowledgement

Event Name: 64 kbit/s negative acknowledgement

EventID: kb64NegAck (0x0007)

Description: Generated upon a negative acknowledgement is received from DCME equipment due to a previously sent 64 kbit/s request. This event is used by the DCME bearer service selection.

5.2.7.1 EventDescriptor parameters

None.

5.2.7.2 ObservedEventsDescriptor parameters

None.

5.2.8 Release 64 kbit/s positive acknowledgement

Event Name: Release 64 kbit/s positive acknowledgement

EventID: kb64RelPosAck (0x0008)

Description: Generated upon a positive acknowledgement is received from DCME equipment due to a 64 kbit/s release request thus indicating normal service availability. This event is used by the DCME bearer service selection.

5.2.8.1 EventDescriptor parameters

None.

5.2.8.2 ObservedEventsDescriptor parameters

None.

5.2.9 Positive acknowledgement

Event Name: Positive acknowledgement

EventID: PosAck (0x0009)

Description: Generated upon a positive acknowledgement is received from DCME equipment due to a previously sent request for 3.1 kHz service or speech. This event is used by the DCME bearer service selection.

5.2.9.1 EventDescriptor parameters

None.

5.2.9.2 ObservedEventsDescriptor parameters

None.

5.2.10 Negative acknowledgement

Event Name: Negative acknowledgement

EventID: NegAck (0x000A)

Description: Generated upon a negative acknowledgement is received from DCME equipment due to a previously sent request for 3.1 kHz service or speech. This event is used by the DCME bearer service selection.

5.2.10.1 EventDescriptor parameters

None.

5.2.10.2 ObservedEventsDescriptor parameters

None.

5.2.11 Maintenance release

Event Name: Maintenance release

EventID: MaintRel (0x000B)

Description: Generated upon a request from the DCME equipment is received to prevent renewed seizure. This event is used by the DCME maintenance signalling.

5.2.11.1 EventDescriptor parameters

None.

5.2.11.2 ObservedEventsDescriptor parameters

5.2.11.2.1 Predecessor seizure signal

Parameter Name: Predecessor seizure signal

ParameterID: preseiz (0x0001)

Description: May be used to report whether a circuit was seized for speech or 64 kbit/s (Annex B/Q.50).

Type: Enumeration

Optional: Yes

Possible values: "PRESPEECH" (0x0001) "3.1 kHz, speech seizure"

"PRE64" (0x0002) "64 kbit/s seizure"

Default: None

5.2.12 Out-of-Service

Event Name: Out-of-Service

EventID: OoS (0x000C)

Description: Generated upon a request from the DCME equipment is received to force the release of a busy termination and to prevent renewed seizure. DCME is for any reason unable to accept traffic. This event is used by the DCME maintenance signalling.

5.2.12.1 EventDescriptor parameters

None.

5.2.12.2 ObservedEventsDescriptor parameters

5.2.12.2.1 OoS type

Parameter Name: OoS Type

ParameterID: OoStype (0x0001)

Description: May be used to report the out-of-service type (a,b,c,d) (Annex B/Q.50).

Type: Enumeration

Optional: Yes

Possible values: "A" (0x0001)

"B" (0x0002)

"C" (0x0003)

"D" (0x0004)

Default: None

5.2.13 Back-in-Service

Event Name: Back-in-Service

EventID: BiS (0x000D)

Description: Generated upon an indication from the DCME equipment is received for normal operation. This event is used by the DCME maintenance signalling.

5.2.13.1 EventDescriptor parameters

None.

5.2.13.2 ObservedEventsDescriptor parameters

None.

5.2.14 DCME failure

Event Name: DCME failure

EventID: dcmef (0x000E)

Description: Reports DCME failures associated with this package

5.2.14.1 EventDescriptor parameters

None.

5.2.14.2 ObservedEventsDescriptor parameters

5.2.14.2.1 Error code

Parameter Name: Error Code

ParameterID: ec (0x0001)

Description: See clause 5.5.

Type: Enumeration

Optional: No

Possible values: "NROR" (0x0001) "No Response On Release"

"SNOT" (0x0002) "Seizability NOT yet enabled"

"DS" (0x0003) "Dual Seizure"

"UKLS" (0x0004) "UnKnown Line State"

"RDSD" (0x0005) "Remote DCME Signalling Disabled"

Default: None

5.2.14.2.2 Error additional information

Parameter Name: Error Additional Information

ParameterID: eai (0x0002)

Description: This parameter should be used to carry any additional information such as e.g., the exact line states in case of error code UKLS.

Type: String

Optional: Yes

Possible values: Any text string

Default: None

5.3 Signals

5.3.1 64 kbit/s availability acknowledgement

Signal Name: 64 kbit/s availability acknowledgement

SignalID: kb64AvAck (0x0001)

Description: Sent under normal condition. This signal is used by the DCME transmission resource management (TRM).

Signal Type: brief

Duration: Not applicable

5.3.1.1 Additional parameters

None.

5.3.2 64 kbit/s unavailability acknowledgement

Signal Name: 64 kbit/s unavailability acknowledgement

SignalID: kb64UnavAck (0x0002)

Description: This signal is used by the DCME transmission resource management (TRM).

Signal Type: brief

Duration: Not applicable

5.3.2.1 Additional parameters

None.

5.3.3 Select 64 kbit/s

Signal Name: Select 64 kbit/s

SignalID: kb64Select (0x0003)

Description: Sent when 64 kbit/s circuit is required via the DCME. This signal is used by the DCME bearer service selection.

Signal Type: brief

Duration: Not applicable

5.3.3.1 Additional parameters

None.

5.3.4 Release 64 kbit/s

Signal Name: Release 64 kbit/s

SignalID: kb64Release (0x0004)

Description: Sent by the originating ISC to indicate that a 64 kbit/s circuit is not necessary thus indicating normal service requests for connection type speech and 3.1 kHz audio. This signal is used by the DCME bearer service selection.

Signal Type: brief

Duration: Not applicable

5.3.4.1 Additional parameters

None.

5.3.5 3.1 kHz service or speech connection type select

Signal Name: 3.1 kHz service or speech connection type select

SignalID: select (0x0005)

Description: Request to allocate data, 3.1 kHz or speech optimized facilities. This signal is used by the DCME bearer service selection.

Signal Type: brief

Duration: Not applicable

5.3.5.1 Additional parameters

None.

5.3.6 Release 3.1 kHz or speech connection type service

Signal Name: Release 3.1 kHz or speech connection type service

SignalID: release (0x0006)

Description: Sent to indicate termination of the call. This signal is used by the DCME bearer service selection.

Signal Type: brief

Duration: Not applicable

5.3.6.1 Additional parameters

None.

5.3.7 Maintenance release acknowledgement

Signal Name: Maintenance release acknowledgement

SignalID: maintRelAck (0x0007)

Description: Sent to acknowledge reception of maintenance release, ISC is waiting for the release of the trunk. This signal is used by the DCME maintenance signalling.

Signal Type: brief

Duration: Not applicable

5.3.7.1 Additional parameters

None.

5.3.8 CME clear of traffic signal

Signal Name: CME clear of traffic signal

SignalID: cots (0x0008)

Description: Signal sent when all these (this) trunk(s) are (is) idle. The ISC prevents new seizures on these (this) trunk(s). This signal is used by the DCME maintenance signalling.

Signal Type: brief

Duration: Not applicable

5.3.8.1 Additional parameters

None.

5.3.9 Out-of-Service acknowledgement

Signal Name: Out-of-service acknowledgement

SignalID: OoSAck (0x0009)

Description: Sent to acknowledge "out-of-service signal" used on a per-circuit basis. This signal is used by the DCME maintenance signalling.

Signal Type: brief

Duration: Not applicable

5.3.9.1 Additional parameters

None.

5.3.10 Back-in-Service acknowledgement

Signal Name: Back-in-service acknowledgement

SignalID: BiSAck (0x000A)

Description: For DCME maintenance signalling, this signal is used on a per-circuit basis. For DCME TS16 based TRM, signalling this signal is used to signal ISC normal operation.

Signal Type: brief

Duration: Not Applicable

5.3.10.1 Additional parameters

None.

5.4 Statistics

None.

5.5 Error codes

No additional error codes.

5.6 Procedures

5.6.1 Overview and PCM30 interface configuration

The DCME Package shall be applied in an environment as shown in Figure 1.

It has to be provisioned within the MG that a G.704 2048 kbit/s link is using time-slot 16 to carry channel-associated signalling (CAS; according to 5.1.3.2/G.704 [4]). If so, this TDM Termination (TS16) has always to reside in the NULL Context. An H.248 Add Command related to this TDM Termination shall be rejected with error code #542 "Command is not allowed on this termination" [2].

One difference between Annex A/Q.50 and Annex B/Q.50 is that time-slot 16 (TS16) is used differently to carry DCME signalling for:

- Transmission Resource Management;
- Maintenance signalling;
- Bearer service select signalling.

More details on TS16 usage are given in Figure 2.

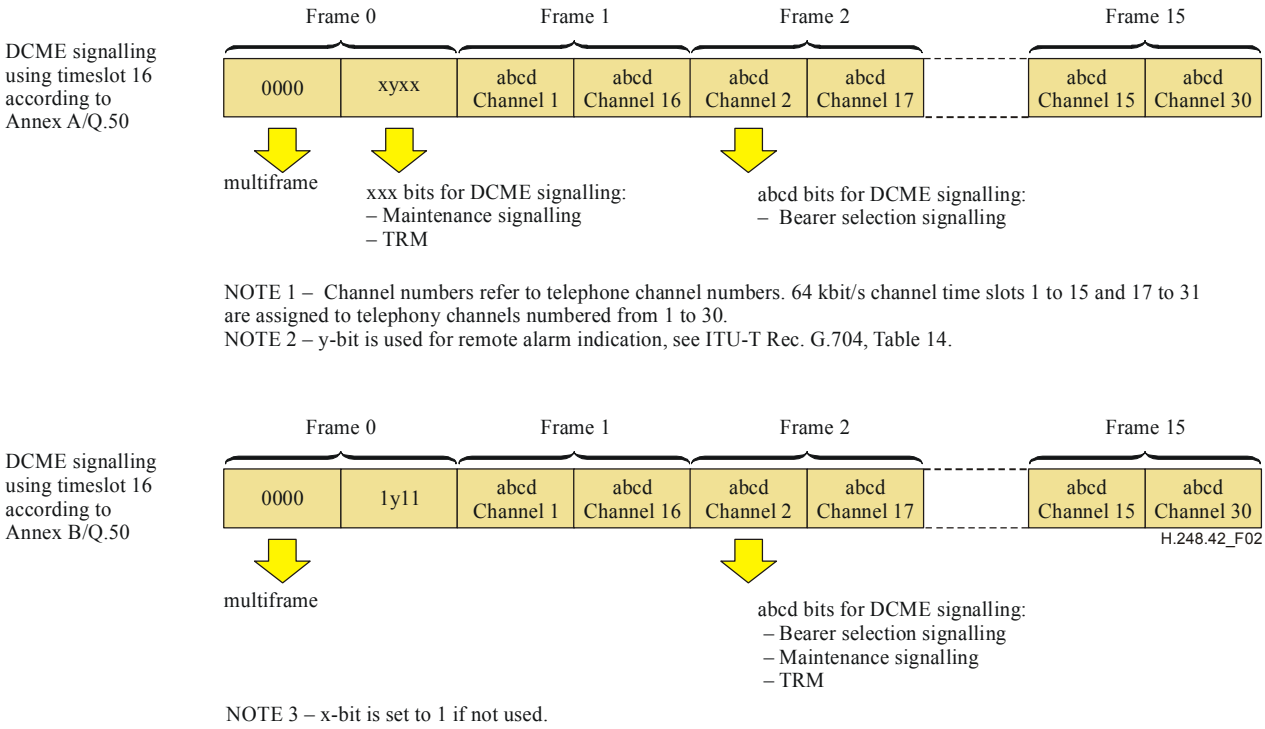

Figure 2/H.248.42 – Time-slot 16 usage in PCM30 system

Upon reception of a CAS line state, which is not defined according to [3], the MG shall generate a **dcme/dcmef** event with error code "UnKnown Line State" and optionally the line state using the parameter: error additional information. Note that within the MG, the criteria for the detection of unknown line states differs depending on the provisioned ITU-T Rec. Q.50 Annex (A or B) within the MG.

In case of Annex A/Q.50, the MG shall generate a **dcme/dcmef** event with error code "Remote DCME Signalling Disabled" in case the CAS signalling bits "xxx" of frame 0 are set to "111". According to ITU-T Rec. G.704 [4], Table 14, Note 4, "111" is used to indicate "not used".

5.6.2 Maintenance and TRM procedures

Annex A/Q.50 uses some spare bits (frame0) within multiframed time-slot 16 to signal maintenance and resource management information between the ISC and the DCME equipment, whereas in the case of Annex B/Q.50, maintenance and resource management signalling is done by circuit-related means (frame 1 to 15). This means that MGC has to be aware of which annex is used by the MG, as applying signals as well as events subscription has to be done differently:

- Annex A/Q.50: the MGC has to apply signals/subscribe for events for maintenance and resource management on the TDM Termination representing time-slot 16 of the 2 Mbit/s interface.
- Annex B/Q.50: the MGC has to apply signals/subscribe for events for maintenance and resource management on the particular TDM Termination.

5.6.3 Bearer service select procedures

Annex A/Q.50: Under the condition that the signal dcme/kb64Select has been applied to the termination, a detected line state transition to circuit out-of-service/unavailability is mapped to the **dcme/kb64NegAck** event. Under the condition that the signal dcme/kb64Release has been applied to the termination, a detected line state transition to circuit out-of-service/unavailability is mapped to the **dcme/OoS** event.

Annex A/Q.50: Under the condition that a termination has notified a DCME circuit being out-of-service, a detected line state transition to normal service is mapped to the **dcme/BiS** event. Under the condition that a termination has been requested to release a seized 64 kbit/s circuit, a detected line state transition to normal service is mapped to the **dcme/kb64RelPosAck** event.

Annex B/Q.50 does not specifiy explicit line signal states for negative acknowledgements. Therefore the MG has to monitor on missing positive acknowledgement and after timeout (ITU-T Rec. Q.50: 150 ms) generate a (64 kbit/s) negative acknowledgement event (**dcme/kb64NegAck**; **dcme/NegAck**).

Annex B/Q.50: In the event that MGC renews the seizure of a released circuit, the MG has to monitor that a time of 150 ms is between the applied signals. In case this timeline is violated, the MG shall generate a **dcme/dcmef** event with error code "*Seizability NOT yet enabled*".

Annex B/Q.50: In case the MGC releases a given circuit by applying a release signal on the corresponding physical termination, the MG shall monitor timer based on the line state for the expected availability indication sent by the DCME equipment. The timer value shall be provisioned within the MG. In case of time out, the MG shall generate a **dcme/dcmef** event with error code "*No Response On Release*".

In case the MG receives a signal to seize a circuit, it must check on the current line state. If the circuit is already seized the MG shall generate a **dcme/dcmef** event with error code "*Dual Seizure*".

5.6.4 Signal procedures

A Channel Associated Signalling (CAS) signal must always be present on a CAS interface. This rule applies for all CAS conveyed via time-slot 16 independent of the frame number (G.704 2048 kbit/s multiframing with 16 frames). Therefore, the DCME signals shall be considered to be state changes in the CAS state, rather than as persistent signals in themselves. The state change shall be considered to be completed instantaneously by the MG. Consequently, there is no active signal to be terminated by any subsequent event detection (see 7.1.9/H.248.1 [1]). The MG shall maintain the existing DCME signal state on a CAS interface until such time as the MGC sends a new DCME signal to the MG to change state.

5.6.5 Event procedure

The MG should provide the capability to provision an event subscription for the **dcme/dcmef** event. The returned RequestIdentifier within the event notification should be provisioned in the MG as well. The MGC should send the **dcme/dcmef** event in each subsequent events descriptor to ensure that the event remains active.

5.6.6 Signal/Event mapping for Annex A/Q.50

The transmission resource management of Annex A/Q.50 is given in Table 1.

Table 1/H.248.42 – Transmission resource management (Annex A/Q.50)

Switching centre → DCME	**H.248.42 DCME package**
Switching centre normal	Signal: dcme/AvAck
DCME → Switching centre	**H.248.42 DCME package**
No trunk(s) available for 3.1 kHz audio or speech	Event: dcme/tunav
No channel(s) available for 3.1 kHz	Event: dcme/cunav
No 64 kbit/s capacity available	Event: dcme/kb64Unav
DCME normal	Event: dcme/kb64Av

The maintenance signalling of Annex A/Q.50 is given in Table 2.

Table 2/H.248.42 – Maintenance signalling (Annex A/Q.50)

Switching centre → DCME	**H.248.42 DCME package**
Maintenance release request acknowledgement	Signal: dcme/maintRelAck
DCME clear of traffic	Signal: dcme/cots
DCME → Switching centre	**H.248.42 DCME package**
Maintenance release request	Event: dcme/MaintRel

The bearer service select signalling of Annex A/Q.50 is given in Table 3.

Table 3/H.248.42 – Bearer service select signalling (Annex A/Q.50)

Switching centre → DCME	**H.248.42 DCME package**
64 kbit/s request	Signal: dcme/kb64Select
3.1 kHz request	Signal: dcme/select
Normal service available	Signal: dcme/kb64Release
DCME → Switching centre	**H.248.42 DCME package**
Channel out-of-service/unavailable	Event: dcme/**kb64Neg**Ack (unavailable) Event: dcme/OoS (Out-of-service)
Special service acknowledgement	Event: dcme/kb64PosAck
Normal service available	Event: dcme/kb64RelPosAck (available) Event: dcme/BiS (Back-in-service)

5.6.7 Signal/Event mapping for Annex B/Q.50

The transmission resource management of Annex B/Q.50 is given in Table 4.

Table 4/H.248.42 – Transmission resource management (Annex B/Q.50)

DCME → Switching centre	**H.248.42 DCME package**
Circuit available for 64 kbit/s	Event: dcme/kb64Av
Circuit available for 3.1 kHz data, speech	Event: dcme/tav
Circuit not available	Event: dcme/tunav

The maintenance signalling of Annex B/Q.50 is given in Table 5.

Table 5/H.248.42 – Maintenance signalling (Annex B/Q.50)

Switching centre → DCME	**H.248.42 DCME package**
Maintenance release acknowledgement	Signal: dcme/maintRelAck
CME clear of traffic	Signal: dcme/cots
Out-of-service acknowledgement	Signal: dcme/OoSAck
DCME → Switching centre	**H.248.42 DCME package**
Maintenance release signal (after 3.1 kHz, speech seizure)	Event: dcme/MaintRel
Maintenance release signal (after 64 kbit/s seizure)	Event: dcme/MaintRel
Out-of-service	Event: dcme/OoS
Back-in-service	Event: dcme/BiS

The bearer service select signalling of Annex B/Q.50 is given in Table 6.

Table 6/H.248.42 – Bearer service select signalling (Annex B/Q.50)

Switching centre → DCME	**H.248.42 DCME package**
64 kbit/s seizure	Signal: dcme/kb64Select
3.1 kHz/speech seizure	Signal: dcme/select
Release 64 kbit/s	Signal: dcme/kb64Release
Release 3.1 kHz/speech	Signal: dcme/release
DCME → Switching centre	**H.248.42 DCME package**
64 kbit/s positive acknowledgment	Event: dcme/kb64PosAck
3.1 kHz/speech positive acknowledgement	Event: dcme/PosAck

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