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SERIES Q: SWITCHING AND SIGNALLING

Technical Report TRQ.2402: Transport control signalling requirements – Signalling requirements for AAL type 2 link control Capability Set 3

ITU-T Q-series Recommendations – Supplement 42

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Supplement 42 to ITU-T Q-series Recommendations

Technical Report TRQ.2402: Transport control signalling requirements – Signalling requirements for AAL type 2 link control Capability Set 3

Summary

This Supplement to the Q series of ITU-T Recommendations contains a Technical Report that specifies the general aspects of AAL type 2 signalling requirements for the development of AAL type 2 signalling Capability Set 3 (CS-3). It shall be read in conjunction with TRQ.2400 [1] and TRQ.2401 [2] to realise the full set of requirements.

This Supplement identifies what can be viewed as the capabilities for AAL type 2 signalling. In addition, it describes the essential features and models useful for the development of functional entity actions in support of AAL type 2 signalling.

Source

Supplement 42 to ITU-T Q-series Recommendations was agreed by ITU-T Study Group 11 (2001-2004) on 12 September 2003.

FOREWORD

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1 Scope

This Supplement contains the signalling requirements for the AAL type 2 connection signalling for the Capability Set 3 (CS-3) to extend the CS-1 and CS-2 signalling requirements specified in TRQ.2400 [1] and TRQ.2401 [2]. Only additional or changed requirements to those described in TRQ.2400 [1] and TRQ.2401 [2] are shown.

The main new features introduced in this capability set are:

– Support of AAL Type 2 Transfer Capabilities;

– Support of Automatic Congestion Control;

– Support of Temporary Alternative Routing;

– Support of Hop Counter Procedure;

– Support of Priority Service; and

– Support of Originating Service Endpoint Addresses.

2 References

[1] ITU-T Q-series Recommendations – Supplement 8 (1999), *Technical Report TRQ.2400: Transport control signalling requirements – Signalling requirements for AAL Type 2 link control capability set 1*.

[2] ITU-T Q-series Recommendations – Supplement 33 (2000), *Technical Report TRQ.2401: Transport control signalling requirements – Signalling requirements for AAL Type 2 link control capability set 2*.

[3] ITU-T Recommendation I.255.4 (1990), *Community of interest supplementary services: Priority Service*.

[4] ITU-T Recommendation Q.1902.4 (2001), *Bearer Independent Call Control protocol (Capability Set 2): Basic call procedures*.

[5] ITU-T Recommendation I.378 (2002), *Traffic control and congestion control at the ATM Adaptation Layer Type 2*.

[6] ITU-T Recommendation Q.2630.1 (1999), *AAL type 2 signalling protocol – Capability Set 1*

[7] ITU-T Recommendation Q.2630.2 (2000), *AAL type 2 signalling protocol Capability Set 2*

3 Definitions

For the purpose of this Supplement the definitions in clauses 3/TRQ.2400 [1] and 3/TRQ.2401 [2] apply with the following additions.

3.1 CS-1 node, CS-1 switch, CS1 service endpoint: An AAL type 2 node, switch, or service endpoint conforming to capability set 1 (see ITU-T Rec. Q.2630.1 [6]).

3.2 CS-2 node, CS-2 switch, CS-2 service endpoint: An AAL type 2 node, switch, or service endpoint conforming to capability set 2 (see ITU-T Rec. Q.2630.2 [7]).

4 Abbreviations

For the purpose of this Supplement the abbreviations in clauses 4/TRQ.2400 [1] and 4/TRQ.2401 [2] apply with the following additions.

A2TC AAL Type 2 Transfer Capability

AMR Adaptive Multi Rate Codec

BPcps CPS token bucket size associated with PRcps

BScps CPS token bucket size associated with SRcps

Mcps Maximum allowed CPS packet size

PRcps Peak CPS bit rate

SRcps Sustainable CPS bit rate

STT Source Transfer Type

5 Requirements

The additional AAL type 2 signalling requirements for capability set 3 (CS-3) are provided in this clause to extend those in clauses 5/TRQ.2400 [1] and 5/TRQ.2401 [2].

5.1 Priority Service

The Priority Service specified in ITU-T Rec. I.255.4 [3] shall be supported. 5 levels of priority are required to be supported. The served user at originating AAL type 2 service endpoint indicates the priority to the AAL type 2 signalling entity and the priority is indicated to the served user at the destination AAL type 2 service endpoint.

This requirement is optional on a network basis.

5.2 Automatic congestion control

Signalling support for the automatic congestion control function shall be included. This function allows the indication of congestion levels to the neighboring AAL type 2 nodes during AAL type 2 connection rejection or release.

The same functionality as supported in 12.8/Q.1902.4 [4] shall be supported.

This requirement is optional on a network basis.

5.3 Temporary alternative routing

Signalling support for the temporary alternative routing function shall be included.

The same functionality as supported in 8.8/Q.1902.4 [4] shall be supported.

This requirement is optional on a network basis.

5.4 Hop counter procedure

Signalling support for the hop counter procedure shall be included.

The same functionality as supported in 8.9/Q.1902.4 [4] shall be supported.

This requirement is optional on a network basis.

5.5 Support of originating service endpoint addresses

Signalling support for the transfer of the originating E.164 and NSAP service endpoint addresses shall be included.

5.6 AAL type 2 transfer capabilities

Signalling support for AAL type 2 transfer capabilities shall be included.

Signalling of an AAL type 2 transfer capability shall be mandatory at set-up for each AAL type 2 connection.

The AAL type 2 transfer capabilities (A2TC) with their respective set of parameters, as identified in Tables 5-1, 5-2 and 5-3, shall be supported.

Table 5-1 – Fixed bandwidth AAL type 2 transfer capability

Parameter	Semantics	Maximum value
PRcps (Note)	Peak CPS bit rate in bits per second	16 Mbit/s
BPcps (Note)	CPS token bucket size associated with PRcps in octets	4096 octets
Mcps (Note)	Maximum allowed CPS packet size in octets	48 octets
NOTE – The 3 octet CPS packet header is to be included in the computation of this value.		

Table 5-2 – Variable bandwidth stringent AAL type 2 transfer capability

Parameter	Semantics	Maximum value/ Value set
PRcps (Note 1)	Peak CPS bit rate in bits per second	16 Mbit/s
BPcps (Note 1)	CPS token bucket size associated with PRcps in octets	4096 octets
Mcps (Note 1)	Maximum allowed CPS packet size in octets	48 octets
STT	Source Transfer Type	None, AMR (Note 2) Network Specific STT (Note 3)
NOTE 1 – The 3 octet CPS packet header is to be included in the computation of this value. NOTE 2 – AMR encoded speech. NOTE 3 – 64 values reserved for assignment by IMT-2000 family members; 64 values reserved for network specific assignment.		

Table 5-3 – Variable bandwidth tolerant AAL type 2 transfer capability

Parameter	Semantics	Maximum value
PRcps (Note 1)	Peak CPS bit rate in bits per second	16 Mbit/s
BPcps (Note 1)	CPS token bucket size associated with PRcps in octets	4096 octets
SRcps (Notes 1 and 2)	Sustainable CPS bit rate in bits per second	16 Mbit/s
BScps (Note 1)	CPS token bucket size associated with SRcps in octets	4096 octets
Mcps (Note 1)	Maximum allowed CPS packet size in octets	48 octets
NOTE 1 – The 3 octet CPS packet header is to be included in the computation of this value. NOTE 2 – SRcps is always less than or equal to PRcps.		

Modification of AAL type 2 transfer capabilities shall be supported with respect to the AAL type 2 transfer capability that is used initially at connection set-up.

5.7 SSCS support

SSCS support is only required in AAL type 2 service endpoints. Interpretation of SSCS related signalling information is required in AAL type 2 service endpoints for the operation of the SSCS layer therein.

5.8 CS-3 to CS-1/CS-2 interworking

5.8.1 Priority service

The information shall be passed on transparently through an AAL type 2 switch. The information shall be discarded at an AAL type 2 service endpoint.

5.8.2 Congestion control

The information shall be discarded at both an AAL type 2 switch and service endpoint.

5.8.3 Temporary alternative routing

The information shall be passed on transparently through an AAL type 2 switch. The information shall be discarded at an AAL type 2 service endpoint.

5.8.4 Hop counter

The information shall be passed on transparently through an AAL type 2 switch. The information shall be discarded at an AAL type 2 service endpoint.

5.8.5 Originating service endpoint addresses

The information shall be passed on transparently through an AAL type 2 switch. The information shall be discarded at an AAL type 2 service endpoint.

5.8.6 AAL type 2 transfer capabilities

The information shall be passed on transparently through an AAL type 2 switch. The information shall be discarded at an AAL type 2 service endpoint.

6 Architecture of AAL type 2 signalling

For the purpose of this Supplement, the architecture in clause 6/TRQ.2400 [1] applies.

7 AAL type 2 Signalling Flows

The additional AAL type 2 signalling flows for capability set 3 (CS-3) are provided in this clause to extend those in clauses 7/TRQ.2400 [1] and 7/TRQ.2401 [2].

7.1 Successful AAL type 2 connection establishment information flows

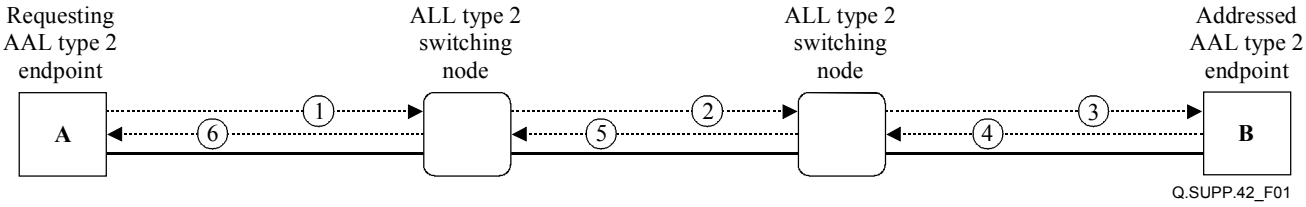

Figure 1 – Successful AAL type 2 connection establishment information flows

The flows illustrated in Figure 1 are as follows:

1	**AAL type 2 Setup-Request.ready**	**Requesting endpoint to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2]
		Priority Indicator	
		Temporary Alternative Routing Indication	
		Hop Counter value	
		Originating Endpoint Address = A	
		AAL type 2 Transfer Capability	
		AAL type 2 Preferred Transfer Capability (optional)	
		AAL type 2 Transfer Capability Modification Support Request	

Initiation of information flow: As per 7.1/TRQ.2401 [2]. If temporary alternative routing has been invoked on the initiation of the connection, the temporary alternative routing indication is set. An initial hop counter value is set.

Processing upon receipt: As per 7.1/TRQ.2401 [2]. Resources are allocated according to the indicated priority. If the temporary alternative routing indication is set, the switching node is not allowed to use temporary alternative routing. If the temporary alternative routing indication is not set, the switching node may use temporary alternative routing. The hop counter value is decremented and sent in **Information Flow 2**.

2	**AAL type 2 Setup-Request.ready**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2]
		Priority Indicator	
		Temporary Alternative Routing Indication	
		Hop Counter value	
		Originating Endpoint Address = A	
		AAL type 2 Transfer Capability	
		AAL type 2 Preferred Transfer Capability (optional)	
		AAL type 2 Transfer Capability Modification Support Request	

Initiation of information flow: As per 7.1/TRQ.2401 [2]. If temporary alternative routing has been invoked at the switching node, the temporary alternative routing indication is set. Otherwise, the temporary alternative routing indication is passed on unchanged.

Processing upon receipt: As per 7.1/TRQ.2401 [2]. Resources are allocated according to the indicated priority. If the temporary alternative routing indication is set, the switching node is not allowed to use temporary alternative routing. If the temporary alternative routing indication is not set, the switching node may use temporary alternative routing. The hop counter value is decremented and sent in **Information Flow 3**.

3	AAL type 2 Setup-Request.ready	Switching node to addressed endpoint	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2] Priority Indicator Temporary Alternative Routing Indication Hop Counter value Originating Endpoint Address = A AAL type 2 Transfer Capability AAL type 2 Preferred Transfer Capability (optional) AAL type 2 Transfer Capability Modification Support Request	As per 7.1/TRQ.2401 [2]

Initiation of information flow: As per 7.1/TRQ.2401 [2]. If temporary alternative routing has been invoked at the switching node, the temporary alternative routing indication is set. Otherwise, the temporary alternative routing indication is passed on unchanged.

Processing upon receipt: As per 7.1/TRQ.2401 [2]. Resources are allocated according to the indicated priority. The temporary alternative routing indication and the hop counter value are ignored.

4	AAL type 2 Setup-Request.commit	Addressed endpoint to switching node	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2] AAL type 2 Transfer Capability Modification Support Response AAL type 2 Transfer Capability Support	As per 7.1/TRQ.2401 [2]

Processing upon receipt: The switching node propagates the confirmation of the AAL type 2 network connection establishment as **Information Flow 5**.

5	AAL type 2 Setup-Request.commit	Switching node to switching node	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2] AAL type 2 Transfer Capability Modification Support Response AAL type 2 Transfer Capability Support	As per 7.1/TRQ.2401 [2]

Processing upon receipt: The switching node propagates the confirmation of the AAL type 2 network connection establishment as **Information Flow 6**.

6	AAL type 2 Setup-Request.commit	Switching node to requesting endpoint	
	User information	**Connection information**	**Link information**
	As per 7.1/TRQ.2401 [2]	As per 7.1/TRQ.2401 [2] AAL type 2 Transfer Capability Modification Support Response AAL type 2 Transfer Capability Support	As per 7.1/TRQ.2401 [2]

Processing upon receipt: The requesting endpoint informs the AAL type 2 signalling served user about the completion of the requested AAL type 2 network connection establishment.

NOTE 1 – The CID values, the AAL type 2 path identifier values and the AAL type 2 connection identifier values are chosen for illustrative purposes only.

NOTE 2 – The combination of CID value and AAL type 2 path identifier value identifies the AAL type 2 link controlled by the AAL type 2 signalling peer entities.

7.2 Unsuccessful AAL type 2 connection establishment information flows

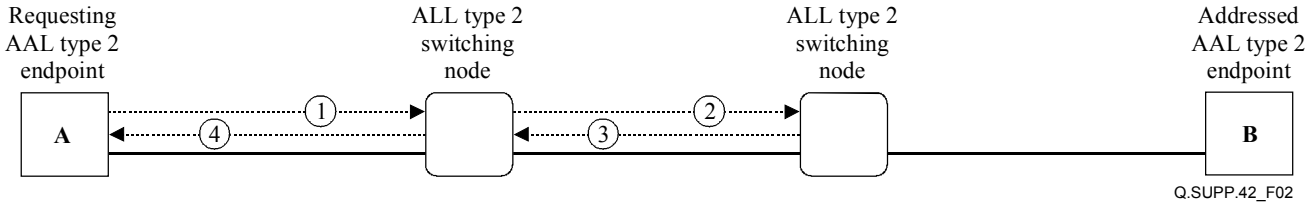

Figure 2 – Unsuccessful AAL type 2 connection establishment information flows

The flows illustrated in Figure 2 are as follows:

1	**AAL type 2 Setup-Request.ready**	**Requesting endpoint to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2] AAL type 2 Transfer Capability AAL type 2 Preferred Transfer Capability (optional) AAL type 2 Transfer Capability Modification Support Request	As per 7.2/TRQ.2401 [2]

Initiation of information flow: The requesting endpoint starts to establish an AAL type 2 network connection.

Processing upon receipt: The switching node selects a route towards the addressed endpoint that can provide enough resources to carry the AAL type 2 network connection to be established. It then issues **Information Flow 2**.

2	**AAL type 2 Setup-Request.ready**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2] AAL type 2 Transfer Capability AAL type 2 Preferred Transfer Capability (optional) AAL type 2 Transfer Capability Modification Support Request	As per 7.2/TRQ.2401 [2]

Processing upon receipt: The switching node attempts to select a route towards the addressed endpoint; however, no route is available that can provide enough resources to carry the AAL type 2 network connection to be established: the establishment has to be canceled. The switching node then releases all resources already committed to the new AAL type 2 network connection and issues **Information Flow 3**.

3	AAL type 2 Setup-Request.cancel		Switching node to switching node
	User information	**Connection information**	**Link information**
	(none)	(none)	As per 7.2/TRQ.2401 [2]

Processing upon receipt: The switching node releases all resources already committed to the new AAL type 2 network connection and propagates the cancellation of the AAL type 2 network connection establishment as **Information Flow 4**.

4	AAL type 2 Setup-Request.cancel		Switching node to requesting endpoint
	User information	**Connection information**	**Link information**
	(none)	(none)	As per 7.2/TRQ.2401 [2]

Processing upon receipt: The requesting endpoint releases all resources already committed to the new AAL type 2 network connection and informs the AAL type 2 signalling served user about the cancellation of the requested AAL type 2 network connection establishment.

NOTE 1 – The CID values, the AAL type 2 path identifier values and the AAL type 2 connection identifier values are chosen for illustrative purposes only.

NOTE 2 – The combination of CID value and AAL type 2 path identifier value identifies the AAL type 2 link controlled by the AAL type 2 signalling peer entities.

7.2.1 Hop counter value decremented to zero

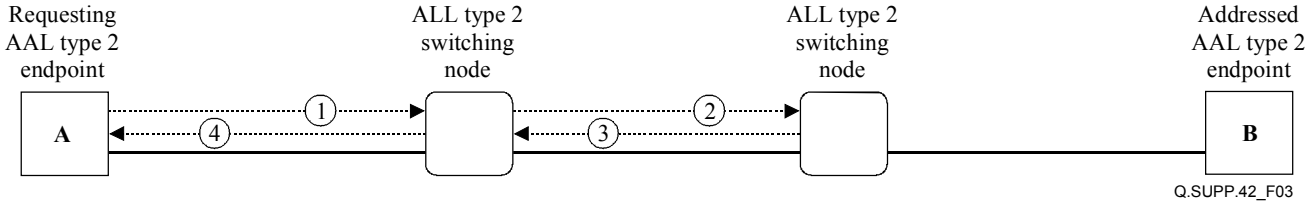

Figure 3 – Unsuccessful AAL type 2 connection establishment information flows

The flows illustrated in Figure 3 are as follows:

1	AAL type 2 Setup-Request.ready		Requesting end point to switching node
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2] Hop Counter value	As per 7.2/TRQ.2401 [2]

Initiation of information flow: As per 7.2/TRQ.2401 [2]. An initial hop counter value is set.

Processing upon receipt: As per 7.2/TRQ.2401 [2]. The hop counter value is decremented and sent in **Information Flow 2**.

2	AAL type 2 Setup-Request.ready		Switching node to switching node
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2] Hop Counter value	As per 7.2/TRQ.2401 [2]

Initiation of information flow: As per 7.2/TRQ.2401 [2].

Processing upon receipt: The Hop Counter value is decremented. If the hop counter value has reached the value zero, the connection request is considered to have failed and **Information Flow 3** is issued with *"exchange routing error"* indicated.

3	AAL type 2 Setup-Request.cancel	Switching node to switching node	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]

Processing upon receipt: The switching node releases all resources already committed to the new AAL type 2 network connection and propagates the cancellation of the AAL type 2 network connection establishment as **Information Flow 4** (*"exchange routing error"* is indicated).

4	AAL type 2 Setup-Request.cancel	Switching node to requesting endpoint	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]

Processing upon receipt: The requesting endpoint releases all resources already committed to the new AAL type 2 network connection and informs the AAL type 2 signalling served user about the cancellation of the requested AAL type 2 network connection establishment.

7.2.2 Automatic congestion control

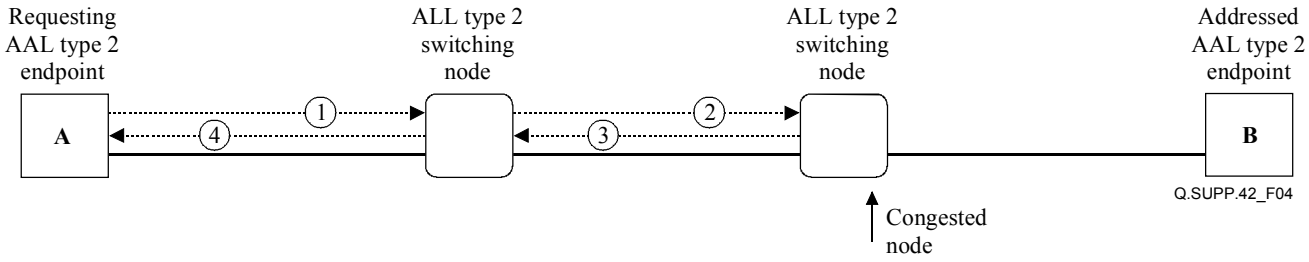

Figure 4 – Unsuccessful AAL type 2 connection establishment information flows

The flows illustrated in Figure 4 are as follows:

1	AAL type 2 Setup-Request.ready	Requesting endpoint to switching node	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]

Initiation of information flow: As per 7.2/TRQ.2401 [2].

Processing upon receipt: As per 7.2/TRQ.2401 [2].

2	AAL type 2 Setup-Request.ready	Switching node to switching node	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]

Initiation of information flow: As per 7.2/TRQ.2401 [2].

Processing upon receipt: It is determined that a connection establishment request has failed, for example, due to those reasons outlined in 7.2/TRQ.2401 [2], although any connection establishment failure is appropriate. If a predetermined congestion threshold has been reached within the switching node, the congestion indication information is returned in **Information Flow 3**.

3	**AAL type 2 Setup-Request.cancel**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2] Congestion Indication

Processing upon receipt: The switching node releases all resources already committed to the new AAL type 2 network connection and propagates the cancellation of the AAL type 2 network connection establishment as **Information Flow 4** (note that the congestion indication is not passed on since it is link specific).

The switching node notes that the congestion threshold has been reached in the node that has sent **Information Flow 3** (connection establishment failure indication) and automatically reduces the number of subsequent instances of **Information Flow 2** (connection establishment requests) sent to that node, for example by rerouting the connection establishment requests to other nodes. It also monitors the contents of subsequent instances of **Information Flow 3** (connection establishment failure indications) until the connection indication is no longer received, and normal traffic can continue.

4	**AAL type 2 Setup-Request.cancel**	**Switching node to requesting endpoint**	
	User information	**Connection information**	**Link information**
	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]	As per 7.2/TRQ.2401 [2]

Processing upon receipt: As per 7.2/TRQ.2401 [2].

7.3 AAL type 2 connection release information flows

7.3.1 Automatic congestion control

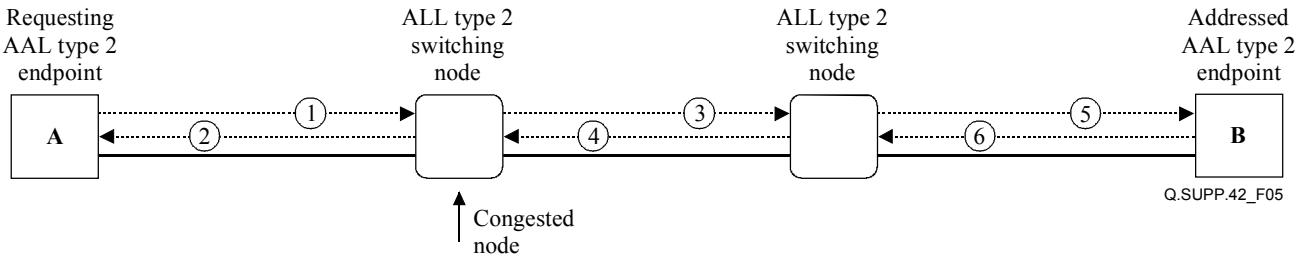

Figure 5 – AAL type 2 connection release information flows

The flows illustrated in Figure 5 are as follows:

1	**AAL type 2 Release-Request.ready**	**Requesting endpoint to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1]

Initiation of information flow: As per 7.3/TRQ.2400 [1].

Processing upon receipt: As per 7.3/TRQ.2400 [1]. It is determined that the congestion threshold has been reached within the switching node, hence the congestion indication information is sent in **Information Flow 3**.

2	**AAL type 2 Release-Request.commit**		**Switching node to requesting endpoint**
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1]

Processing upon receipt: As per 7.3/TRQ.2400 [1].

3	**AAL type 2 Release-Request.ready**		**Switching node to switching node**
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1]	As per 7.3/TRQ.2400 [1] Congestion Indication

Initiation of information flow: As per 7.3/TRQ.2400 [1].

Processing upon receipt: As per 7.3/TRQ.2400 [1]. Note that the congestion indication is not passed on in **Information Flow 5** since it is link specific.

The switching node notes that the congestion threshold has been reached in the node that has sent **Information Flow 3** (connection release indication) and automatically reduces the number of new connection establishment requests sent to that node, for example, by rerouting the connection establishment requests to other nodes. It also monitors the contents of subsequent instances of **Information Flow 3** (connection release indications) until the connection indication is no longer received, and normal traffic can continue.

Flows 4, 5 and 6

As per 7.3/TRQ.2400 [1].

7.4 Successful AAL type 2 connection resource modification information flows

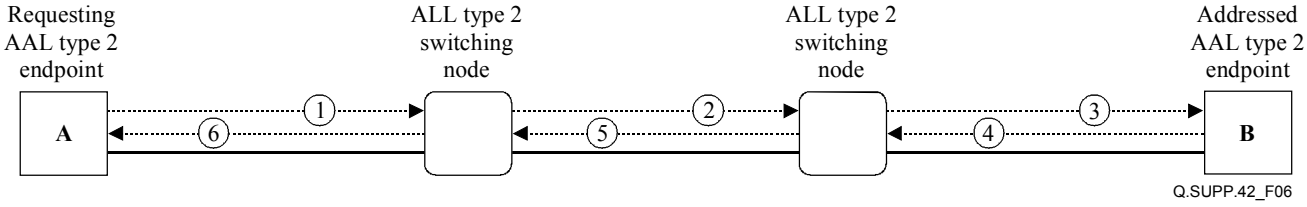

Figure 6 – Successful AAL type 2 connection resource modification information flows

The flows illustrated in Figure 6 are as follows:

1	**AAL type 2 Modification-Request.ready**		**Requesting endpoint to switching node**
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	As per 7.3/TRQ.2401 [2] AAL type 2 Transfer Capability	As per 7.3/TRQ.2401 [2]

Initiation of information flow: The requesting endpoint starts to modify the AAL type 2 link characteristics/M_SSI/AAL type 2 transfer capability information..

Processing upon receipt: The switching node assures that enough resources are available for the modified AAL type 2 connection resources and reserves the resources. It then issues **Information Flow 2**.

2	**AAL type 2 Modification-Request.ready**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	As per 7.3/TRQ.2401 [2] AAL type 2 Transfer Capability	As per 7.3/TRQ.2401 [2]

Processing upon receipt: The switching node assures that enough resources remain for the modified AAL type 2 link characteristics/AAL type 2 transfer capability and reserves the resources. It then issues **Information Flow 3**.

3	**AAL type 2 Modification-Request.ready**	**Switching node to addressed endpoint**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	As per 7.3/TRQ.2401 [2] AAL type 2 Transfer Capability	As per 7.3/TRQ.2401 [2]

Processing upon receipt: The addressed endpoint assures that the resources for the modified AAL type 2 link characteristics/AAL type 2 transfer capability and M_SSI are available, and allocates the resources. It then issues **Information Flow 4** to confirm the modification. Finally, the AAL type 2 signalling served user is informed about the modification of the AAL type 2 link characteristics/M_SSI/AAL type 2 transfer capability information.

4	**AAL type 2 Modify-Request.commit**	**Addressed end point to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	(none)	As per 7.3/TRQ.2401 [2]

Processing upon receipt: The switching node allocates the reserved resources to the AAL type 2 connection and propagates the confirmation of the AAL type 2 connection resource modification as **Information Flow 5**.

5	**AAL type 2 Modify-Request.commit**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	(none)	As per 7.3/TRQ.2401 [2]

Processing upon receipt: The switching node allocates the reserved resources to the AAL type 2 connection and propagates the confirmation of the AAL type 2 connection resource modification as **Information Flow 6**.

6	**AAL type 2 Modify-Request.commit**	**Switching node to requesting endpoint**	
	User information	**Connection information**	**Link information**
	As per 7.3/TRQ.2401 [2]	(none)	As per 7.3/TRQ.2401 [2]

Processing upon receipt: The requesting endpoint allocates the reserved resources and then informs the AAL type 2 signalling served user about the completion of the requested AAL type 2 connection resource modification.

7.5 Unsuccessful AAL type 2 connection resource modification information flows

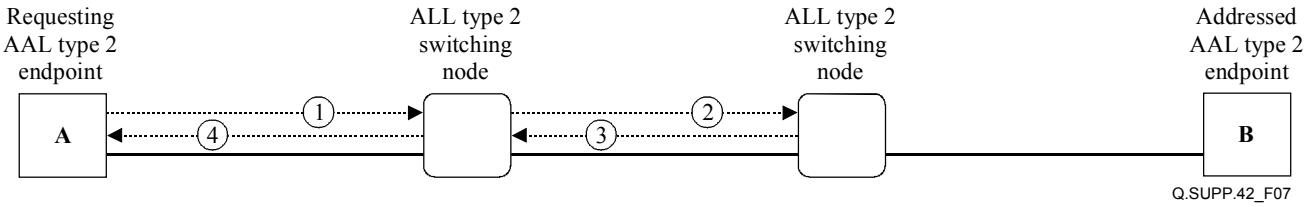

Figure 7 – Unsuccessful AAL type 2 connection resource modification information flows

The flows illustrated in Figure 7 are as follows:

1	**AAL type 2 Modify-Request.ready**	**Requesting endpoint to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.4/TRQ.2401 [2]	As per 7.4/TRQ.2401 [2] AAL type 2 Transfer Capability	As per 7.4/TRQ.2401 [2]

Initiation of information flow: The requesting endpoint starts to modify the AAL type 2 link characteristics/M_SSI/AAL type 2 transfer capability information.

Processing upon receipt: The switching node assures that enough resources are available for the modified AAL type 2 connection resources and reserves the resources. It then issues **Information Flow 2**.

2	**AAL type 2 Modify-Request.ready**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	As per 7.4/TRQ.2401 [2]	As per 7.4/TRQ.2401 [2] AAL type 2 Transfer Capability	As per 7.4/TRQ.2401 [2]

Processing upon receipt: The switching node attempts to reserve enough resources for the modified AAL type 2 link characteristics/AAL type 2 transfer capability; however, enough resources to carry the modified AAL type 2 connection is not available: the modification has to be canceled. The switching node then remains the AAL type 2 connection as it was and issues **Information Flow 3**.

3	**AAL type 2 Modify-Request.cancel**	**Switching node to switching node**	
	User information	**Connection information**	**Link information**
	(none)	(none)	As per 7.4/TRQ.2401 [2]

Processing upon receipt: The switching node cancels all resources reserved for the modification request, remains the AAL type 2 connection as it was, and propagates the cancellation of the AAL type 2 connection resource modification as **Information Flow 4**.

4	**AAL type 2 Modify-Request.cancel**	**Switching node to requesting endpoint**	
	User information	**Connection information**	**Link information**
	(none)	(none)	As per 7.4/TRQ.2401 [2]

Processing upon receipt: The requesting endpoint cancels all resources reserved for the modification request, retains the AAL type 2 connection as it was, and informs the AAL type 2 signalling served user about the unsuccessful requested AAL type connection resource modification.

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