

Source: BT
Title: H.310 ROT and SOT terminals
Purpose: Discussion

This contribution reviews the current definition of H.310 receive-only terminals (ROT) and send-only terminals (SOT), and their relationship with specifications being made by other bodies.

The current definition of H.310 ROT and SOT terminals

According to the Yokosuka meeting report, AVC-854R, ROT and SOT terminals are not only for Video on Demand (VoD) services, but they are also for simple audiovisual signal transmission, surveillance, and other services.

All H.310 terminals are required to support H.245 as their communication control protocol so that they interoperate with each other. Accordingly, H.310 specifies that the H.222.1 acknowledged procedures are used for the logical channel signalling.

AAL1 and AAL5 variants of the ROT and SOT terminal have been defined, which mandate the use of AAL1 and AAL5 respectively, while leaving the other as optional. The use of AAL1 is under study, but is stated that it should follow J.82 (see below); while the use of AAL5 is exactly as in the ATM Forum VoD specification (see below).

The H.310 ROT and SOT terminals make use of the Q.2931 B-HLI ROT and SOT signalling codepoints.

Work in other bodies that relates to H.310 ROT and SOT terminals

DAVIC has specified a Set Top Unit (STU) for use for Video on Demand (VoD) services. The ATM Forum has a specification for VoD. ITU-T SG9 is developing Recommendation J.82 for distribution services.

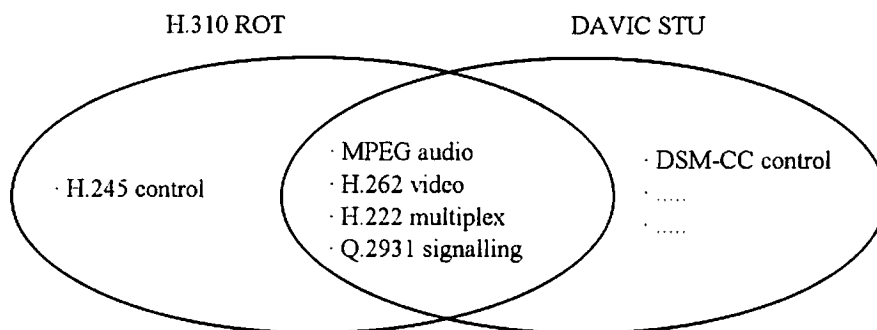
The DAVIC STU specification mandates the use of the Transport Stream, with a fixed, non-negotiable, packing of two Transport Packets into each AAL5 PDU. It also mandates the support of DSM-CC, but does not mandate H.245. Unacknowledged signalling procedures, that is, MPEG-2 PSI, are mandated for logical channel signalling. No Q.2931 B-HLI signalling codepoint is specified.

The ATM Forum VoD specification has many similarities to the DAVIC STU specification. However, it allows negotiation of the number of Transport Packets that are mapped into AAL5 PDUs, but does not mandate either DSM-CC or H.245, and does not specify the type of logical channel signalling procedures that should be used. This specification does use the Q.2931 B-HLI ROT signalling codepoint, although H.245 is not mandated.

The ITU-T SG9 Recommendation J.82 currently has draft status, and is expected to be decided in March 1996. It specifies two transport mechanisms: one is that specified by the ATM Forum using AAL5, and one that uses AAL1 and the long interleaver. This Recommendation is purely for the transport of MPEG-2 in ATM environments and is not a terminal specification. Consequently no Q.2931 B-HLI signalling codepoint is specified, and no means, other than basic Q.2931 AAL parameters, is available to determine which of the two specified transport mechanisms is available.

Summary of differences between H.310 ROT and SOT and other specifications

The figure below, taken from the Yokosuka meeting report, AVC-854R, shows a graphical representation of the relationship between the H.310 ROT and the DAVIC STU.



The table below shows the details of the differences between the specifications mentioned earlier.

Functionality	Specification			
	H.310 ROT	DAVIC STU	ATM Forum	J.82
H.245	Mandated	Optional	Optional	Not specified
DSM-CC	Optional	Mandated	Optional	Not specified
Logical Channel procedures	Acknowledged	Unacknowledged	Not specified	Not specified
B-HLI Codepoint	H.310 ROT	Not specified	H.310 ROT	Not specified
AAL5 Packing	Negotiable	Not negotiable	Negotiable	Negotiable

Issues to be resolved

From the above, it is clear that H.310 ROT and SOT terminals are not the same as DAVIC STUs and ATM Forum VoD devices. Also, they are not compliant with ITU-T Draft Recommendation J.82.

The scope of H.310 is currently not clearly specified: in the 21 December version of H.310, section 4 states that H.310 is intended to support distribution services with individual presentation by the recipient (e.g. VoD) and distribution services without individual presentation by the recipient (e.g. Broadcast TV).

The decision that needs to be made is whether H.310 is extended to include the other terminal types, such as the DAVIC STU, or whether the scope is changed to state more explicitly that H.310 does not cover such devices as the DAVIC STU. Another recommendation, H.33x, could be created for these broadcast-like devices, in much the same way as we have H.320 and H.331 for N-ISDN. If the latter approach is taken, then the recommendation number, H.310, would seem to be inappropriate, and should be changed back to its original form of H.32x.

The current line of thought within the experts group, and documented in the Yokosuka meeting report, appears to be to clarify the scope of H.310 to exclude the DAVIC STU, and possibly to create another recommendation for broadcast-like applications. It is likely that many participants within the experts group may not have been aware that this was the intended approach or would be the approach eventually agreed. There are a number of statements and requirements in H.310 that would appear to be present to align with DAVIC, the ATM Forum and J.82, which would be unnecessary, and undesirable, if the scope of H.310 is as agreed in Yokosuka. Examples are:

- Why do ROT and SOT terminals not have to support the relevant parts of H.320? Surely they should be able to interwork with similar terminals on the N-ISDN?
- Why should the AAL1 adaptation for ROT and SOT be as in J.82, while that for RAST is unclear, but is unlikely to be that of J.82? Interworking between ROT/SOT and RAST is therefore unlikely.

END