

For commercial or technical reasons Digital Video Broadcasting (DVB) services sometimes need to be moved from one satellite transponder to another. In a digital broadcast system such a service move should be fully automatic and invisible to the end-user.

The DVB specification for Service Information (ETSI EN 300 486) foresees a mechanism, called the `service_move_descriptor`, for automatically handling service moves; this mechanism is however not implemented on most DVB-S/S2 Set-Top-Boxes.

Given this situation it is currently necessary to alert the end-user to the fact that a service will soon move via an on-screen caption and through the press. The end-user then has to manually tune his receiver, often using a procedure which is far from straightforward, in order to find back the moved service.

The objective of this recommendation is to alert both Broadcasters and Set-Top-Box (STB) Manufacturers on the need to correctly implement the DVB foreseen service move mechanism.

The `service_move_descriptor` Mechanism

The DVB `service_move_descriptor` shall be inserted by the broadcaster into the Program Map Table (PMT) of the service that intends to move between transponders.

When tuning to such a service the STB shall become aware of the presence of the `service_move_descriptor` and from the contents of that descriptor learn about the new parameters of this service. The STB shall then re-tune to the new location of the service and permanently replace the service parameters in its own service list. The next time that the end-user tunes to the service through the STB channel number or browser, the STB shall automatically tune to this new location.

The syntax of the DVB standard `service_move_descriptor` is shown below. The `service_move_descriptor` mechanism is extremely simple but nevertheless brings considerable benefit to end-users.

PMT Service Move Descriptor

Syntax	No. of bits	Identifier
<code>service_move_descriptor(){</code>		
<code>descriptor_tag</code>	8	uimsbf
<code>descriptor_length</code>	8	uimsbf
<code>new_original_network_id</code>	16	uimsbf
<code>new_transport_stream_id</code>	16	uimsbf
<code>new_service_id</code>	16	uimsbf
<code>}</code>		

Semantics of the `service_move_descriptor`:

new_original_network_id: This field contains the `original_network_id` of the Transport Stream (TS) in which the service is found after the move.

new_transport_stream_id: This field contains the `transport_stream_id` of the TS in which the service is found after the move.

new_service_id: This field contains the `service_id` of the service after the move. If the service remains within the same original network, then the `new_service_id` is the same as the previous `service_id`.

TECHNICAL RECOMMENDATION

DVB Service Moves



VERSION 1.0

APRIL 2008

PAGE 2

Note:

If a complete TS is moved, the Network Information Table (NIT) tuning information for the TS will be updated. In this case the original_network_id, transport_stream_id, and service_id remain unchanged and the service_move_descriptor does not apply.

For Broadcasters

Broadcasters that are in the process of moving a service shall: 1.) insert the service_move_descriptor in the PMT of the service which is to move 2.) no earlier than the time that the service commences on the new TS and 3.) at least as long as the service continues to exist on the old TS.

Notes:

The service description/declaration on the old TS may possibly remain present for a time to be discussed by the broadcaster and SES ASTRA after the audio and video service components have been removed. This provides for late updating receivers that had not tuned to this service previously.

The broadcaster has to make sure that the service is described in the Program Association Table (PAT) and PMT of the new TS at least from the time that the service_move_descriptor is inserted in the old TS.

For Set-Top-Box Manufacturers

The Set-Top-Box should always automatically detect the insertion of the service_move_descriptor in the PMT of a service and permanently reflect the changes signalled in the descriptor in the Set-Top-Box service list.

The next time that the end-user tunes to the service, the STB should tune directly to the new parameters. The linkage should work correctly regardless of whether the service being pointed at was part of the receiver service list previously or not.

STB Manufacturers can use over-the-air software update mechanisms in order to update their STBs towards supporting the service_move_descriptor.

Reference

ETSI Publication

EN 300 468

Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems

For any further questions regarding this recommendation please contact: tom.christophory@ses-astra.com