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* Context

In many countries, there is the demand for the distribution of regional TV programs. In most cases, regional window programs have to be distributed once a day for about one hour replacing a national content. However, to deal with this, the broadcaster has to configure as many statmux pools as existing regional contents.

The aim of this story is to be able to manage the pool bandwidth with national and regional contents by computing a unique bitrate for all channels belonging to a regional ID. It allows dealing with only one statmux pool.

* User Story #9973

**Description**

**as a** broadcaster  
**I want to** insert Regional Content in a transponder (statmux environment)  
**so that** the regional content is in VBR mode based on the mean/max/min complexity of all the regional contents

**Acceptance criteria**  
Regional channels register to a sub group of statmux and are assigned the same bit rate based on the mean/ max complexity of the sub group.

**Comment**  
Sub groups are set via the GUI for each slave.  
a detailed description is provided in the attached document p11

* Specifications

The regional is set via the GUI. Only 4 different regional IDs are possible.



By default, all channels will set none.

The expected behavior is:

* For all video channels belonging to the same regional subgroup have the same bitrate (even if one of the channels is not responding).
* Regional subgroup bitrate respects the maximum of channels’ minimum bitrate (respectively the minimum of channels’ maximum bitrate).
* For each regional subgroup, the bandwidth is allocated to all kind of PID (video, audio and private). Note that only one audio and one private stream is tolerated for each profile.
* No TS overflow occurs when regional subgroup are used.
* Regional subgroup complexity is tunable.
* Regional Subgroup complexity

Regional subgroup complexity can be computed in various ways thanks to statmux. smxRegionalCpxMode:

* 0: smart average: compute the average complexity of the regional subgroup with removing the outliers. (Default value).
* 1: average complexity: compute the average complexity of the regional subgroup.
* 2: maximal complexity: compute the maximal complexity of the regional subgroup.
* Traces and screenshots

The regional subgroup is now traced in smx traces. Note that all channels with the same regional Id have the same bitrate even if the complexity is different.

