Setting the automatic start of regional advertising by matching video fragments

SL NEO servers allow you to automate the insertion of regional blocks into the signal received from the central broadcasting station using the following technology:

- video segment analysis (for cases where control signals from the center are not transmitted);
- DTMF tags,;
- GPI commands in VBI - signals in line 16 (frame extinguishing pulse, teletext line, Softel protocol);
- GPI commands from external devices;
- SCTE104 and SCTE35 tags.

The principle of the video segment analysis technology is as follows: the SL NEO server, which forms the air on the regional station, constantly monitors the input signal from the central station and "compares" the previously recorded video fragments with the content of the input signal.
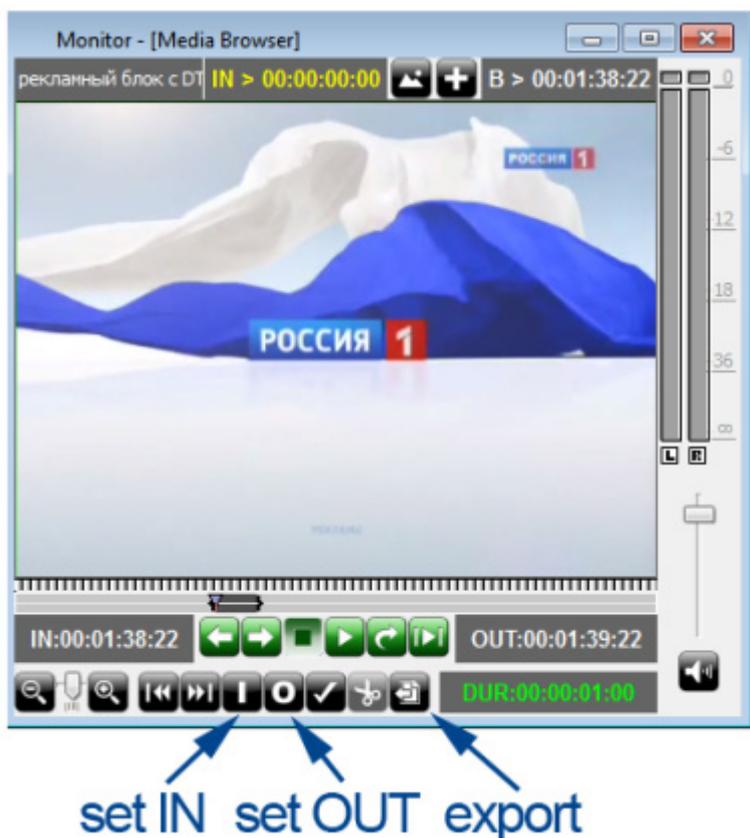
In case of a match, software switching is automatically performed and the command to play the local ad unit is given. The end of the advertising block can be detected in the same way. In this case a command to stop the playlist with commercials will be generated.

Creating a video fragment for analysis

It is necessary to pre-record the input signal from the central station. Then, in the File Monitor window of the Air Manager application, view and mark the necessary fragment not longer than 1 second, and export this fragment as a file to the server disk, in the folder "C:\Program Files (x86)\SL NEO Media Platform\run\files".

You can upload the file to the specified folder remotely using the web-server control panel: `Administrator Control Panel→Files→Upload file`.

Configuring Server Channels

Let's look at one of the possible modes of the server: 1 input channel receiving signals from the center, 1 playback channel.
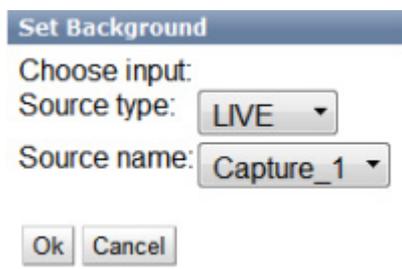
When a playlist with regional commercials is stopped, the signal from the input is broadcast to the output. When the playlist is running, the file playback "overrides" the input signal. To set this mode, you must configure the playlist channel and set it to background-source, the role of which will be played by the capture service. The procedure of setting this option is performed from the web-console of the server management, menu item - Status, window Program 1. In this window you need to select the Background item, set the source type to LIVE and select the appropriate capture service.

Setting a rule for automatic start of playlist

The system of rules and commands (Action) of the SL NEO media platform allows you to form a command in one server module and send it to another one. Capture service constantly analyzes the input video and compares it with the recorded fragment. If it matches, the Capture service forms the command and sends it to the playlist execution service (Program Channel). The rule setting procedure for forming and passing commands is performed from the web-console of the server management, menu item - Manage, the Video IO Boards tab. In the corresponding window of the Capture service you need to select the No actions Defined item and click Edit.
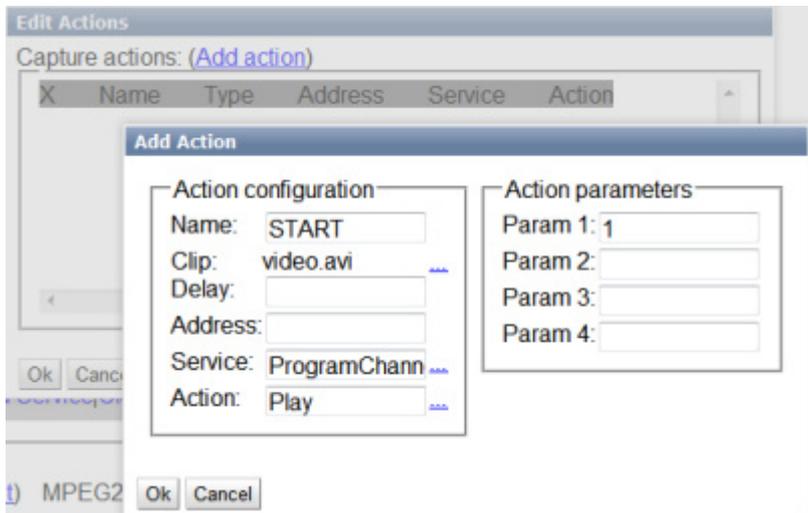
In the Edit Action window that opens, select Add Action, select the type of analysis - Video Detection and press OK. In the new window, enter the parameters of the new rule for controlling the analysis of a video fragment.

In the Name field of the Action Configuration window specify the name of the rule, for example, START.

In Clip field select the clip to be analyzed (from the list of the clips downloaded earlier to `C:\Program Files (x86)\SL NEO Media Platform\run\files`).

In the Address field specify the IP address of the server or leave it blank if it is localhost.

In the Service field click the button… Select the name of the service you are going to control from the list. In our example, this is Playback Channel 1 (Program_1 in the list).

In the Action field, select the command to be executed in case of a match - Play. In the Action Parameters field, you may specify the layer in which the Play command will be executed - 1 (main full-screen).

To save the settings, at the top of the server management console window, click Apply Changes. In this case, the capture service, to the configuration of which you have made changes, will be restarted. Similarly, you can configure several rules for starting and stopping playlists, for several playback channels.

The appearance of the playlist with advertising blocks is shown in the figure. The separators of the blocks are lines with the start type Manual.

N	Group	Status	Player	Start	Title	Event Dur	In Point	Out Point	Start Time	Stop Time	Comment	Cur Point	Keyer1
1		Done	MAIN	Manual	182686	00:00:20:00	00:00:00:00	00:00:20:00	17:18:06:15	17:18:26:15			
2		Play	MAIN	Auto	195110	00:00:17:00	00:00:00:00	00:00:20:00	17:18:26:15	17:18:46:15		00:00:03:00	
3			Auto	Auto	214827	00:00:10:00	00:00:00:00	00:00:10:00	17:18:46:15	17:18:56:15			
4			Auto	Auto	223521	00:00:30:00	00:00:00:00	00:00:30:00	17:18:56:15	17:19:26:15			
5			Auto	Manual	236140	00:00:15:00	00:00:00:00	00:00:15:00					
6			Auto	Auto	237031	00:00:20:00	00:00:00:00	00:00:20:00					
7			Auto	Auto	237127	00:00:15:00	00:00:00:00	00:00:15:00					
8			Auto	Auto	239744	00:00:15:00	00:00:00:00	00:00:15:00					
9			Auto	Auto	254393	00:00:20:00	00:00:00:00	00:00:20:00					
10			Auto	Manual	182686	00:00:20:00	00:00:00:00	00:00:20:00					
11			Auto	Auto	195110	00:00:20:00	00:00:00:00	00:00:20:00					
12			Auto	Auto	201120	00:00:20:00	00:00:00:00	00:00:20:00					
13			Auto	Auto	214827	00:00:10:00	00:00:00:00	00:00:10:00					
14													
15													

Broadcast - CAST1 - RUNNING @ 25.00 fps

Secondary Events

Play : 　　　　195110　　　　- 00:00:03:00/(00:00:17:00)/00:00:20:00

N/A C ☑ Loop Sel: 00:00:00:00 Tot: 00:03:55:00 Done: 00:00:23:00 Left: 00:03:32:00 ☐ Replace

Basic functionality of the regional tapping system

- The system based on the SL NEO platform allows seamless insertion of local advertising: up to 12 SD programs or up to 6 HD programs simultaneously in one system unit;
- The system performs ads insertion with TS transcoding, at that, the change of codec, bitrate and imposing of crawl lines, logos and graphics on the transmitted and substituted content is possible;
- works in networks with DVB ASI/IP and SD/HD SDI interfaces, with the possibility of ASI-IP-SDI cross-conversions
- manual and automatic downloading of playlists and advertising content, transcoding of files if necessary, volume level normalization;
- rebroadcasting of teletext signals from the central station when replacing commercials;
- software bypass in UDP IP Multicast mode with N+N redundancy scheme;
- Hardware bypass in ASI and SDI modes (relays in I/O boards or external devices);
- Client-server technology, monitoring and management of an unlimited number of SL NEO media servers;
- built-in secure content storage, content management through an embedded DBMS in each SL NEO server, integration with external content storage systems (NAS/DAS).

List of HowTo articles

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