



Slot Configuration Guide

Inc	dex	page
1.	INTRODUCTION	3
2.	CHANNEL LINEUP MODIFICATION WITH SLOTS DISABLED	3 4
3.	CHANNEL LINEUP MODIFICATION WITH SLOTS ENABLED	5 6 10

1. INTRODUCTION

Ikusi Flow headend allows to distribute TV contents in collective premises, as hotels or hospitals. In those premises, it is usual that, from time to time, the channel lineup is changed. In the case the TV distribution is done through an RF network, this channel lineup modification can result in a change of the parameters used by the TVs to store the channels, as frequency, TS_ID, ONID, NID, SID or LCN. When that change happens, the TVs are not able to tune automatically the new channels, and as a consequence, it will be necessary to go to each room and tune the TV manually.

Ikusi Flow solves this problem keeping the signaling fixed, working on slots basis. A slot is a TV channel, broadcasted by the headend, with predefined frequency, TS_ID, ONID, NID, SID and LCN values. Working on slot with fixed signaling basis, the TVs only need to be scanned in the first setup.

This document describes how to set up the Ikusi Flow, in order to allow changes in the channel lineup without the need of launching a TV scan after doing the changes.

There are two levels of changes:

- The first level consists in the replacement of a TV channel (or a radio channel) by a new one. Ikusi Flow allows to perform that change in a transparent way, without translating to the user the complexity of keeping the signaling.
- The second level consists in, not only channel replacement, but also the preset of backup channels (empty slots) that will allow to increase the lineup in the future without the need of launch a scan in the TVs. This second level is not totally automatic, but needs the user to configure some advanced parameters, slightly more complex.

The selection of the working mode will depend on enabling or not the Slot based lineup policy parameter. Both working modes are described in the following sections.

2. CHANNEL LINEUP MODIFICATION WITH SLOTS DISABLED

Ikusi Flow allows to replace TV channels without the need of rescanning the TVs of the facility, and all of this in a transparent way to the user. In order to work in this mode, Slot based lineup policy must be disabled. It is the default status of Ikusi Flow.

2.1 Slot based lineup policy disabling

The enabling/disabling of Slot based lineup policy parameter is performed using options of the advanced configuration. In case it was needed disabling Slot based lineup policy parameter, the first step consists in enabling advanced configuration. To do that, go to MENU→ADVANCED CONFIGURATION→Enable advanced configuration.

Once the advanced configuration is enabled, go to MENU→ADVANCED CONFIGURATION→Other advanced configurations. The following screen will be displayed:

$\langle \rangle$						$\langle \times$	
Initial LCN/VCN o	ervices added, and if correct, click APPLY button. an be changed manually by selecting OK button. e toggled between combined&separate by selecting as	required.					
INITIAL LCN/VC	CN 1 OK LANGUAGES Combined •						
LCN/VCN ¢	SERVICE NAME TO SHOW			LANGUAGE	CAM		
1 💋	La 1		Ø	QAA 🗸 SPA 🗸			×
2	La 2		Ì	QAA 🗸 SPA 🗸			×
3 🖉	RNE País Vasco		Ø	SPA 🗸			×
4	DISNEY CH HD			QAA 🗸 SPA 🗸	Autoselect	٠	A 🗙
5 💋	TNT HD		Ø	QAA 🗸 SPA 🗸	Autoselect	۲	A 🗙
6 🦻	STB HD		Ø	UND 🗸			×

To disable SLOT BASED LINEUP POLICY option, deselect it and press SAVE button.

2.2 Channel lineup setup

Setup of the channel lineup will be done in the usual way, as it is described in the Installation and Setting Ikusi Flow Headend guide.

As an example, the following picture shows the selection of two DTT TV channels (La 1, La 2), one DTT radio channel (RNE País Vasco), two satellite TV channels (Disney Channel HD, TNT HD) and one TV channel generated by a STB with HDMI output (STB HD).

	PSD HHB NZ SZC 1 2 3 4 5 - T/C1 T/C2 - SAT1 SAT2 SAT3	6 7 8 9 10 11 12 SAT4 SAT5 SAT6 SAT7 SAT8	
	RF SERVICE LISTING	ERVICE WIZARD	
LCN/VCN ¢	SERVICE	SERVICE NAME TO SHOW	
		SERVICE INAME TO SHOW	LANGUAGE
1	La 1	La 1	qaa spa
1			qaa
	La 1	La 1	qaa spa qaa
2	La 1 La 2	La 1 La 2	qaa spa qaa spa
2	La 1 La 2 RNE País Vasco	La 1 La 2 RNE País Vasco	qaa spa qaa spa spa qaa qaa qaa qaa

2.3 Channel lineup modification

Starting from the situation described in the previous point, assuming that TVs are already able to tune the current lineup, in the case that this lineup must be modified, the user can do it through the Service Wizard.

To do this, the user must remove the unwanted channels, and after that, it must select the new channels that substitute the previous ones. The changes must be done in a single access to the Service Wizard, the new channels must be the same amount and be of the same type (TV or radio HD or SD) than the ones are been replaced.

As an example, La 2, RNE País Vasco and STB HD channels have been removed from the previous lineup and they have been replaced by 24h, Radio 5 RNE y TCM HD channels.

			5 6 SAT3 SAT4		9 SAT7 SAT		÷		
			SERV	ICE WIZARD					
	RF SERVICE LISTING								
LCN/VCN ¢	SERVICE		S	SERVICE NAME TO	<u>SHOW</u>			LANGUAGE	
1	La 1		L	.a 1				qaa spa	
2				24h				qaa	
2	24h		4	24n				spa	
3	24h Radio 5 RNE			24n Radio 5 RNE					
			F					spa	
3	Radio 5 RNE		F	Radio 5 RNE				spa spa qaa	

As the picture shows, the SD TV channel "24h" have occupied the space of the SD TV channel "La 2". The same happens with the radio channel "Radio 5 RNE", which has replaced to the radio channel "RNE País Vasco". Finally, the HD TV channel "TCM HD" has occupied the space of the channel "STB HD".

TVs will show the new contents without needing to launch a rescan, because they will use the tuning parameters corresponding to the old channels.

NOTE: sometimes, the name of the channel displayed on the TV is not the new channel, but the old one remains. This is due to some TVs only process the SDT table during the scanning of the signal. If that is your case, we recommend to modify the SERVICE NAME TO SHOW parameter before scanning, using a neutral name (e.g., TV001). In this way, a change of lineup channels won't generate a confused effect in the final users.

3. CHANNEL LINEUP MODIFICATION WITH SLOTS ENABLED

Ikusi Flow allows, besides replacing TV channels, to preset backup channels that could be used in the future. All of this without the need of rescanning the TVs of the facility. To work in this mode, Slot based lineup policy must be enabled.

3.1 Slots based lineup policy enabling

The enabling/disabling of Slot based lineup policy parameter is performed using options of the advanced configuration. Therefore, the first step consists in enabling advanced configuration. To do that, go to MENU \rightarrow ADVANCED CONFIGURATION \rightarrow Enable advanced configuration.

Once the advanced configuration is enabled, go to MENU→ADVANCED CONFIGURATION→Other advanced configurations. The following screen will be displayed:

			FAGOR	2			
OTHER ADVANCED) CONFIGURA	TIONS					
SELECT THE EIT REQUIRED MODE:	Off •						
OUT MODULE							
SLOT BASED LINEUP POLICY:	\square						
Select the required bitrate estimation	ons						
SD QUALITY SERVICES:	4 N	lbps					
HD QUALITY SERVICES:	14 N	lbps					
UHD QUALITY SERVICES:	20 N	lbps					
IN MODULE							
SUPPORT LOW SYMBOL RATE TRANSPONDERS:							
ENC MODULE							
Current TV type selection: HD							
Codification profiles Video Codec	Video Bitrate	Audio Codec	Audio Bitrate	Peak Bitrate	Average Bitrate		

Select SLOT BASED LINEUP POLICY option, and press SAVE button.

3.2 Channel lineup and backup slots setup

Setup of the channel lineup will be done through the Service Wizard, in a similar way as it is described in section 2.2. However there are two main differences.

The first one is that each slot is associated to a TV channel, real or logical. In the case of working with separated languages, each mono-language service will be linked to a different slot. Therefore, we recommend that the first decision taken in the Service Wizard is if the system works with combined languages or separated languages. To do this, click over (), icon, corresponding to Summary screen step. A window as the following one will open:

\bigcirc		\otimes
RF SERVICE LISTING		
Check the new services added, and if correct, click APPLY button. Initial LCN/VCN can be changed manually by selecting OK button. Languages can be toggled between combined&separate by selecting INITIAL LCN/VCN 1 OK LANGUAGES Combined		
	NO SERVICES ADDED	

In LANGUAGES dropdown list, select the desired working mode. In the following points, for simplicity, combined languages will be used. To return to the first step of the Service Wizard, push icon.

The second difference is related with the slot management itself. By way of example, two DTT TV channels (La 1, La 2), one DTT radio channel (RNE País Vasco), two satellite TV channels (Disney Channel HD, TNT HD) and one TV channel generated by a STB with HDMI output (STB HD) have been selected.

Upon reaching Output RF channels selection step, the screen will show SLOTS tab, instead of the usual tab (MANUAL ASSIGNMENT).

\bigcirc			\otimes \otimes
		SCAN	LAST SCAN WAS NOV 17, 2017 11:26 AM +01:00
OUTPUT CHANNELS	SLOTS		
		_	
C21 SERVICE	SERVICE NAME TO SHOW	+	EMPTY SLOT
DISNEY CH HD	TV004	J HD	
C22		+	- EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QU	ALITY
TNT HD	TV005	♪ HD	×
C23			- EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QU	
7-A •	TV006	D HD	×
C24			- EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QU	
La 1 •	TV001	SD SD	×
La 2 🔹	TV002	🥒 SD	×
RNE País Vasco	TV003	∫ SD	×

All selected contents are shown in this tab, each one of them assigned to a slot and grouped by output RF channel. For each service, the name of the service that will be shown in the TVs and the quality of the service are displayed.

Ikusi Flow propose a neutral name to be shown in the TV (TVxxx). In this way, a confused effect in the final users when the channel lineup is changed is avoided, in case of TVs that are not able to use the new service name. If you want to modify the name, click over \mathcal{D} , icon, edit the name and push OK button.

\bigcirc			\otimes \otimes
		I	SCAN HOT IS AN OT SO
OUTPUT CHANNELS	SLOTS		
C21 service	SERVICE NAME TO SHOW		+ EMPTY SLOT
DISNEY CH HD	CH 4		HD X
022			+ EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW		HD X
C23			+ EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW		SERVICE QUALITY
7-A •	TV006	Ì	HD 🗶
C24			+ EMPTY SLOT
La 1	SERVICE NAME TO SHOW		SD X
La 2 V	TV002	_	SD X
RNE País Vasco	TV003		SD X
niviL rdis Vascu		<u>v</u>	

To preset a slot that could be used later without the need of rescanning TVs, push +EMPTY SLOT button related to the RF channel where the slot should be added. A window as the following one will open:

ADD EMPTY SLOT



Select the type of the service that will be conveyed by the slot (TV or radio) and, in the case of TV, define the quality of the service (UHD, HD o SD). After that, push ADD EMPTY SLOT button. A new slot without content will appear into the service list of that RF channel.

\bigcirc		\otimes \otimes
		SCAN 107 17:2017 11:26 AM =01:00
OUTPUT CHANNELS	SLOTS	
621		+ EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY
La 2 🔹	TV002	D SD 🗙
•	TV007	D HD 🗙
C22		+ EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY
RNE País Vasco	TV003	🥒 SD 🗙
DISNEY CH HD 🔻	CH 4	D HD X
C23		+ EMPTY SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY
TNT HD	TV005	HD K
C24		
SERVICE	SERVICE NAME TO SHOW	+ EMPTY SLOT
	TV001	SD X
7-A 🔻	TV006	

Repeat the process with as many slots as you need. In the next picture, 4 empty HD TV slots has been added (TV007, TV008, TV009 and TV010).

\bigcirc		\otimes	
OUTPUT CHANNELS	SLOTS		
C21		+ EMPTY S	SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY	
DISNEY CH HD	CH 4	D HD	×
•	TV007	D HD	×
C22		+ EMPTY S	SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY	
TNT HD	TV005		×
•	TV008	D HD	×
			_
C23		+ EMPTY S	SLOT
SERVICE	SERVICE NAME TO SHOW TV006	SERVICE QUALITY	
			×
•	TV009	D HD	×
C24		+ EMPTY S	SLOT
SERVICE	SERVICE NAME TO SHOW	SERVICE QUALITY	
La1 •	TV001	🖉 SD	×
La 2 🔻	TV002		×
RNE País Vasco	TV003		×
	TV010		×

Each new empty slot will be conveyed by the RF channel selected by the user. By contrast, already existing slots with content will be distributed among all the channels, using an algorithm that allows the allocation of services in the most efficient way, avoiding overload in the RF carriers (and as consequence, pixilation).

After applying this configuration, the result will be a channel lineup formed by the slots with content and by the empty slots.

$\langle \rangle$					(\otimes
					a =	NCRYPTED 🔛 RADIO
	RF SERVICE LISTING					
Check the new se	ervices added, and if correct, click APPLY button.					
Initial LCN/VCN c Languages can b	an be changed manually by selecting OK button. e toggled between combined&separate by selecting as	required.				
INITIAL LCN/VC						
<u>LCN/VCN</u> ♦	SERVICE	SERVICE NAME TO SHOW TV001	_	ANGUAGE QAA 🗸	САМ	×
				SPA 🗸		
2	La 2	TV002	D O	QAA 🗸		×
_			s	spa 🖌		_
3 🖉	RNE País Vasco	TV003	ß	spa 🖌		III 🗙
4	DISNEY CH HD	CH 4	D C	QAA 🗸	Autoselect •	
			S	SPA 🖌		
5 🦻	TNT HD	TV005	D Q	QAA 🗸	Autoselect •	
			s	spa 🖌		
6 🖉	7-A	TV006	D U	UND 🗸		×
7 🖉		TV007	D			×
8 🖉		TV008	D			×
9 🖉		TV009	D			×
10 🥑		TV010	D			×

When launching a scan in the TVs, all the services will be stored in memory, empty slots too. These slots could be used in the future for conveying new contents, without the need of rescanning the TVs.

3.3 Channel lineup modification

Starting from the situation described in the previous point, assuming that TVs are already able to tune the current lineup, in the case that this lineup must be modified, the user can do it through the Service Wizard.

To replace a channel with a new one, as described in section 2.3, the unwanted channel must be removed first, and after that, the new one must be added.

To add a new channel to the current channel lineup, it must be added in the corresponding step and, automatically, Ikusi Flow will try to use one of the empty slots, provided that the service type and quality are equal. In the example, #0 HD and TCM HD TV channels have been added.

		J SAT 1 SAT 2 SAT 3 SAT 4 SAT 5 SAT 6 SAT 7 SAT 8 TV TEST TV DUT	
		SERVICE WIZARD	
	RF SERVICE LISTING		
LCN/VCN \$	SERVICE	SERVICE NAME TO SHOW	LANGUAGE
1	La 1	TV001	qaa spa
2	La 2	TV002	qaa spa
3	RNE País Vasco	TV003	spa 📑
4	DISNEY CH HD	CH 4	qaa 🔒 spa
5	TNT HD	TV005	qaa 🔒 spa
6	7-A	TV006	und
7	тсм нр	TV007	qaa 🔒 spa
8	#0 HD	TV008	qaa 🔒 spa
9		TV009	
10		TV010	

TCM HD channel is now conveyed by TV007 slot. The same happens with #0 HD, which is conveyed by TV008 slot.

3.4 Others uses of SLOTS tab

SLOTS tab allows to perform other additional actions:

- Assignment of a service to a concrete RF channel. SERVICE dropdown list allows to select what content is conveyed by each slot, provided that the service type and quality are equal.
- Service removal. If you leave the SERVICE dropdown list blank, the service that previously was conveyed by this slot is removed from the output channel lineup, keeping the slot empty.
- Slot removal. If you want to remove a slot completely, you must push the 🔀 icon associated to that slot.



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