



Automatic Catch-up for OSP

High-level presentation

VSPF enabled automatic-catch-up evolution

OLPS

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Version 1.0

Current context

- **Orange Spain agreements allow to provide contents in catchup TV for channels broadcasted on Orange TV, but only few contents are proposed.**
- **OSP already operates a catchup service “TV à la carta” (also available through the EPG browsing past programs), but:**
 - **the catalog is operated manually (content ingestion & EPG)**
 - **content not available after program is over in live**

Introduction of automatic catch-up

Objective:

- Live video channels, recorded entirely for 7 day period
- Catch-up content **automatically** provisioned from this recording (no manual ingestion needed)
- The catch-up content is available near-live, whereas with manual catch-up and EPG ingestion takes time
- Transparent migration in user experience, as all content will be available to the user via either **Tv à la Carta** or the **EPG** grid.

What is the VSPP?

VSPP is a storage/packaging/transcoding component developed by Fabrix (now Ericsson);

- It allows the storage of live video content for a determined period of time; Resiliency is assured by breaking sharing the assets of different nodes. In case of individual node failure, all information will be kept.
- Live channels are recorded in a rolling buffer for a set period of seven days.
- It features just-in-time packaging/encryption of the content with a key provided by various KMS vendors.
- Catch-up content can then be delivered from the storage clusters either directly to the user or through a CDN.

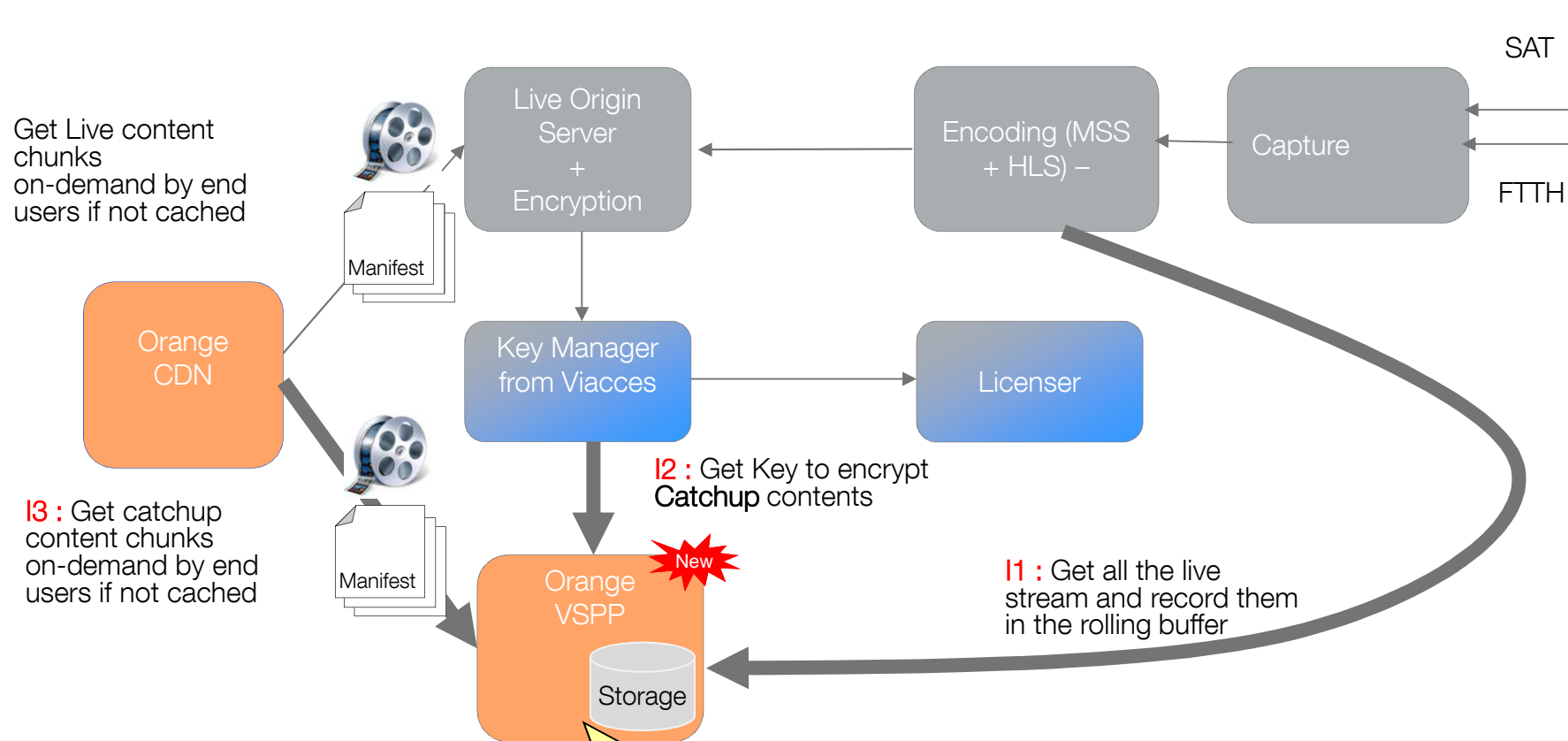
Recording features facilitated by VSPP

Catch-up: See a program that has ended (yesterday's episode from a TV series)

Start-over: Go back to the beginning of a program currently shown on Live TV.

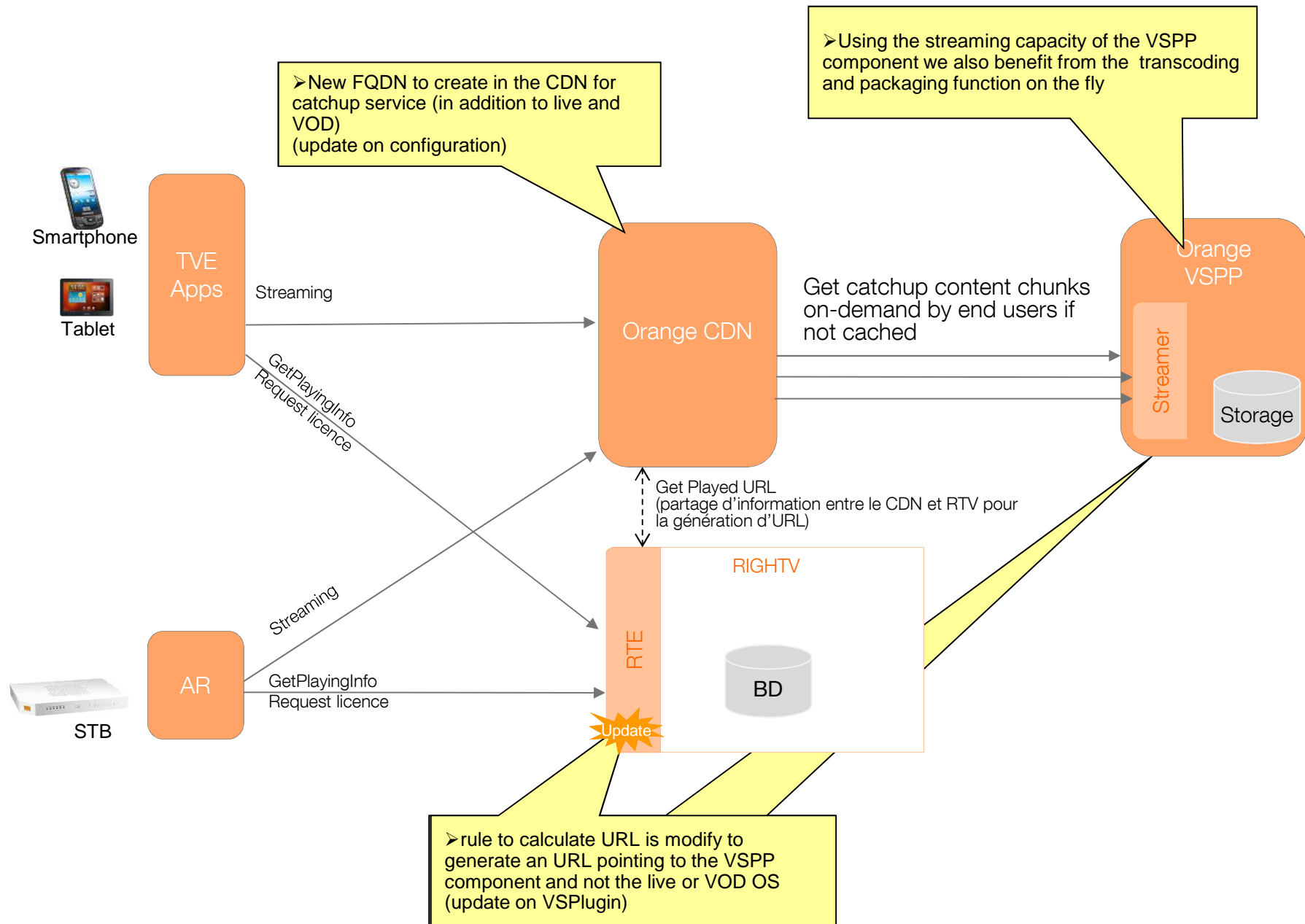
nPVR: Programmable recording of a future program, to be at the user's disposal for the next 60 days after shown on TV.

Series catch-up: All episodes in a TV series will be stored (as a VOD) for up to one year.

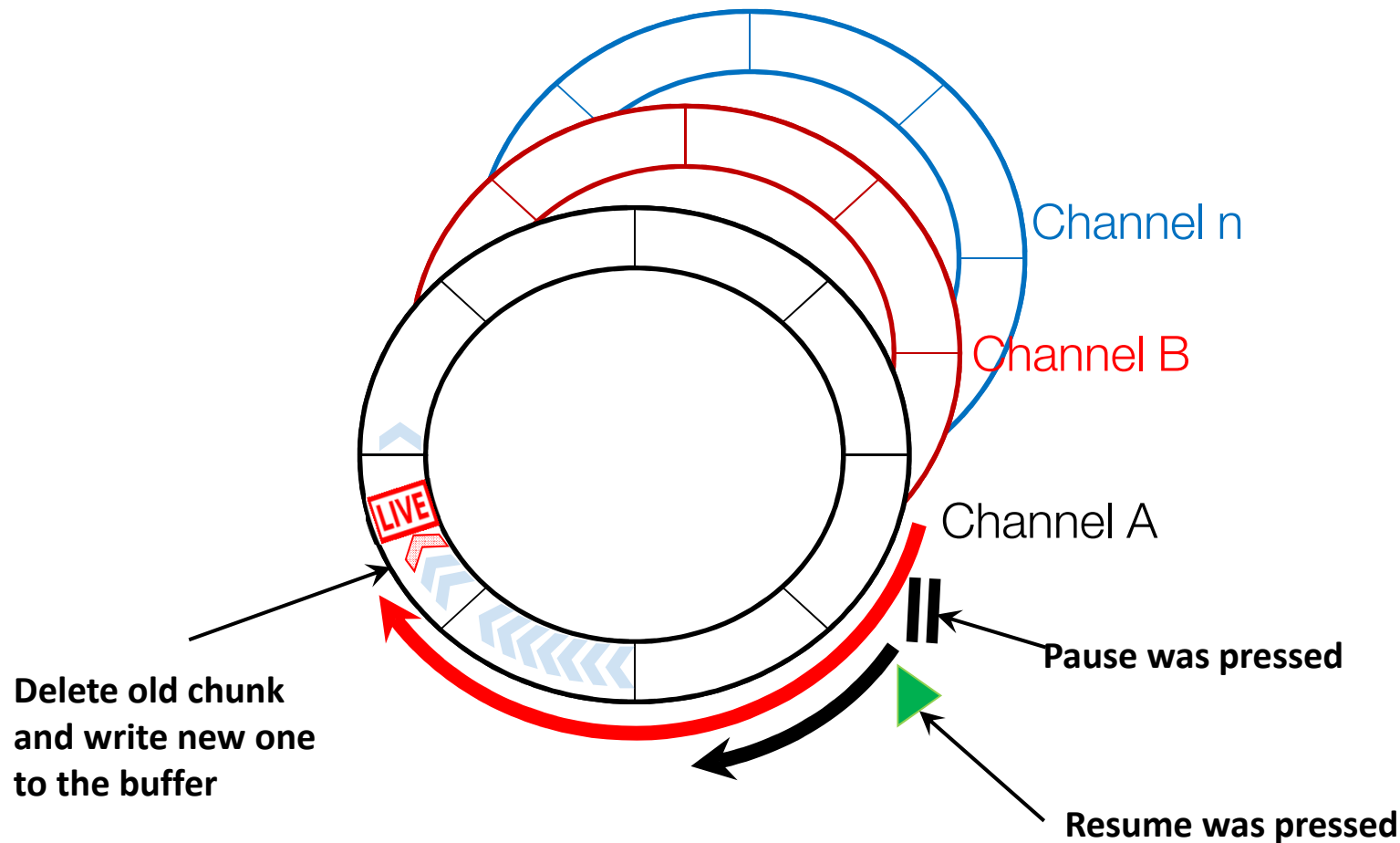


- Deployment of the VSPP component with 3 interfaces
 - => Interface with Live Encoder to record the live stream during a period (in the rolling buffer : 7 days)
 - => Interface with CDN : VSPP is an Origin Server for the catchup service (later all Near live and live services)
 - => Interface with KMS : VSPP is packaging the content on the fly and so retrieve a Key from the KMS

Static view



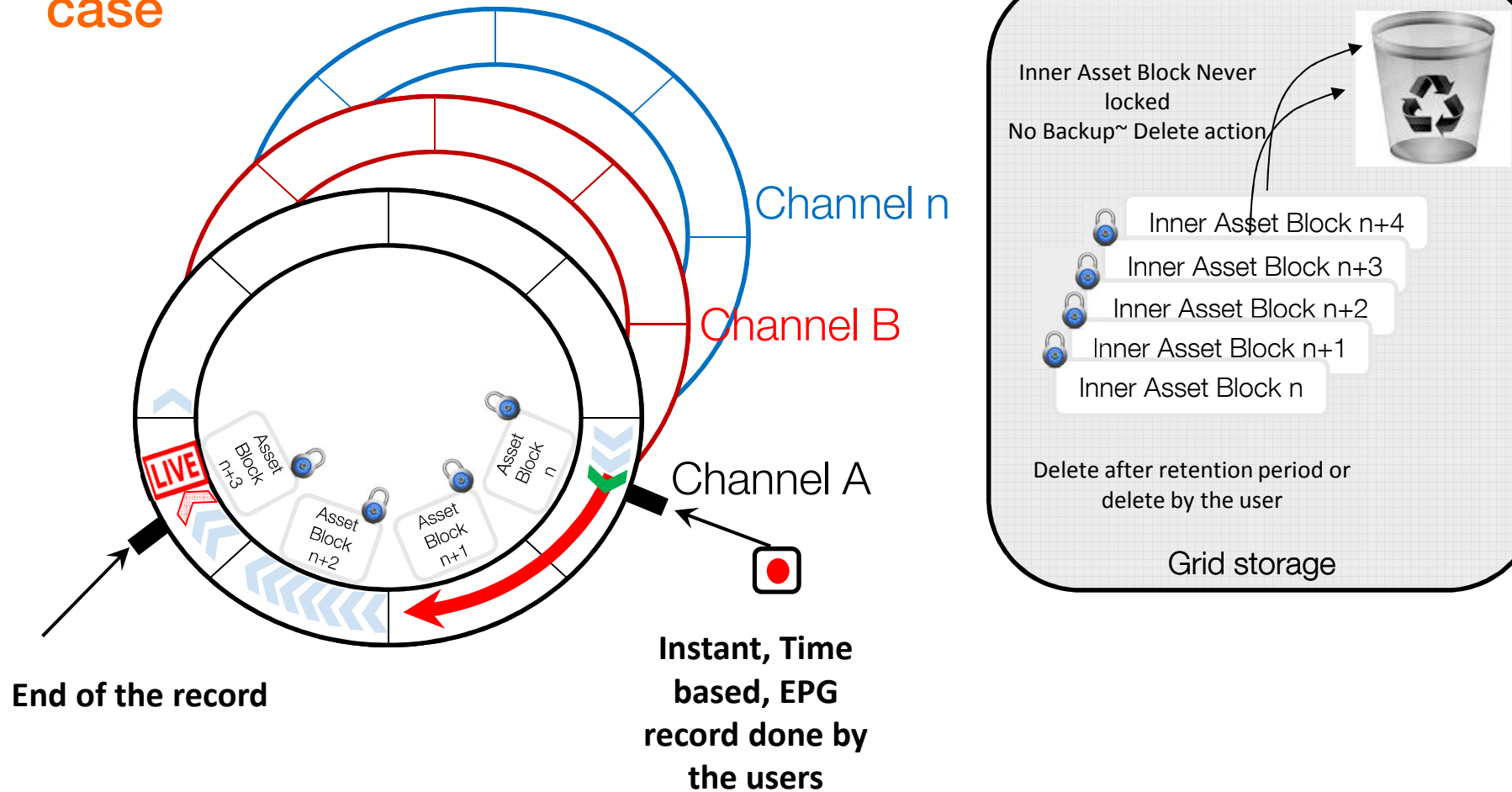
Rolling Buffer model – Pause Live TV use case



Live availability

- In CDVR level , the live program is available after 2 GOPs (GOP: Group of successive pictures. Ex: 25 Pictures per second → GOP of 2s = 50 pictures)
- The rolling buffer erases automatically the oldest chunk after the configured retention period.
- No storage into the grid

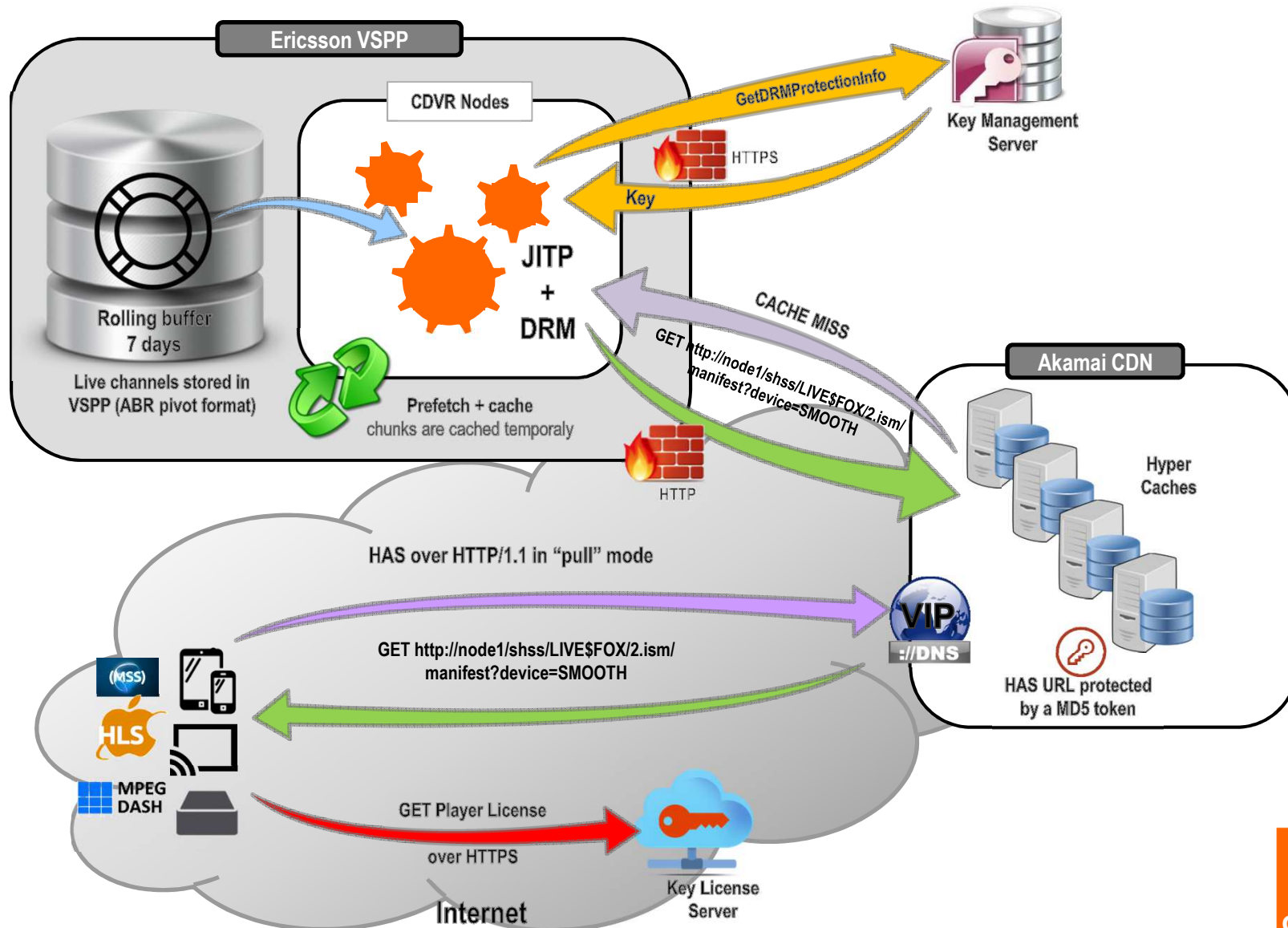
Rolling Buffer model and Inner Asset Block – Record TV use case



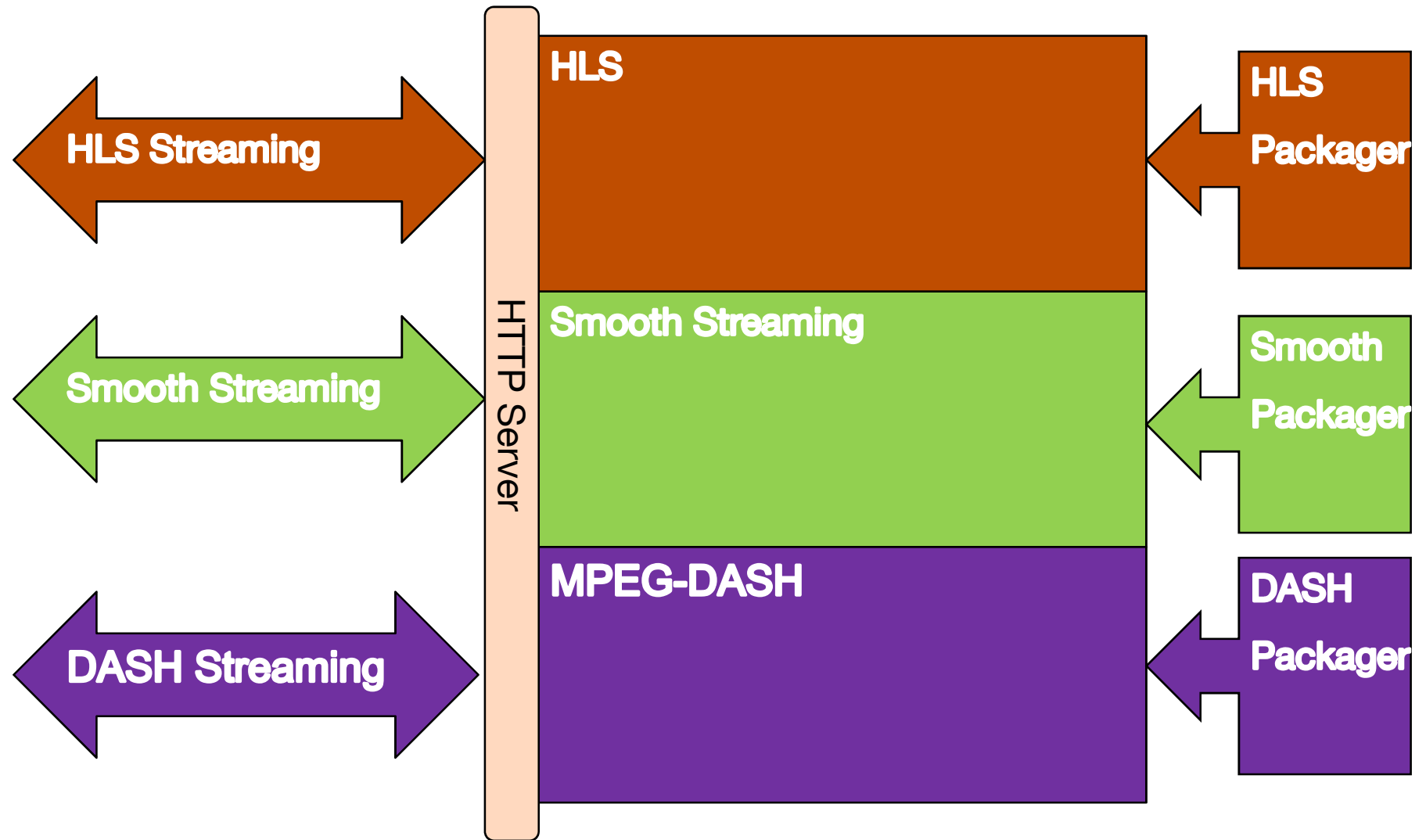
The Asset Block

- The asset corresponding to X Chunks for several minutes. The asset duration is fixed 30 minutes. (best trade off for accessing Database)
- The asset is locked and stored into the CDVR over x days (example of retention period)

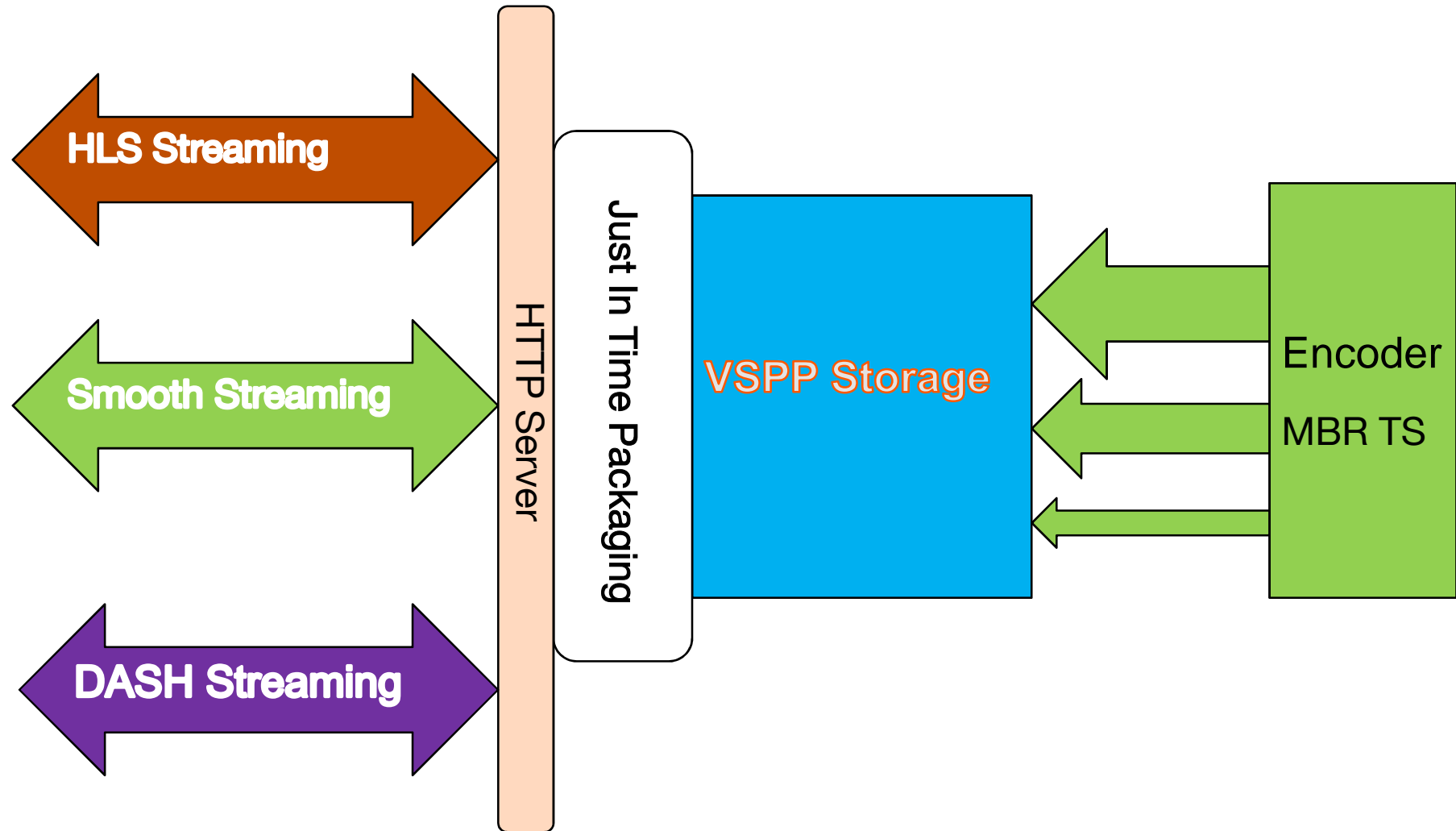
JITP: Just In Time Packaging + DRM



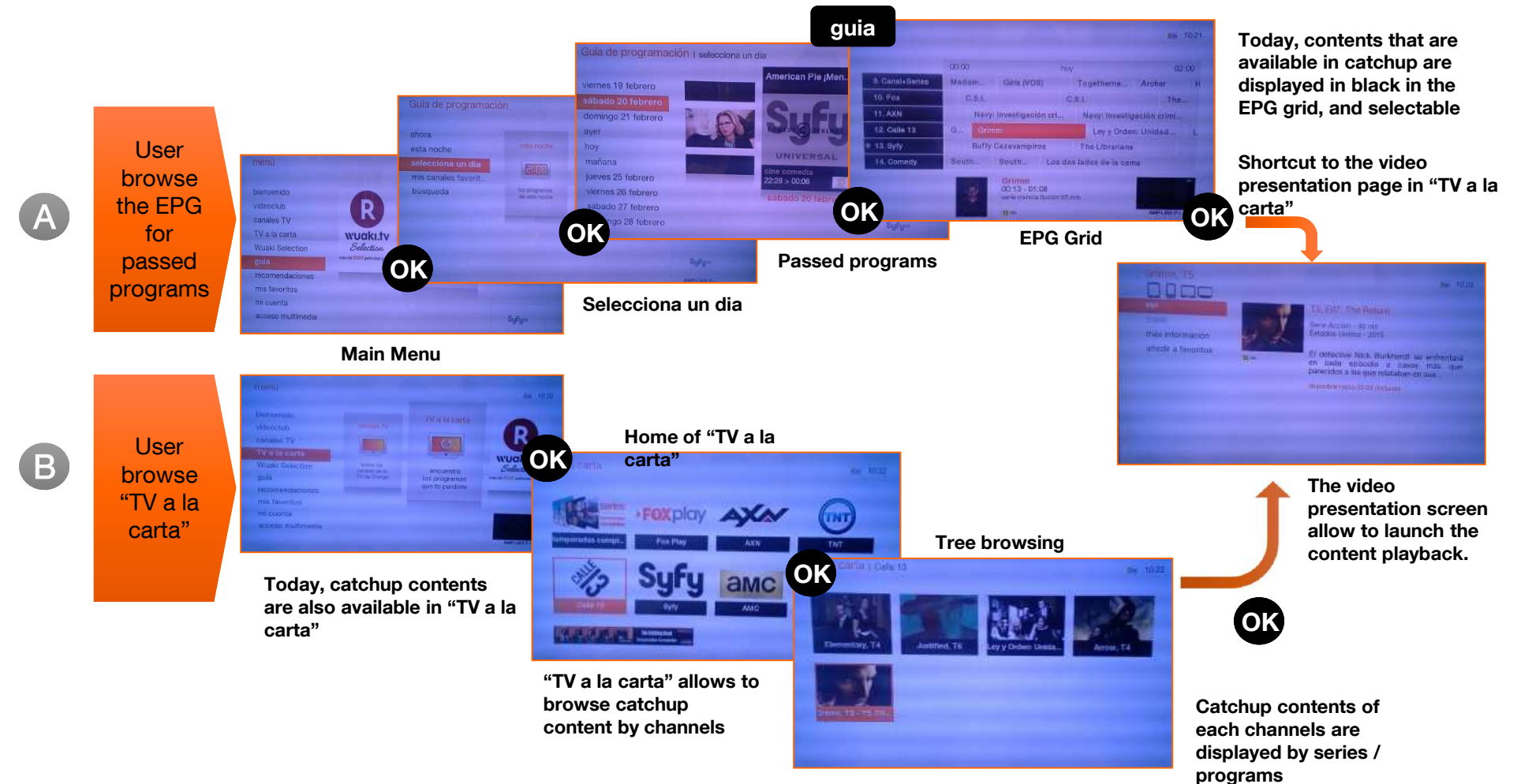
Traditional OTT system



VSPP using JITP (just-in-time packaging)



Current user experience for catchup TV within OSP*



***This is the current user experience in production for catchup contents that are manually provisioned into RiGHTv by OSP contractors.**

**IF the VPS is not available but the tag indicate the rights to access to this content
=> display the program info screen**

- If the program is accessible in catchup activate the VER button
- When customer click on VER button launch the live program in the past according to the program ID

contents that are available in catchup are still displayed in black in the EPG grid, and selectable

Update

Penny Dreadful | emisión del 01/03 **Español**

ver

mas información

activar aviso

serie fantasma - 55 min
 Gran Bretaña, Irlanda, Estados Unidos - 2015
 Con: Josh Hartnett, Eva Green, Timothy Dalton...

Al no sentirse seguros en Londres, Vanessa y Ethan viajan a los páramos, donde poco a poco desorclan una convivencia especial, hasta que una figura del pasado de Vanessa regresa a por ella. Lyle y Frankenstein indagán sobre las reliquias.

Series
Ver


mar 01/03 de 10:35 a 11:30

A

User
browse
the EPG
for
passed
programs

Main Menu

Guía de programación | selecciona un día

viernes 19 febrero		American Pie, Me
sábado 20 febrero		Syfy UNIVERSAL sine comedia 22:28 > 00:05 sábado 20 febrero
domingo 21 febrero		
ayer		
hoy		
mañana		
jueves 25 febrero		
viernes 26 febrero		
sábado 27 febrero		
domingo 28 febrero		

Selecciona un dia

Passed programs

guia

OK

EPG Grid



Update

- Detect the Rights to access the program in catchup
- If the VPS (IDDLIST EF is not available) display the program info


User
browse
“TV a la
carta”

Today, catchup contents are also available in “TV a la carta”

Home of "TV a la carta"

OK

Shortcut to the video presentation page in “TV a la carta”



Ver


Ver

Ver

Ver

Ver

Ver



CS, 1317: The Politics
 New Action - 80 me
 Facebook Live - 2015

El detective Nick Runkel! se enfrentó
 en cada episodio a "casos" más
 peligrosos a las que estaban en su...

[Ver más info de este video](#)

The video presentation screen allow to launch the content playback.

Tree browsing

“TV a la carta” allows to browse catchup content by channels

Catchup contents of each channels are displayed by series / programs

Back Evolution

In new architecture, VSPP enabler:

- Records all the live stream (automatic catchup recording)
- Streams this content

Impact on existing components:

CMS:

- The EPG metadata flags a certain program as catch-up enabled;
- Specific XML to describe the VPS to associate to the catchup content **without the media video** (as the content is stored by VSPP)

Future evolutions

Though the current focus of this One-Roof workshop is the integration of automatic catch-up with all components, through tweaks in the apps/RAs, the VSPP component can be easily used to provide Start-Over and later NPVR features

Questions?



Thank you!

A large, illuminated orange sign with the word "orange" in white lowercase letters and a trademark symbol (TM) to its upper right. The sign is mounted on a dark wall, and two bright spotlights are visible above it, casting a glow on the sign's surface.

orangeTM