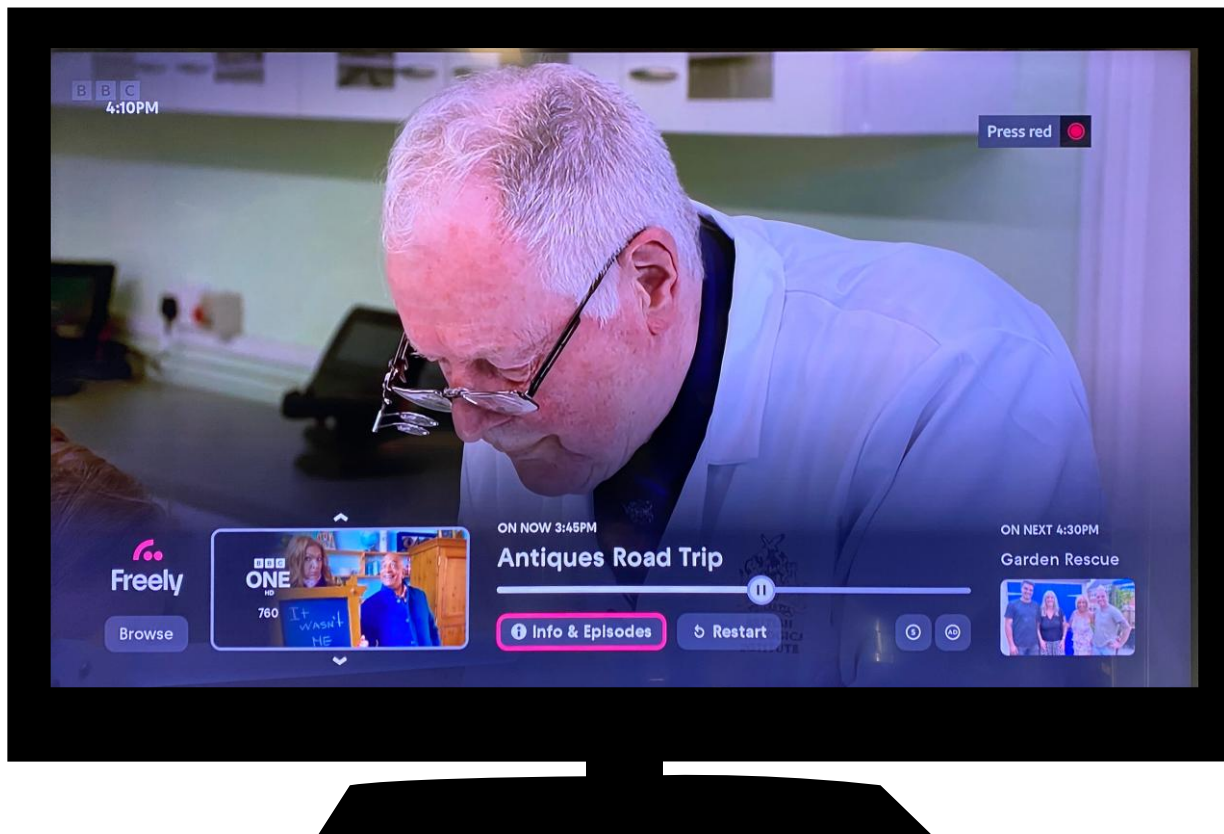


IP Linear Channels with an HbbTV Operator Application

14 November 2024 · Chris Poole

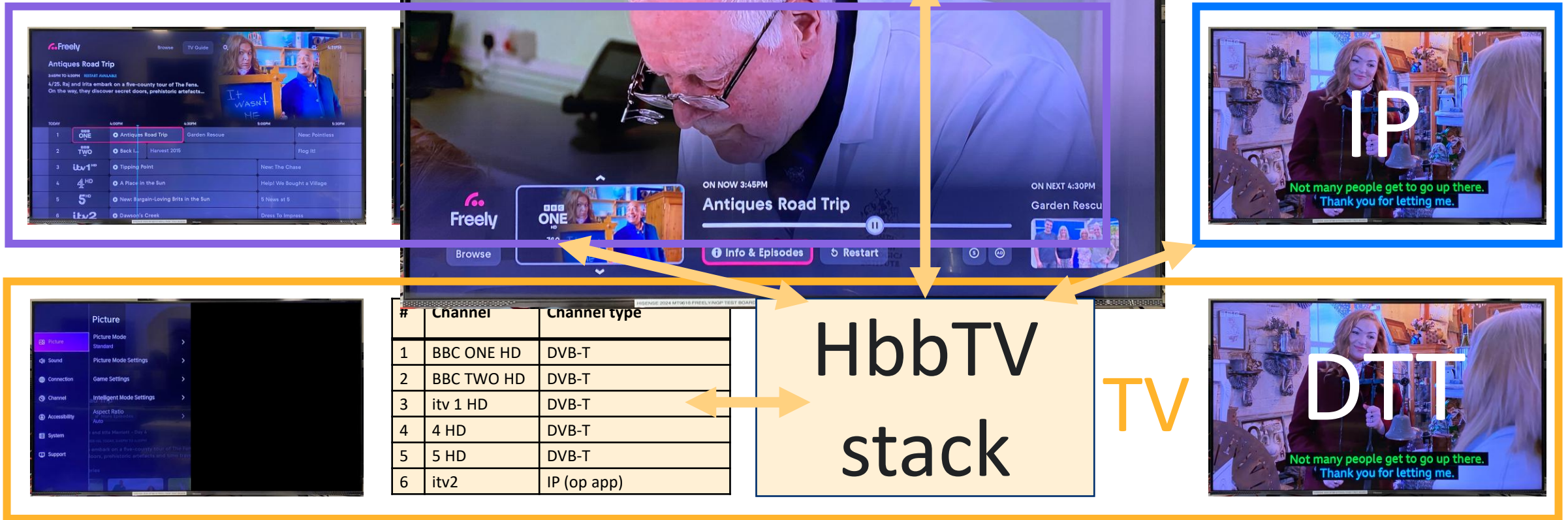
BBC
RESEARCH &
DEVELOPMENT



HbbTV
Op-app

Regular
HbbTV app

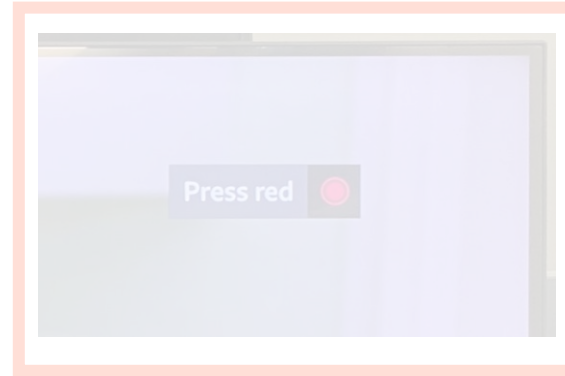
Op-app
TV player



HbbTV

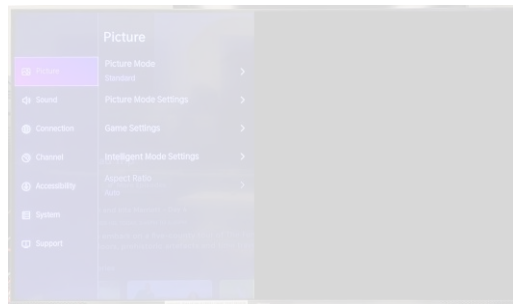
Op-app

Regular
HbbTV app



Op-app
TV player

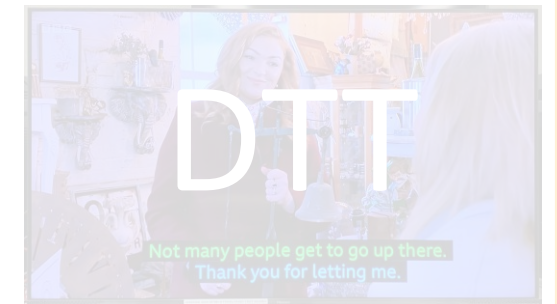
1. TV manages
whole channel list



#	Channel	Channel type
1	BBC ONE HD	DVB-T
2	BBC TWO HD	DVB-T
3	itv 1 HD	DVB-T
4	4 HD	DVB-T
5	5 HD	DVB-T
6	itv2	IP (op app)

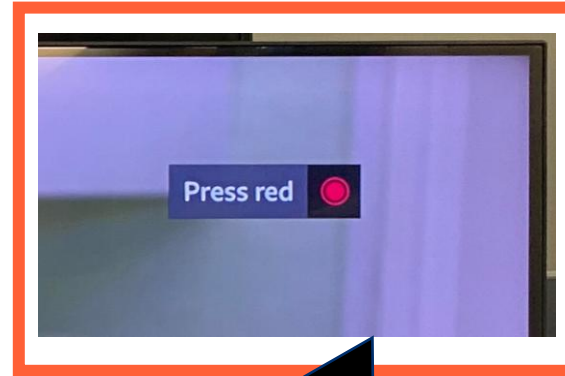
HbbTV
stack

TV

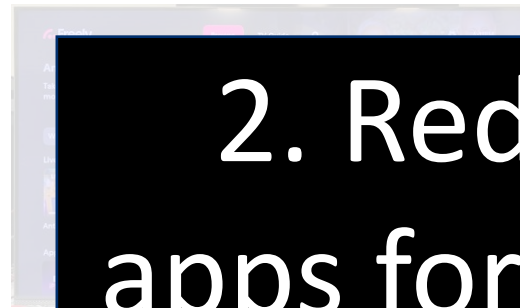
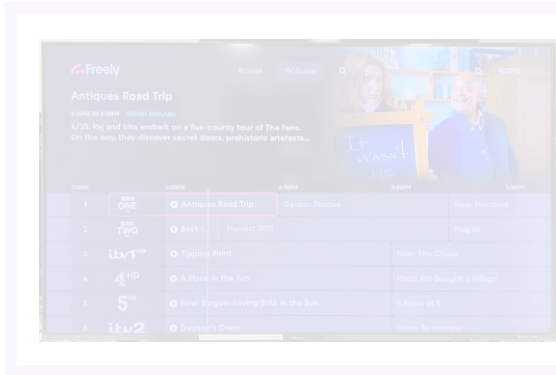


HbbTV
Op-app

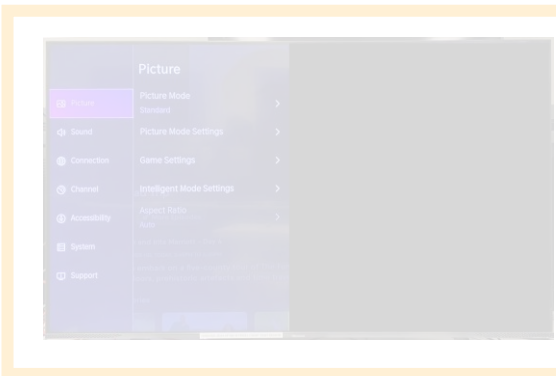
Regular
HbbTV app



Op-app
TV player



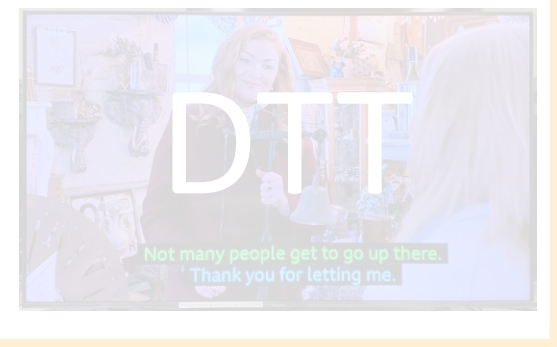
2. Red button
apps for IP as well
as DTT channels



#	Channel	Technology
1		
2	BBC TWO HD	DVB-T
3	itv 1 HD	DVB-T
4	4 HD	DVB-T
5	5 HD	DVB-T
6	itv2	IP (op app)

HbbTV
stack

TV

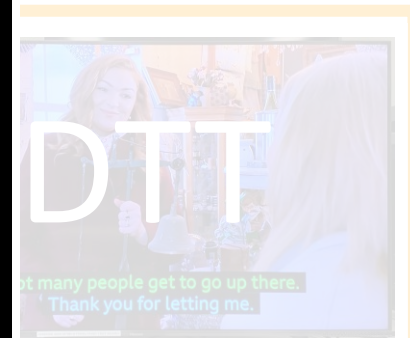


3. Op app presents IP linear channels

- Channel provider integration
- Can evolve over time
- Fast channel change
- Works with red button apps
- Fully featured player

- DVB DASH
- CDN failover
- Access services
- Authorisation
- DRM
- Ad insertion
- Telemetry

Op-app
TV player

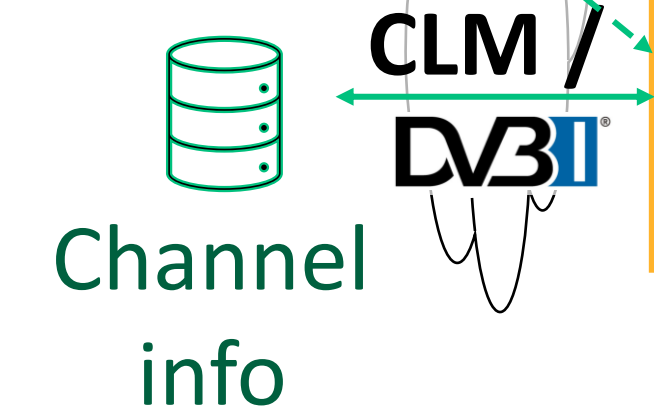
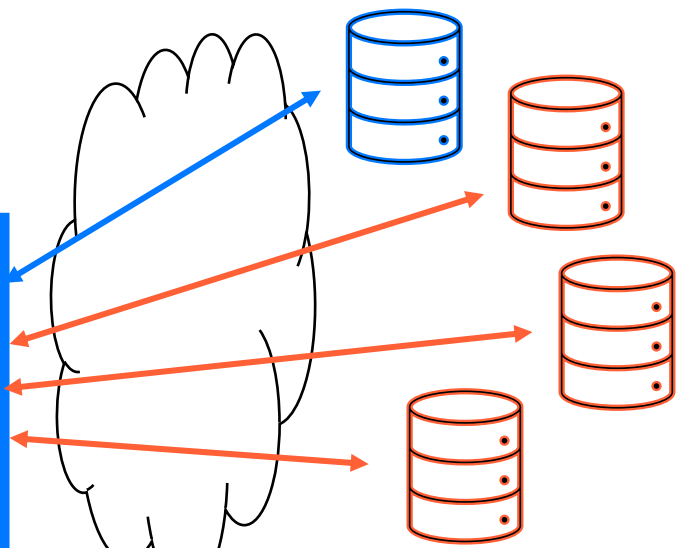
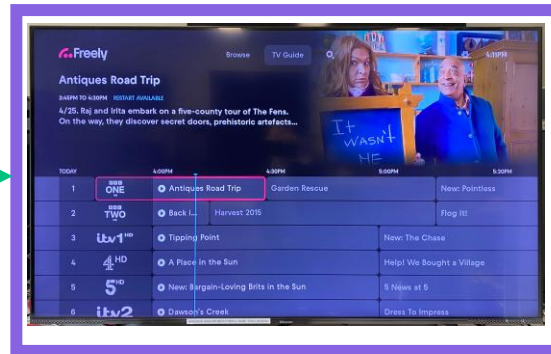
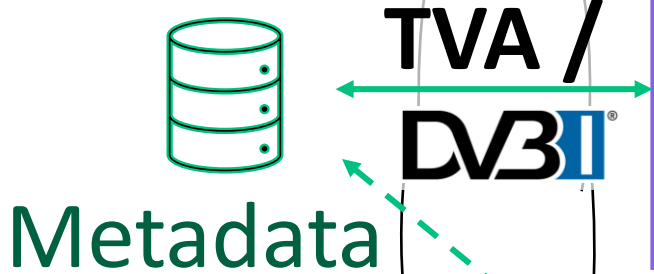


4	4 HD	DVB-T
5	5 HD	DVB-T
6	itv2	IP (op app)

Op-app main

Op-app video

Telemetry



#	Channel	Channel type
1	BBC ONE HD	DVB-T
2	BBC TWO HD	DVB-T
3	itv 1 HD	DVB-T
4	4 HD	DVB-T
5	5 HD	DVB-T
6	itv2	IP (op app)



DASH media / CDN



DVB-T

TV

Conclusion

- HbbTV provides an **open standard solution**, giving users a seamless IP linear channel experience **matching or exceeding broadcast**, which can be **evolved over time**

