



How DVB unifies IP-centric media delivery



ABU
TECHNICAL COMMITTEE
MEETING 2022

**New Delhi
India**
26 - 27 November
2022

Agenda

DVB's shift in focus

From hermetic silos to a converged media delivery ecosystem

Native IP (DVB-NIP) for media streaming over broadcast

Useful links, webinars & demos

In the internet Age, is DVB moving away from broadcast?

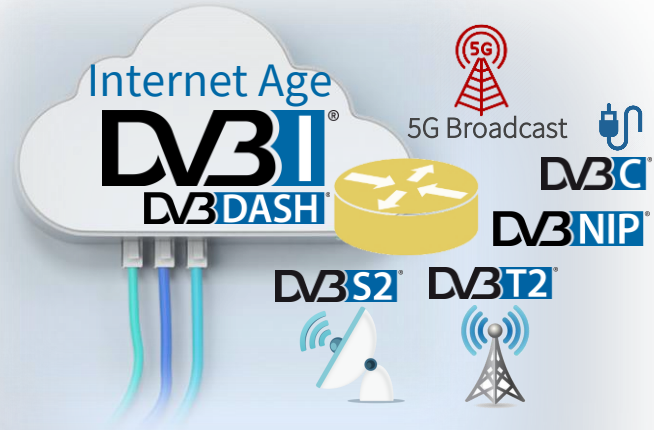
Digitalisation Age



DVB-T/T2/C/S/S2/S2X

Service **delivery** was the key issue

- Defining reliable and efficient transport networks



Service **discovery** is the new hot topic

- Common discovery mechanism across networks
- Hybrid delivery mechanism made seamless
- Smooth migrations to IP facilitated

DVB is building tools that get the best out of both worlds.

Agenda

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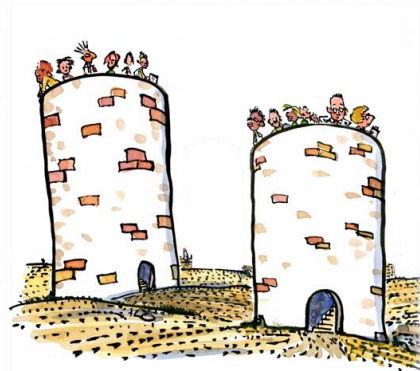
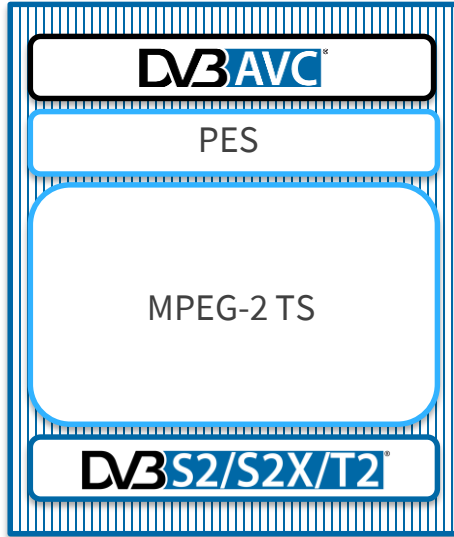
From hermetic silos to a converged media delivery ecosystem

Native IP (DVB-NIP) for media streaming over broadcast

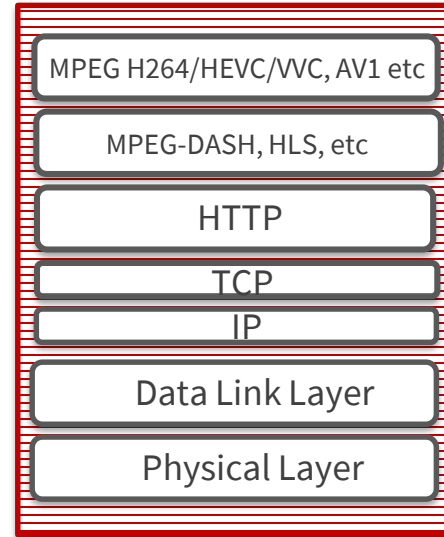
Useful links, webinars & demos

Broadcast and broadband used to be hermetic silos

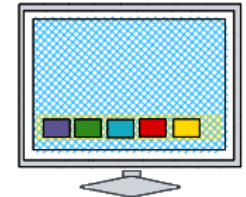
Broadcast



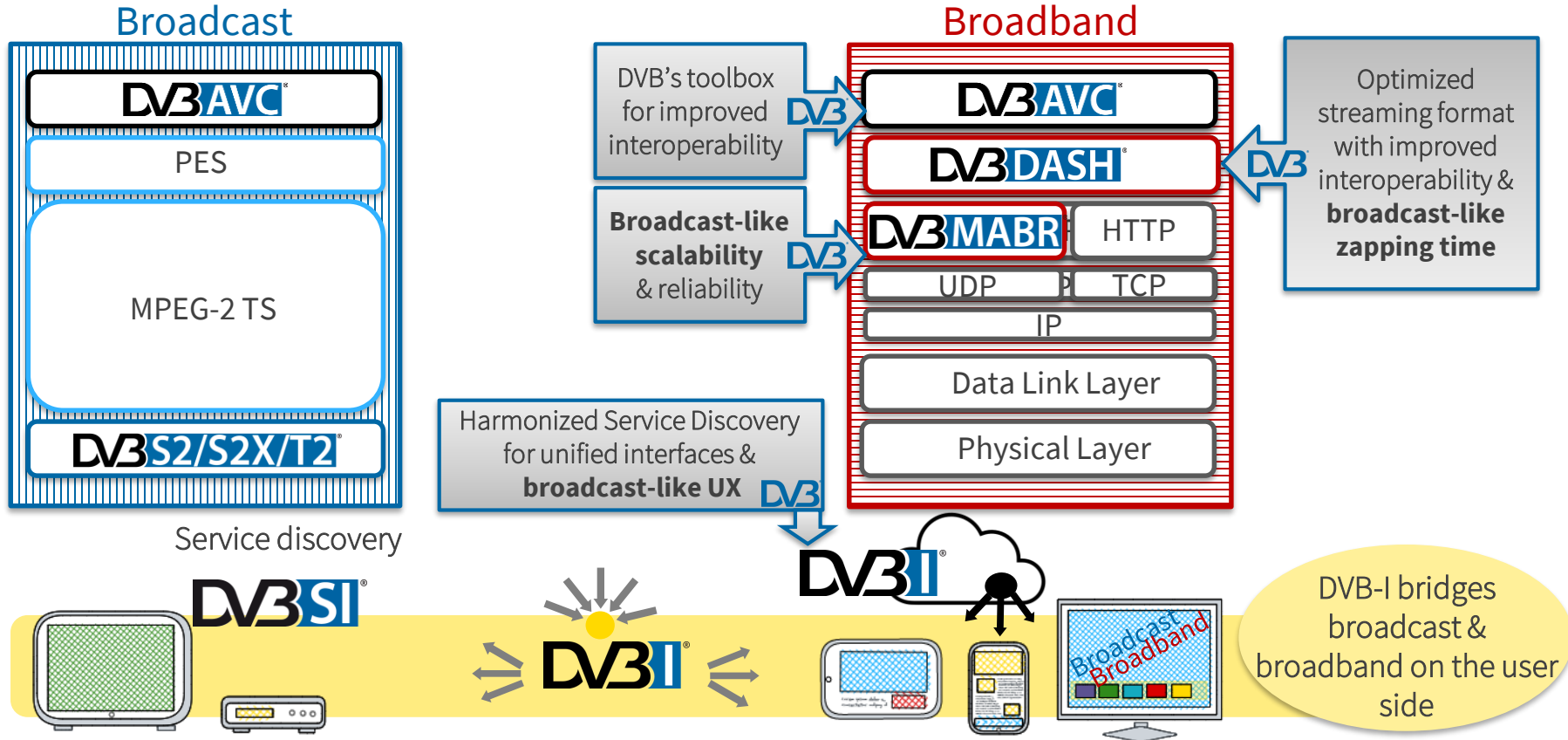
Broadband



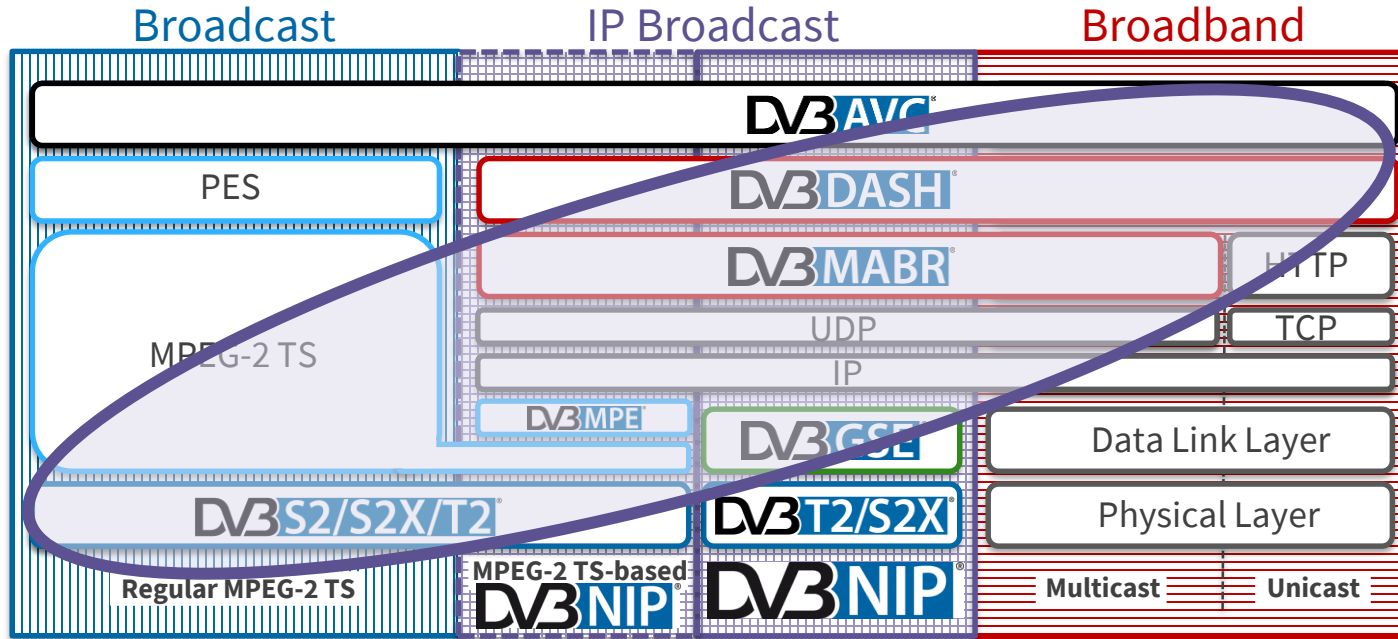
→ User-friendly UX (EPG etc)



DVB brings broadcast-like experience to broadband



A converged media delivery ecosystem is enabled thanks to DVB-NIP & DVB-I



DVB-NIP bridges broadcast & broadband on the transport layer



DVB-I bridges broadcast & broadband on the user side

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DVB's shift in focus

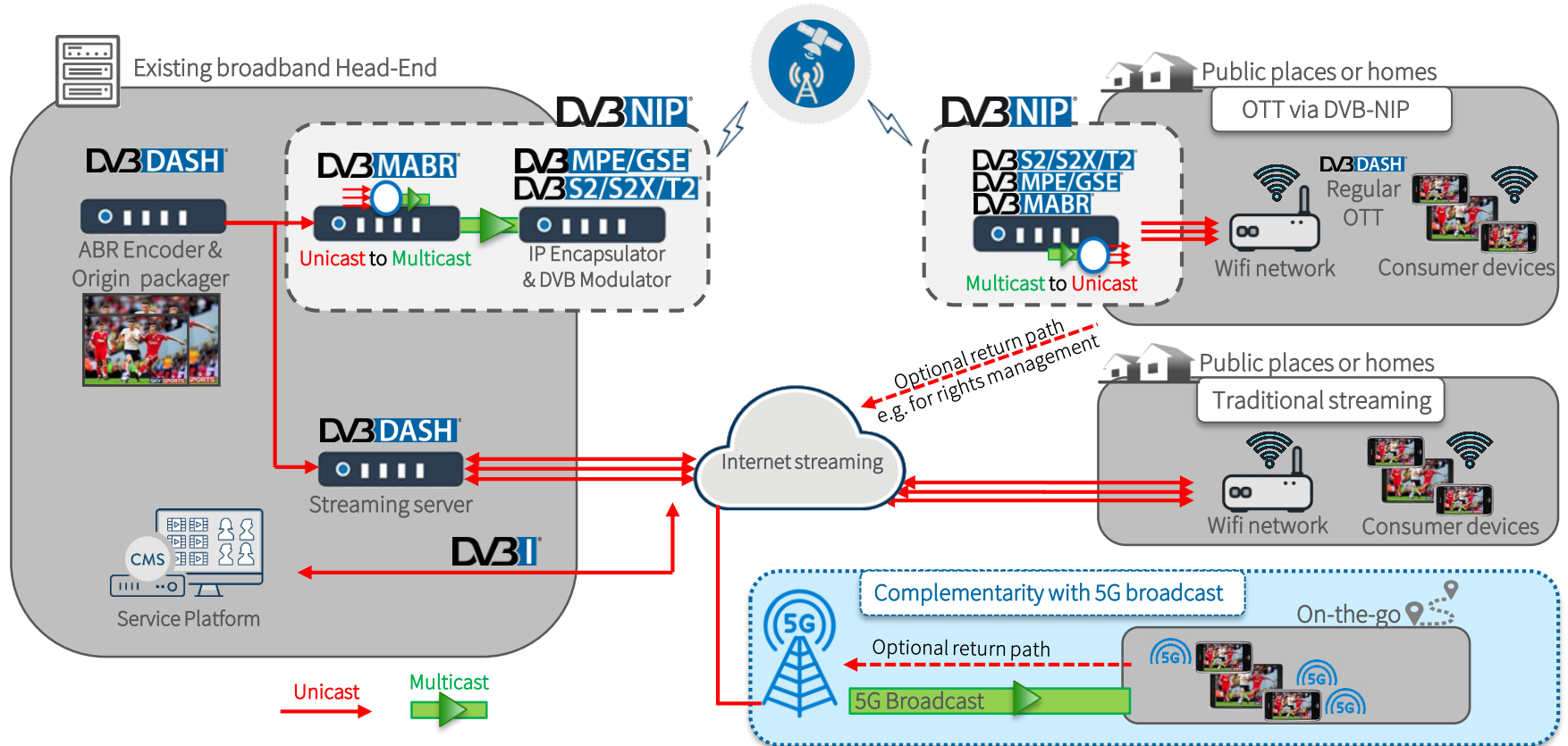
From hermetic silos to a converged media delivery ecosystem

Native IP (DVB-NIP) for media streaming over broadcast

Useful links, webinars & demos

DVB Native IP can easily offload IP networks and fill gaps

Leveraging **existing** broadband and broadcast infrastructures



DVB-NIP opens up new business models for B2B segment...

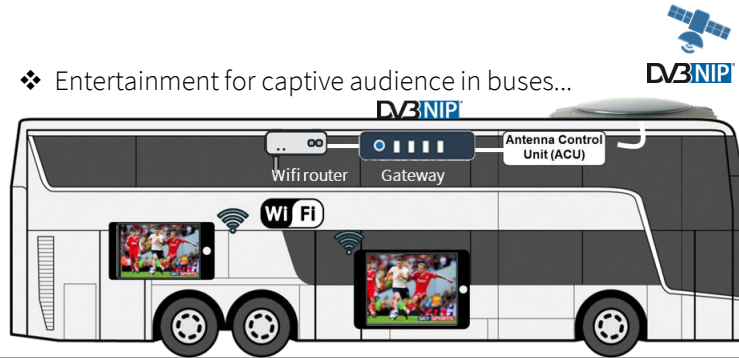
- ❖ Sports channels in bars
- ❖ Premium channels in hotels
- ❖ E-Learning programs, malls
- ❖ Maritime deployments



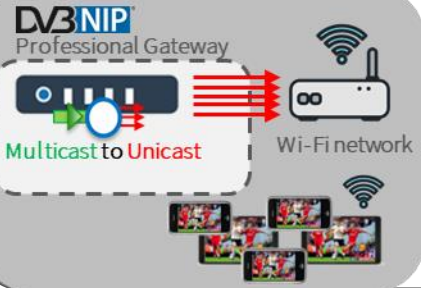
Public places

Live TV is enabled in poor connectivity and TV-less environments

- ❖ Entertainment for captive audience in buses...



- ❖ Educational channels in rural villages

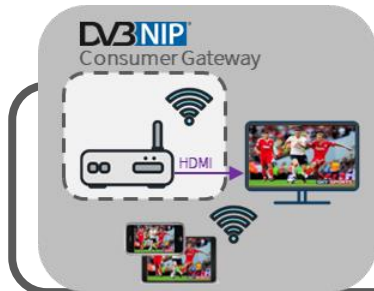


... and enables a truly converged media delivery ecosystem

Homes

The same P-based streams feed all screens

- ❖ TV platforms are unified
- ❖ Multiscreen
- ❖ Higher reach inside homes
- ❖ Multiroom



All will gain with Native IP leveraging the **existing** infrastructures & mobile devices proliferation

OPERATORS



Can launch OTT services
in rural areas & public places

SATELLITE PROVIDERS



Can sell additional bandwidth for OTT
and stay relevant with the future DTH 2.0

OTT PROVIDERS

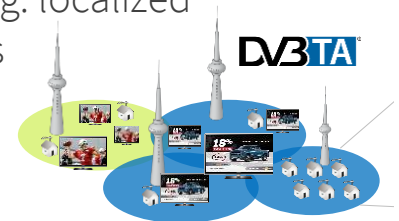


Can scale down infrastructure costs
and extend their market reach

ALL

Also benefit from:

- ✓ **Content personalization**
made easier, e.g. localized
insertion of ads
or other



- ✓ Live and push TV served with
broadcast quality even in low
connectivity areas



- ✓ A more **sustainable digital world**
thanks to the power consumption
impact reduced

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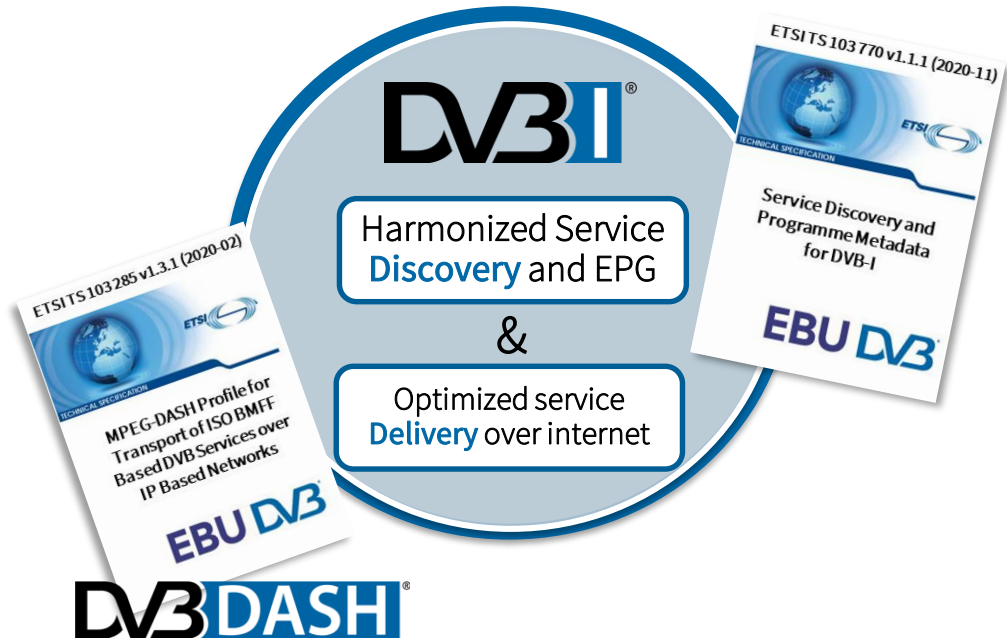
From hermetic silos to a converged media delivery ecosystem

Native IP (DVB-NIP) for media streaming over broadcast

DVB-I, a harmonized and network-agnostic service layer

Useful links, webinars & demos

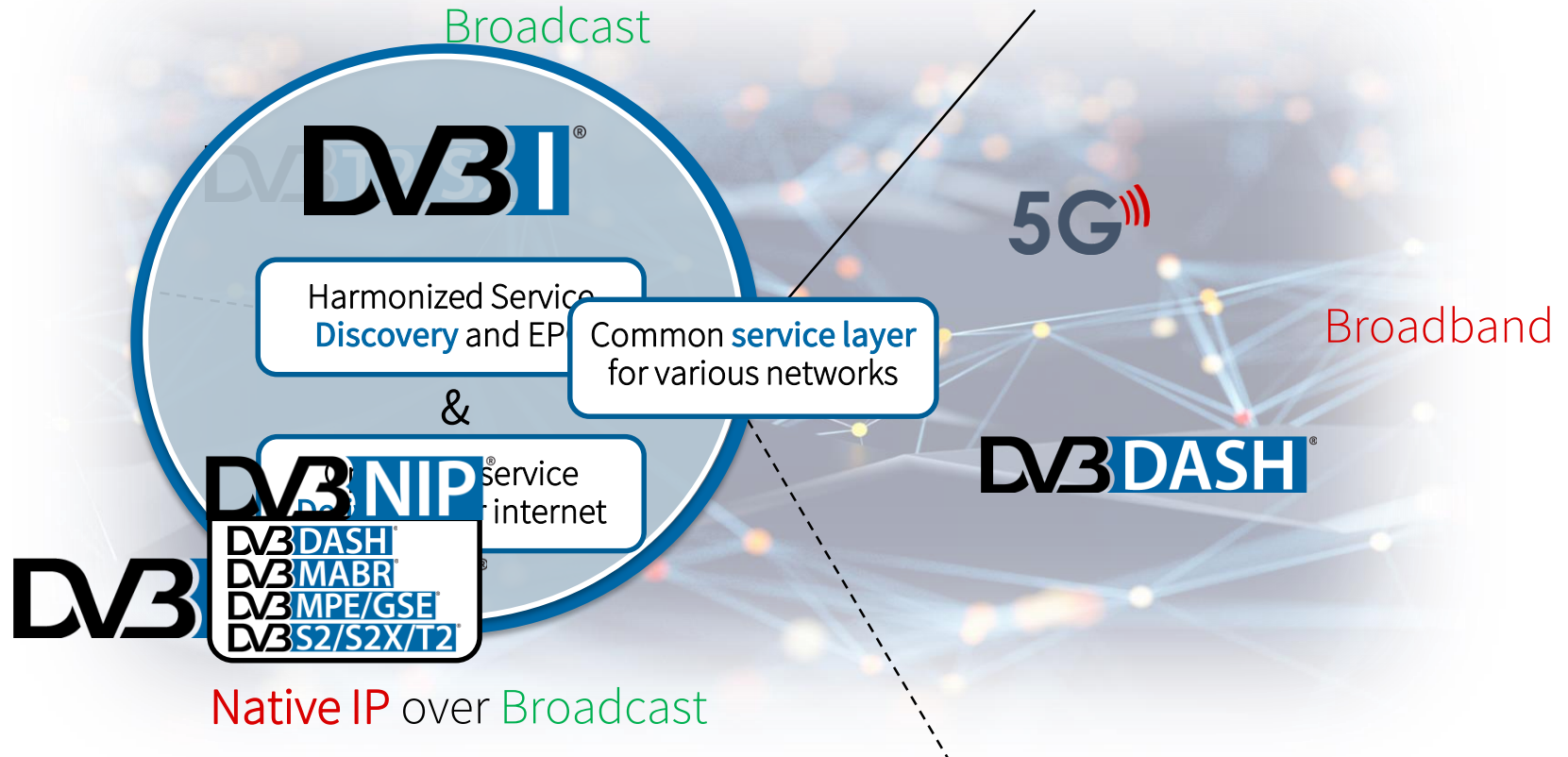
DVB-I Service Discovery in a nutshell



DVB-I (TS 103 770) defines the mechanisms for the **discovery of service lists** and to retrieve EPG over the internet

DVB-DASH (TS 103 285) is the optimized streaming format defined for the **delivery of DVB services** over the internet

DVB-I offers a common service layer across networks



German Public Pilot from ARD Playout center & RBB
(based on the [DVB-I Reference application](#))

- Hybrid broadcast and DVB-DASH services
- Region-specific channel sorting
- Service instance switching depending on network availability
- DRM-protected services
- Immersive audio & Dialogue Enhancement
- Richer UI with forward/backward EPG incl. logos and images
- DVB-I breaks down the barriers between broadcast and broadband worlds

16:53 Wed, 7 Sept

DVB-I Player

TV experience on a tablet

(Based on a [DVB-I Android app from On Screen Publishing](#))

58%

About DVB-I Player



- rbb** 16:15 In aller Freundschaft - Die jungen Ärzte (194)
- 17:05 Wer weiß denn sowas? (647)

DVB DASH DVB S2

http://35.178.187.191/webdav/manifest.mpd

Dialogue enhancement Off Mid High

Show/hide service list Settings Guide Boxed sets

- 10 münchen.tv HD
- 11 Kika Kika
- 12 3sat 3sat
- 13 arte arte HD
- 14 phoenix phoenix HD
- 15 ZDF VoD Playlist
- 16 ZDF Live Event
- 17 NDR NDR FS NDS HD
- 18 BR BR Fernsehen Süd HD
- 19 MDR MDR Sachsen HD
- 20 SWR SWR BW HD
- 21 hr hr-fernsehen HD
- 22 rbb rbb Berlin HD
- 23 rbb rbb Dolby AC4
- 24 SR SR Fernsehen HD



TV experience on a tablet – EPG
 (Based on a [DVB-I Android app from On Screen Publishing](#))

DVB-I Player

Today Tomorrow



Schatten der Mörder - Shadowplay (3)

Thriller-Serie von Måns Mårild

Click to watch Schatten der Mörder - Shadowplay (3) now

	00:00	01:00	02:00	03:00	04:00	05:00
NDR	extra 3	Cassandras Warnung	Hallo Niedersachsen	Nordmagazin	Schleswig-Holstein Magazin	Hamburg Journal buten un binnen DAS! regionalmagazin
BR		Wir in Bayern	Frankenschau aktuell	Abendschau - Der Süden	Abendschau	Geschichten aus München aktiv und gesund Space Night
mdr	extra 3	Quedlinburg - wunderbar verwandelt	Einfach genial	Mach dich ran	Sächsische Schweiz - Wald, Stein, Fluss - nonstop	MDR SACHSEN- ANHALT HEUTE MDR THÜRINGEN JOURNAL Rote Rosen (68)
SWR			Freunde in der Mäulesmühle	Echt witzig! - So lacht Deutschland	So lacht Deutschland	Das GlasBlasSing Quintett in kabarett.com natürlich! Landesschau Baden-Württemberg Big Cities (25) Big Cities (26)
hr	All you need (11)	Der Schwarzwaldhof - Alte Wunden	bernde Marie	Bilder alle aus wetter! Hes...	maintower	Die Kapitänin vom Rhein In aller Freundschaft - Die Jungen Ärzte (265) Sturm de
rbb	Tod und Spiele - München 72 (3/4)		SUPER.MARKT	Heimatjournal	Berlinschön + gut erw...	STUDIO 3 - Live aus Babelsberg rbb24 Brandenburg aktuell rbb24 Abendschau
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radio Bremen	extra 3	Cassandras Warnung	Hallo Niedersachsen	Nordmagazin	Schleswig-Holstein Magazin	Hamburg Journal buten un binnen DAS!

Home Settings



TV experience on a tablet – Boxed sets
(Based on a [DVB-I Android app from On Screen Publishing](#))

10% 12:20

DVB-I Player

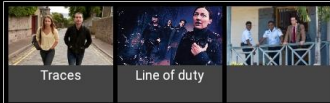
Featured on BBC One



Popular drama



Police drama



→ Linear and non-linear are brought together

BBC one	11:45	Rip Off Britain
	12:15	Homes Under the Hammer

- DVB T2
- DVB S2
- DVB DASH
- HLS
- HLS

https://dash.akamaized.net/dash264/TestCasesOP41/MultiTrack/alternative_content/6/manifest_alternative_lang.mpd

- 1 **BBC one** BBC ONE Lon
- 2 **BBC TWO** BBC TWO
- 3 **itv** ITV
- 4 **4** Channel 4
- 5 **5** Channel 5
- 6 **itv2** ITV 2
- 8 **LONDON LIVE** London Live
- 9 **BBC FOUR** BBC Four
- 10 **itv3** ITV3
- 11 **Pick** Pick
- 12 **QUEST** QUEST
- 13 **E4** E4
- 14 **Film4** Film4
- 15 **4+1** Channel 4+1
- 16 **QVC** QVC



DVB-I Player

TV experience on a tablet – Boxed sets (Based on a [DVB-I Android app from On Screen Publishing](#))

10% 12:20

Line of duty

Bent coppers and the detectives sent to stop them. AC-12 isn't here to make friends. Will their investigations land them deadly enemies?



- Season 1
- Season 2
- Season 3
- Season 4
- Season 5
- Season 6



- 11:45 Rip Off Britain
- 12:15 Homes Under the Hammer

- DVB T2
- DVB S2
- DVB DASH
- HLS
- HLS

https://dash.akamaized.net/dash264/TestCasesOP41/MultiTrack/alternative_content/6/manifest_alternative_lang.mpd

- 1 **one** BBC ONE Lon
- 2 **TWO** BBC TWO
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- 4 **4** Channel 4
- 5 **5** Channel 5
- 6 **itv2** ITV 2
- 8 **LONDON LIVE** London Live
- 9 **FOUR** BBC Four
- 10 **itv3** ITV3
- 11 **Pick** Pick
- 12 **QUEST** QUEST
- 13 **E4** E4
- 14 **Film4** Film4
- 15 **4+1** Channel 4+1
- 16 **QVC** QVC

Thanks!



DVB is an industry-led consortium of the world's leading media & technology companies designing open technical specifications for digital media delivery.



DVB-I – Useful links, Webinars & Demos

- [DVB-I specification](#)
- [DVB-I verification & validation](#) (DVB-I ref. app & other tools)
- Webinars on DVB-I
 - I. [DVB-I general introduction](#)
 - II. [Encoding and packaging for DVB-I services](#)
 - III. [DVB-I Service lists and metadata](#)
 - IV. [TV over 5G – Bridging the gap with DVB-I](#)
 - V. [Road-testing DVB-I: en route for deployment](#)

- [DVB-I microsite](#)



DVB-I demos:

- **TPV Technology**

<https://youtu.be/X1p-7uP17UY?t=338>

- **NESTED (ATEME, ENENSYS,...)**

<https://youtu.be/X1p-7uP17UY?t=758>

- **Kineton**

<https://youtu.be/X1p-7uP17UY?t=1287>

- **Dolby**

<https://youtu.be/X1p-7uP17UY?t=2151>

- **Huawei**

<https://youtu.be/X1p-7uP17UY?t=4578>

- **Qualcomm**

<https://youtu.be/X1p-7uP17UY?t=5018>

- **DTG Testing**

<https://youtu.be/X1p-7uP17UY?t=5966>

DVB-NIP – Webinars & Demos

Video introduction:



DVB-NIP demos:

• **Native IP multi-vendor demo introduction**

<https://youtu.be/X1p-7uP17UY?t=2588>

• **Broadpeak**

<https://youtu.be/X1p-7uP17UY?t=2781>

• **ST Engineering iDirect**

<https://youtu.be/X1p-7uP17UY?t=3319>

• **EKT**

<https://youtu.be/X1p-7uP17UY?t=3716>

• **EasyBroadcast**

<https://youtu.be/X1p-7uP17UY?t=4041>

• **ENENSYS**

<https://youtu.be/X1p-7uP17UY?t=1666>

Webinar:

