



# NorDig T report to Excom

NorDig Excom meeting 4<sup>th</sup> October 2018 Stockholm, Sweden



*Early/preliminary report back from NorDig Excom*

*Marked as “Excom” in blue text is outcome from this Excom meeting (decision, comments, tasks, feedback etc)*

*NorDig T (Per Tullstedt) extra report back from NorDig Excom meeting, mainly NorDig T related issues, not the official NorDig Excom report (which will come from our Excom secretary)*

## NorDig Excom Agenda 4<sup>th</sup> October 2018:

*Place: Blu Radisson Hotel, Arlanda in Stockholm, Time: 10:00 to approx. 16:00*

### 1. Agenda and report from previous meeting

### 2. Organizational matters

- 2.1. Membership situation
- 2.2. Finance matters
- 2.3. Organizational matters
- 2.4. Proposal for “NorDig basic rules of communication”

### 3. Report from NorDig/T

#### 3.1. Status and report from NorDig/T general

3.1.1. NorDig IRD spec v3.1 – **Excom approved**

3.1.2. NorDig Test Plan v3.1,

Presentation draft and plan

NorDig Test Plan v2.6 addendum - **Excom approved**, Self-declaration OTN SSU - **Excom approved**

### 4. Report from Industry

### 5. Reports from members, DVB and other organizations

- 5.1. NRK LTE report
- 5.2. Finland DVB-T switch off status report
- 5.3. 700MHz status report from countries

### 6. Any other business

### 7. Date and place for the meetings in 2019



## Overview NorDig T specification work :

- Rules of Operation
  - Latest published: RoO v2.5 (published October 2016)
  - [Excom: after IRD + TestPlan v3.1, focus \(2019\) upon update RoO v3.1, Excom asks for changing layout to same as IRD spec, most important content for RoO shall be items necessary to avoid misbehavior in IRDs.](#)
- Unified IRD specification
  - Latest published: IRD spec v3.0 (published November 2017)
  - NorDig IRD spec v3.1 now final draft ready – waiting Excom approval (see separate slides)
  - Proposal to start drafting HEVC HFR + dynamic HDR spring 2019 (*proposal from SVT*) – Excom view? (see also slide 3)
    - *DVB plan to finalise its work for HFR and dynamic HDR to summer 2019*
    - *Proposal to start NorDig work in parallel Spring 2019 drafting HFR + dynamic HDR with goal to a final draft to autumn 2019.*
    - *Questions already id that tech/video needs to prepare: two NorDig HEVC profiles (SFR + HFR) or one, HFR both dual PID (backward compatible) and single PID or only single HFR PID, dynamic HDR how many of DVB alt to be included?*
- Test Plan
  - Latest: Test Plan v2.6 (published Dec 2017, now incl Test for HbbTV)
  - Drafting Test Plan v3.1 still ongoing (earlier planned to be ready to Oct2018)
    - Today present status of drafting so far (separate slide)
    - Proposal finalise draft Nov-Dec 2018, send to Excom and “silent approval” via e-mail (if ready by Dec, otherwise wait to next Excom meeting March 2019) – Excom view?
    - Proposal to make Test Plan v2.6 addendum, to publish new updated SSU testing (in order to handle Self-declaration)
  - **New** NorDig Self-declaration for tested SW update (SSU) over Internet and USB – now waiting Excom to accept approach/spec and to approve draft proposal
- HbbTV - Maintenance of NorDig’s HbbTV and its test cases
- EPG/EIT exchange file format
  - NorDig EPG/Event metadata exchange format v1.0 + Guidelines (published March 2018, updates guidelines June 2018)
- Website and admin
  - Editing guideline v1.0 created (by editor) for how to writing proposals for changes in NorDig specs – [Excom OK](#)

## Proposal for updating NorDig mandates & items for period 2017-2018 (2019)

- Video, audio, subtitling
  - **Video** codec: NorDig's first subset of HEVC (DVB's UHD, HDR&WCG, SFR), incl video processing and I/O (HDMI).
  - ~~Video~~ codec: investigate possibility and issues with later adding HEVC HFR support.
  - **New Video** codec: investigate issues with adding HEVC HFR support, check with Industry, make proposal
    - Questions that needs to be prepared by NorDig:*
      - two NorDig HEVC "profiles" (SFR HEVC + HFR HEVC) or one (HEVC that supports HFR),
      - HFR both dual PID (backward compatible) and single PID or only single HFR PID,
      - dynamic HDR how many of DVB three alt to be included?
  - **New Video** codec: Propose tech requirements for HEVC HFR which incl also dynamic HDR, target ready to Oct 2019
  - **Video**: Secure good IRD implementation for mixing/blending of SDR content (HbbTV, menus, subtitling) on top of HDR video.
- Accessibility
  - Work with harmonization of broadcast and better describe current broadcast for IRD manufactures
  - Subtitling, propose updates and new IRD requirements both for normal and hard-of-hearing subtitling, especially for HEVC IRDs.
  - ~~Dialogue Enhancement~~ investigate members interest for this and if they are able to broadcast this
  - Audio, propose requirements related to supplementary audio for HEVC IRDs (audio + accessibility group)
  - ~~Supplementary Audio (Audio description, Spoken subtitling), investigate how NorDig broadcasters status today broadcast this and how much difference there is around this in NorDig broadcast.~~
  - Investigate use of accessibility features and how it is signaled within the NorDig area (audio- and subtitle- languages, dubbing, spoken subtitles, sign languages and more). Make an overview.
  - HbbTV for Accessibility services – investigate how HbbTV can be used for Accessibility and if needed propose changes to IRD and RoO requirements
  - ~~Investing new technology and equipment for accessibility services.~~
  - Investigate benefits with NGA for accessibility.
- Excom approve updates of mandates, target for Accessibility investigation to March 2019 Excom meeting<sup>3</sup>

## HbbTV status:

- HbbTV organization has created test cases for DRM – Dec 2017
- HbbTV published v2.0.2 (ETSI v1.5.1)
  - Includes errata/debugging
  - HDR, HFR, NGA over broadband (if supported for broadcast)
- UK DTT launched HbbTV (v2) - Jan 2018
  - E.g. BBC running tests with local news insertion in DVB-T2 HD broadcast services via HbbTV broadband local news/content delivery (based upon the ideas for DVB “Target Advertising” technology)
- NorDig HbbTV test cases updated and approved by HbbTV (ie incl in HbbTV test package)
- NorDig Unified IRD spec – HbbTV requirements
  - Current NorDig IRD spec v3.0 – HbbTV v2.0.1 (mandatory for iTVs)
  - Proposed NorDig IRD spec v3.1 – HbbTV v2.0.2 with a grace period until July 2020

## NorDig EPG/Event exchange file format:

- Minor corrections to guidelines
- Work to promote/help impl and use of NorDig EPG/event file format and keep TV Anytime spec up to date.
- Open workshop Nov 2018 at TV2DK in Copenhagen
- [Excom - OK](#)

NorDig Unified IRD spec v3.1 – final draft (NGA, HbbTV v2.0.2, HEVC Sec):

- Final draft / stabile candidate, agreed within NorDig T,
- However asking for mandate to correct typos, spelling and cross references – [Excom OK](#)

Updates/changes are:

- **Name change:** "...for use in cable, satellite, terrestrial and managed IPTV based networks ~~IP-based networks~~"
- **Bug list:** a number of listed typos, removal of passed grace periods
- **FrontEnd:** some minor updates SQI+SSI (quality indicator) for DTT
- **Video:** no changes
- **Subtitling:** Minor updates references for HbbTV v2
- **System SW update (SSU):** adding USB SSU mandatory for OTN/Internet SSU (was missed in v3.0 update)
- **HbbTV:** HbbTV v2.0.2 with a grace period until July 2020 (HbbTV v2.0.1 errata#3 July 2019)
- **CA/Sec:**
  - Added text for CI+ ECP requirements, but as optional ([Excom view, mandatory or optional?](#))
  - part Industry against mandating (mainly Samsung), part Industry can accept mandating,
  - Italy UHD DTT spec mandates CI+ ECP
  - Most important for CanalDigital is that requirement text is included, can accept it as optional
  - Assumed to be needed for all payTV HEVC services (not just UHD), since HEVC comes with new TV format
  - [Excom – keep as optional, Excom will ask members \(espec operators\) view of mandating this and if needed for members, Excom will release \(March 2019\) an update of IRD spec v3.1.1](#)
- **SI:** informative reference to NorDig EPG/Event exchange file format, no changes except NGA/AC4 audio related
- **PVR:** no changes

## NorDig Unified IRD spec v3.1 – final draft:

- Audio:

Legacy audio (mp2, he-aac, ac3/e-ac3) unchanged

NGA/AC-4 technical requirements included as:

- NGA/AC-4 mandatory for NorDig HEVC IRDs (grace period until July 2020)
  - AC-4 decoding (as DVB), AC-4 to PCM, AC-3 and E-AC-3,
  - Normal + Accessibility Audio + (new) Dialogue Enhancement incl as mandatory (incl setting for it)
  - Immersive Audio, mandatory to receive/decode but optional to output as immersive (enough to downmix to stereo/multi) *immersive = more than 5.1 multi*
  - NGA/AC-4 stream expected to be complete at least per language (normal+AD+Spoken+extra)
  - Audio Prio cases: handles multiple NGA PIDs, NGA[lang1]+Legacy[lang1], NGA[lang1]+Legacy[lang2],  
NGA handled via single PID processing (dual audio PIDs, 2xNGA or 1xNGA+1xLegacy, not handle)
  - Audio Prio: first prio PID/stream, then prio inside a NGA among presentations/pre-selections
  - Signalling (SI) – all necessary SI listed, defined how to prio among DVB SI
    - Audio Preselection descriptor APD, improves e.g. selections among Accessibility audio, members wants to mandate, some TV manufactures asks for optional, drafted as optional
    - Excom – decided to keep APD optional for v3.1.0, BUT with clear intention to mandate APD (with grace period until 1 July 2020) at Excom meeting March 2019 into update IRD spec v3.1.1. AP for NorDig/T/Audio to investigate further why not mandate APD.
- Excom – NorDig IRD spec v3.1 is approved, NorDig/T OK to correct typos, spelling and cross-references, publish asap (within 2w). Excom plan to make press release 5 Oct of coming IRD spec.



## NorDig Unified IRD spec future after v3.1:

- Bug list
  - a few number of listed items,
  - Debugging, clarifications
- Video: HFR
  - Excom earlier decided for incl of a HFR HEVC IRD profile within 2 years after our first HEVC IRD profile Dec 2017, NorDig T has not started this work,
  - Shall NorDig T start drafting work now (a bit in parallel w DVB), target Oct 2019?
- CA/CP/Security
  - CommonInterface v2 (USB), still monitoring status, members interest?
- Audio – none
- Subtitling – none
- HbbTV - none
- FrontEnd – none
- SSU - none
- PSI/SI, menus etc...

- Test Plan v3.1 drafting:
  - Prel time plan: end 2018
  - Today presenting a early not stable draft, not ready to be approved by Excom
  - Proposal finalise draft Nov-Dec 2018, send to Excom and “silent approval” via e-mail (if ready by Dec, otherwise wait to next Excom meeting March 2019) – [Excom view?](#)
  - Work started, analysed what test cases needs to be updated
    - FrontEnd (no must for S2X test since optional)
    - Video/HEVC
    - Audio/NGA
    - Subtitling/TTML
    - SSU/SW updating – ready
    - PVR
    - SI, menus, user pref. settings
- **NEW Test Plan v2.6 addendum for System SW update (SSU)**
  - replacing and updating Test Plan v2.6 SSU test cases (all delivery alternative)
  - NEW proposed documents, not earlier presented to Excom, needed for Self-declaration SSU testing before TestPlan v3.1
  - Document agreed inside NorDig T, front page/intro text might still need to updated but ready/waiting for Excom approval
  - [Excom approved document.](#)
- **Self-certification SSU Testing template – OTN (Over-the-Network/Internet) and USB SSU**
  - New proposed NorDig document
  - [Excom approved template document](#)