



NorDig T report

NorDig Excom meeting 30th September 2014 Oslo, Norway

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)

Place: Hotel Radisson Blue Gardermoen Oslo Time: 10:00 to approx. 16:00

- 1. Agenda and report from previous meeting**
- 2. Organisational matters**
 - 2.1 Membership status.**
 - 2.2 Financial status.**
- 3. Report from NorDig/T**
 - 3.1 Specification status.**
 - 3.2 Ongoing work.**
 - 3.3 Specific issues, HbbTV status and testing**
- 4. Report from Industry**
 - 4.1 Report from Nordic Product Manager meeting.**
 - 4.2 Report from industry members.**
- 5. Focus Norway**
- 6. NorDig/T future work**
- 7. Reports from members, DVB and other organisations**
- 8. Any other business**
- 9. Date and place for next meeting**



NorDig T report

NorDig Excom meeting 30th September 2014 Oslo, Norway

Place: Hotel Radisson Blue Gardermoen Oslo Time: 10:00 to approx. 16:00

1. Agenda and report from previous meeting

2. Organisational matters

Excom: Per Björkman are not able to continue as chairman for NorDig Excom for 2015 (new position in SVT and too many other task internally), Per Björkman will however still participate at Excom meeting and be able to handle NorDig practical financial tasks.

2.1 Membership status.

Excom approve Chinese front-end chip manufacture Altobeam as Associated member.

2.2 Financial status.

NorDig T/API propose extend Sofia Digital consultancy work for editing/managing development of NorDig specific HbbTV test cases (originally estimate 15 test cases, now approx. 80 test cases). Additional cost of 9kEUR, where NRK & DR take 50% and NorDig the last 50% (4.5 kEUR). Indicate for API group that as owner of HbbTV test cases there are maintenance costs, for NorDig's part approx. in the magnitude of 6kEUR/year – Excom approve this 4.5kEUR for finalize current HbbTV test cases and ask NorDig T/API to prepare for next Excom meeting proposal and estimate for future costs for NorDig related to HbbTV test cases.

3. Report from NorDig/T

See slides 3-13

3.1 Specification status.

3.2 Ongoing work.

3.3 Specific presentation future technologies: HbbTV status and testing (Erik Vold presented coming HbbTV2.0)

4. Report from Industry

4.1 Report from Nordic Product Manager meeting.

4.2 Report from industry members.

5. Focus Norway

6. NorDig/T future work

See slides 14-16, will continue coming Excom meeting

7. Reports from members, DVB and other organisations

Both YLE and DR are reorganizing and reducing number of employees (about 200 persons). YLE plans to outsource technical functions.

8. Any other business

8.1 Next Excom meeting and NorDig T presentation about technical future for a subject: Next Excom meeting (27 Jan 2015) NorDig T is asked to present some more about HEVC and HDTV/UHDTV (related to DVB).

9. Date and place for next meeting 2015: 27 Jan 2015 (Stockholm/Arlanda), 26 May 2015 (TBD), 29 Sept 2015 (TBD)



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3. Report from NorDig Technical group:

- Specifications – status and progress new specifications
 - *Unified IRD specification: v2.5.1 published 26 Aug 2014 (corrected v2.5)*
 - *Test specification: v2.4 published Feb 2014, v2.5 planned end2014/beg2015*
 - *Rules of Operation: v2.x planned final draft end of 2014*
- Ongoing work and info from members & relevant other standards
 - *NorDig T and subgroups work & planning*
 - *Info (basic) relevant standards*
- Specific presentation (NorDig T subgroups)
 - *HbbTV – future of HbbTV and NorDig members 2014 (Erik Vold, NRK)*

6. NorDig-T future work



NorDig T report - **Work and subgroups**

NorDig Excom meeting 30th September 2014

Overview

NorDig T – *active*

NorDig T subgroups – status

- Video – *dormant*
- Audio – *active* (audio related for IRD, Test Plan and RoO)
- Test – *active* (Test Plan)
- RoO – *active* (RoO spec)
- Accessibility – *active* (accessibility related for IRD, Test Plan and RoO)
- PVR/API – *active* (HbbTV testing (cases+setup), API+PVR related for IRD, Test Plan and RoO)
- CA/CI+/Sec – *dormant* (CI+ v1.4)
- (SSU – *closed after IRD v2.5 work*)



NorDig T report - **Work and subgroups**

NorDig Excom meeting 30th September 2014

Organisation and status

NorDig T – *Per Tullstedt, Teracom*

NorDig T subgroups – status

- **Video** – *dormant (future maybe HEVC, UHDTV, HDMI 2.x etc)*
- **Audio** – *Johan Lindroos, SVT, preparing proposals related to audio for IRD, RoO and Test specs*
- **Test** – *Pasi Toiva, Labwise, drafting NorDig Test Plan*
- **RoO** – *Des Mac Giolla an Chloig, RTÉNL, drafting RoO spec*
- **Accessibility** – *Kjell Norberg, NRK, preparing proposals related to accessibility (audio, video, subtitling, menus...) for IRD, RoO and Test specs*
- **PVR/API** – *Erik Vold, NRK, preparing proposals related to PVR and API (HbbTV) for IRD, RoO and Test specs. Investigations DRM alt, test model/process. Creating complementing HbbTV Test streams*
- **CA/CI+/Sec** – *dormant (CI+ v1.3, CI+ v1.4)*
- **SSU** – *dormant*



NorDig T report - Work and subgroups

NorDig Excom meeting 30th September 2014

Summary activities during 2014

NorDig T – ~12-14 *active participants/members (mix of members+observers, ~25-30 total incl passive), 4 meetings 2014, main activity: NorDig IRD, Test and RoO spec update, test process, NorDig HbbTV setup, general info exchange.*

NorDig T subgroups – status

- Video – *dormant, monitored by NorDig T*
- Audio – *~15 participants/members (mix of members+observers), 2-3 meetings 2014 (but working together w Accessibility), main activity: prepare proposals related to audio for IRD, RoO and Test specs*
- Test – *~Y participants/members, 0 meetings 2014 (also getting inputs HbbTV testing from API group), main activity: drafting Test plan v2.5.0*
- RoO – *~15 participants/members (mix of members+observers), 0 meetings 2014 (but getting inputs from other subgroups), main activity: updating/drafting RoO spec*
- Accessibility – *~16 participants/members (mix of members+observers), 0-1 meetings 2014, main activity: prepare proposals related to accessibility (audio, video, subtitling, menus...) for IRD, RoO and Test specs*
- PVR/API – *~22 participants/members (mix of members+observers), ~10 meetings 2014, main activity: prepare proposals HbbTV requirements and TV Recorder (“lite PVR”) for IRD, RoO and Test specs. Investigations DRM alt, test model/process. Creating complementing HbbTV Test streams. Started a smaller “expert subgroup” inside the subgroup for creating test cases, another 5-6 meetings so far.*
- CA/CI+/Sec – *dormant,*
- SSU – *dormant*



NorDig T report - Meeting calendar 2014

NorDig Excom meeting 30th September 2014

NorDig T meeting calendar 2014:

- Tue 14 Jan 2014 – *telco*
NorDig Excom 28 Jan
- Wee 19 Mar 2014 – *phycial*
- extra Thu 24 April 2014 – *shorter telco 14:00-16:00 CET, drafting IRD v2.5*
- Tue 13 May 2014 – *telco*
NorDig Excom 20 May
- extra meeting Tue 3 June 2014 – *shorter telco 10:00-12:00 CET, walk-through final draft IRD v2.5*
- Tue 17 June 2014 – *telco*
- Thu 4 Sep 2014 – *Sweden, Stockholm, at Teracom or SVT*
IFA 5-10 Sept, Berlin
IBC (11) 12-16 Sept Amsterdam
NorDig Excom 30 Sep
- Tue 28 Oct 2014 – *Turkey, at Vestel*
- Tue 2 Dec 2014 – *Denmark, Copenhagen, at DR*



NorDig T report - short info standards

NorDig Excom meeting 30th September 2014

Short info about news/progress relevant Standards – NorDig members interest?

Front Ends (NorDig IRD v2.5.1: DVB-S/-S2, -C, -T/-T2, some for “-IP”)

- DVB-S2X (ETSI EN 302 307 part 2)
- US ATSC 3.0 reviewing complete spec, DVB propose DVB techn (updated version of DVB-T2)

Video & Audio (NorDig IRD v2.5.1: MPEG2 + MPEG4)

- MPEG-H HEVC, UHDTV and Dolby AC4 (DVB finalizing subset & additional signaling details)
- DVB Subtitling under review
- MPEG-H Audio (3D Audio) still very early

CA, CI+, DRM (NorDig IRD v2.5.1: CI+v1.3, scrambling DVB CSA, no CA, no DRM)

- CI+ v1.5 under development (maybe end 2014), plan to include new form factor (PCMCIA → USB)
- CI+ LLP (Limited Liability Partnership) still working on what and how CI+ v1.4 will be required
- DRM - NorDig just observers and reports

HbbTV (NorDig IRD v2.5.1: HbbTV v1.5 aka ETSI TS 102796 v1.2.1)

- HbbTV v2.0 (draft ETSI TS 102796 v1.3.1) late 2014 w first impl early 2016, likely incl HTML5, sync devices etc
- HbbTV v1.5 errata #2 (19th Aug 2014, video resolution to match MPEG DASH, security improvements etc) and planned in autumn 2014 errata #3, **should NorDig incl these in next IRD spec?**
- HbbTV Test suits v1.5 late 2014 (NorDig contribute/propose)

I/O interfaces etc (NorDig IRD v2.5.1: HDMI v1.4, SCART output optional)

- HDMI v2.0 for UHDTV (4k, 10bit, 50/60Hz, but old colors and dynamics, Sep 2013)
- Ultra HD logo





NorDig T report - (Techn) Info from members

NorDig Excom meeting 30th September 2014

(Technical) Information/news from NorDig members:

- NRK+TV2: HbbTV plan to launch on “all” distr platforms
- DR: HbbTV (DR TV) launched 1 June 2014 “all” distr platforms for all DR services (catch-up + OnDemand)
- NRK: plan to start with Spoken Subtitling for all NRK services (starting w DTT)
- DR has now spoken subtitling on all 3 DR services (DR1 + DR2 + DR3)
- ComHem: launched IPTV STB
- Norwegian Get (cable op) sold to TDC



NorDig T report - Overview specification work

NorDig Excom meeting 30th September 2014

Overview NorDig T drafting specification work :

- Rules of Operation
 - v2.x target: end 2014/beg. 2015
- Unified IRD specification
 - v2.5.1 has been published July/Aug 2014 (v2.5 and then correction to v2.5.1)
 - No work started yet with any future release (waiting Excom input and mandate)
- Test Plan
 - v2.5 work started (incl test for PVR crids, HbbTV etc)
- HbbTV
 - Test cases (both NorDig and HbbTV test specs), under progress, NRK supervising, Sofia Digital consulting for writing test cases (partly paid by NorDig and partly by NRK) (target end of 2014 to match HbbTV test spec v1.5 end of 2014)
 - Test model proposal (based on HbbTV standard + NorDig additions), to be stated in NorDig IRD v2.5 and Test spec
 - Logo + marketing: no NorDig specific, no other than HbbTV standard
 - DRM: no NorDig DRMs specified for IRDs (NorDig T still monitor and report DRM to Excom)



NorDig T report - plan remaining period 2014

NorDig Excom meeting 30th September 2014

Overview NorDig T group work 2014 remaining period (incl subgroups):

- Main activities and specification work 2014:
 - RoO v2.x – preparing major update of current very old RoO
 - Test Plan v2.5 – work started with v2.5 to match IRD spec v2.5.1
 - NorDig 's HbbTV test cases – target finalize to HbbTV standard test suit “v1.5”
- No new planned activities for 2014 (yet), i.e. no planning yet for IRD v2.6 etc
- Inputs from Excom(?)



NorDig T report – API HbbTV test cases

NorDig Excom meeting 30th September 2014

API HbbTV – Development of NorDig HbbTV test cases:

- Background
 - NorDig API group identified HbbTV standard test suits is and will be missing a number of important test for NorDig Hybrid markets (languages, Nordic characters, subtitling etc)
 - NorDig decided to specify test cases for requirements missing in HbbTV standard test cases and use same format as HbbTV test suits, this to ensure that NorDig extra test cases can easy be added during HbbTV verification testing.
 - NorDig's HbbTV test cases will be open available (same as NorDig's other specifications) but also most of NorDig's HbbTV test cases will likely be included in HbbTV standard test suits (as optional).
 - Time plan finish by end of 2014 (initially March/April 2014), targeting to be included in the update of the HbbTV standard test suit.
 - NorDig has used Sofia Digital consulting as main editor for NorDig HbbTV test case development (part paid by NRK and part by NorDig), initially estimate of work was around 20 working days.
- Now, autumn 2014
 - Now, during the specification work with test case it has been identified that the total number of test cases needs to grown quite some.
 - Extra work with contacting and access HbbTV Test suits and ensuring their format in drafting
 - Editor company Sofia Digital has spent more time than originally plan
 - Sofia Digital ask for another 9 kEUR for chairing the editing and finalize the specification of the test case, this mainly due to the grow of more test cases than original plan. NRK said willing to help with part of cost, but asks NorDig to help with the other part. **Excom to decide - Excom approve this 4.5kEUR for finalize current HbbTV test cases and ask NorDig T/API to prepare for next Excom meeting 27 Jan 2015 proposal and estimate for future costs for NorDig related to HbbTV test cases (foreseen of any future additional test cases, maintenance etc).**



NorDig T report – NorDig countries/networks

NorDig Excom meeting 30th September 2014

List of Countries using NorDig specifications (outside NorDig members), Several IRD manufactures and other mentions that several other territories and DVB networks refers or uses NorDig as basis for their IRD specs (especially “newer” networks). Among reasons seems open spec and content (T2, HbbTV, subtitling etc).

First list:

Country / Network	Status
Turkey DTT	Confirmed via Vestel
Several eastern Europe countries	Indications, not confirmed
Malaysia (<i>blue copy</i>)	Digita



NorDig T report - mandates from Excom

NorDig Excom meeting 30th September 2014

NorDig T – mandates from Excom

- Current mandates from Excom are from early 2013
- Last (smaller) updated Excom meeting Jan 2014
- New mandates from Excom for coming period? Excom: NorDig T to propose (update proposal, some feedback from Excom already on current proposal from NorDig T) and Excom plan to decide next meeting (27 Jan 2015)



NorDig T report - proposal planning and activities (1/2)

NorDig Excom meeting 30th September 2014

6. NorDig T future work - proposal planning and activities for coming period 2015:

- RoO
 - continue update of RoO spec and exchange experience (focus area)
 - Plan in basic have same structure to be same as IRD spec
 - Guidelines and recommend broadcast settings and levels (to reduce differences between NorDig networks)
 - examples
 - Include specific info related to different NorDig members networks/platforms
 - **Excom: OK**
- Test plan
 - Test plan v2.5
 - Match IRD spec v2.5.1 (incl PVR crids, HbbTV and other today missing test cases)
 - Review and where possible combine similar test cases to make it easier and faster to test
 - “minimize” RF test cases
 - Missing audio/video test cases (e.g. metadata, video crop etc.)
 - Update and improve test cases
 - **Excom: OK**
- HbbTV
 - Finalize NorDig’s HbbTV test cases, contribute to HbbTV org for inclusion in HbbTV standard Test suits, add requirements in NorDig Test Plan
 - Monitor and report HbbTV spec development and usage, (HbbTV now close to release v2.0 spec w HTML5 etc). [\(Probably too early 2015 to incl HbbTV v2.0 in NorDig\)](#)
 - [At Excom meeting: prepare update IRD spec for latest HbbTV v1.5 \(i.e. latest errata\)](#)
 - Propose changes to NorDig’s HbbTV IRD and RoO requirements
 - **Excom: Add task about propose handling and cost estimate for the future of our NorDig specific HbbTV developed test cases.**
 - TV Recorder (super-light PVR only valid for TV sets)? Excom has earlier closed this since too little interest from members. Samsung and Vestel interested, CanalDigital/Telenor interested to get a very basic “sanity check” level for TV Recorders, so far no proposal or contribution.
 - **Excom: OK for HbbTV, TV Recorder closed unless someone volunteer to come with a more concrete text proposal**



NorDig T report - proposal planning and activities (2/2)

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continue - NorDig T proposal planning and activities for coming period 2015 (some are within current period):

- Video, audio, subtitling
 - Surround sound, is it possible to reduce the problems with down-mixing, especially investigate broadcast side.
 - Dolby AC4, monitor and get more info about its efficiency and functionality (not yet proposed to specify).
 - **Excom: OK**
 - **Excom: NRK + DR some interest for using HEVC (typically together with launch of DVB-T2), but before starting any drafting of specification work in NorDig T, Excom need to define the “commercial requirements” for this (starting w NorDig T present DVB’s HEVC and HD/UHD) NorDig T wait for commercial requirements before drafting anything.** However HEVC would probably also need review of HDMI, SI and maybe audio requirements etc)
- Accessibility
 - Advanced Clean Audio / Dialogue Enhancement - investigate members interest for this and if they are able to broadcast this
 - Spoken subtitling, investigate how NorDig broadcasters today broadcast this and how much difference there is around this in NorDig broadcast.
 - Recommendation Remote Control related to accessibility settings, check if possible to get a RC key for changing Accessibility setting or modify current requirements and recommendations.
 - HbbTV for Accessibility services – investigate how HbbTV can be used for Accessibility and if needed propose changes to IRD and RoO requirements
 - **Excom: OK, SVT (Per B) would like NorDig T to look more in to adjusting volume for receiver mixing (if needed)**
- CA and CI
 - monitor and report Cplus LLP and DVB work (CI+ v2.0 etc) within these topics to NorDig Excom and Technical group.
 - **Excom: OK**
- IRD spec
 - No major updates foreseen for 2015 - need for new IRD spec v2.6 under 2015 or wait until 2016? (to be decided Excom Jan 2015)
 - Maintain debugging
 - **Excom: Review and improve IRD’s autoupdate for network changes**
 - **Excom: FE (DVB-T/-T2) review if 800MHz scanning can be removed (NRK) and add optional requirements for 700MHz LTE immunity**
 - IPTV – ComHem launching IPTV and has some interest to updated current IPTV IRD requirement.
 - IRD surveillance (like using TR069), some interest to investigate this more.
 - **Excom: OK**



END presentation

NorDig-T report

After here some detailed informative slides