

G.hnem Status Update

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PLC Standardization Panel

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ITU-T G.hnem Project

- Goal and Scope:
 - NB-PLC next generation standard addressing Smart Grid applications (grid to utility meter applications, advanced metering infrastructure (AMI), electric vehicle to charging station) and home automation and home area networking (HAN)
- ITU-T G.9955 (G.hnem PHY) and G.9956 (G.hnem DLL) entered the final stage of approval at the Feb 2011 Geneva Meeting
- G.hnem on track for Approval by end of 2011



Contributing ITU-T Members

- Aware
- ASSIA
- CISCO
- CopperGate
- ERDF
- Freescale
- Iberdrola
- Kawasaki-Micro
- Lantiq
- Marvell
- Maxim
- Metanoia
- Sagem
- Texas Instruments
- Yitran



ITU G.9955 (PHY)

- Main body: complete PHY specification, including data rate up to 1 Mbps, coherent modulation schemes, robust preamble and header, high noise immunity tailored to the specific PLC environment, etc.
- Annex A: G3 PHY Specification (CENELEC A)
- Annex B: PRIME PHY Specification (CENELEC A)
- Annex D: G3 PHY Specification (FCC band)



ITU G.9956 (DLL)

- Main body: includes generic description, and details are under development in Amendment 1
- Annex A: G3 MAC complete specification
- Annex B: PRIME MAC complete specification



Coexistence

- Mandatory support for EN 50065 when operating in CENELEC
- Tools for enabling coexistence with single carrier NB-PLC legacy are in place (includes all SDO defined NB-PLC technologies)
- Tools for enabling coexistence with G3 and IEEE P1901.2 are under study



NB-PLC Requirements

- The G.hnem committee has agreed to adopt the PAP 15 NB-PLC Requirements relevant to PHY/MAC Recommendations
 - G.hnem group may seek additional clarification from PAP 15 on some requirements
- Additional requirements submitted by ERDF and Iberdrola in Jan 2011 are under evaluation



Open and on-going items

- Complete cooperation between ITU-T and ITU-R is important and necessary
 - G.hnem aims at operating worldwide
- Cooperation between ITU-T and IEC is also necessary
 - Joint meetings are being planned to discuss further joint work
- Cooperation with IEEE P1901.2 is starting, need to align (and keep aligned) both specifications
- Fate of coexistence between G.hnem and P1901.2 unclear

