

A design rationale for providing IP services over DVB-S2 links

draft-cantillo-ipdvb-s2encaps-02/03

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Draft Status as of IETF 66. Reminders

▶ Initial Goal : define how should IP be carried over DVB-S2

- *Successor of DVB-S: new FEC, ACM and **Generic Streams framing***
- *Lack of a Generic Stream Encapsulation (GSE) for IP*

▶ Evolution of the draft: overview

- *Aug. 2005: draft-cantillo-ipdvb-s2encaps-00 @ IETF 63*
 - *Introduction of DVB-S2 to the WG*
- *Nov. 2005: draft-cantillo-ipdvb-s2encaps-01 @ IETF 64*
 - *v.01 updated v.00 with major changes*
- *Start 2006: draft-cantillo-ipdvb-s2encaps-02 @*
 - *v.02 updated v.01 (changes discussed in the next slide)*
 - *v.03 updated v.02 with minor changes*

▶ 2005-2006: DVB-GBS ad-hoc group completes GSE

- *GSE benefited directly from ULE experience through **GULE***
- *GSE received important inputs from IPDVB in technical areas (e.g. ULE expertise, error control, SAR)*

What is new in v.02 (and v.03) ?

- ▶ Focus changed: “how to provide the IP service using DVB-S2 links?”
 - Title, introduction and ~ 20% of contents changed.
 - *.diff history available @: <http://bgp.potaroo.net/ietf/idref/draft-cantillo-ipdvb-s2encaps/>
 - Added some QoS considerations
 - Author withdrawal (not reflected in v.03)

- ▶ Integrated valuable inputs from IETF 64 attendees and GBS
 - E.g. Detailed Fragmentation: A great source of early interpretation divergences
 - E.g. Introduced QoS mapping over L2 bearers
 - E.g. Opened the possibility to integrate cross-layer mechanisms

- ▶ Parallel work: FEC vs. CRC analysis done in AIAA-2006-5358
 - 24th AIAA International Communications Satellite Systems Conference, San Diego 2006
 - ➔ An encapsulation protocol for DVB-S2 without one CRC/SNDU is feasible

Pending Issues

- ▶ Further development of the new approach
 - *Initial draft focused more on low layers issues*
 - *Know-how of IETF : we require expertise on this*

- ▶ Deepen study on QoS mapping over adaptive L2 bearers
 - *Integration with Diffserv*
 - *Scheduling issues not well known*
 - *This needs more work, skills... and likely cross-layer techniques*

- ▶ Security considerations, not dealt with yet
 - *Identification of security issues specifically related to DVB-S2*
 - *Work likely to benefit from ULE ongoing discussions*

- ▶ How to adapt the draft contents to reflect GSE's design choices ?

What next?

- ▶ Inputs welcome
 - *Gap filling in QoS, security and IP-related issues*

- ▶ *Reevaluate IETF & GBS coordination, now that GSE is ready
 - *How to validate the work and input offered to GBS?*
 - *Identify what are the points where IPDVB can continue providing expertise*

- ▶ *DVB-S2 is more and more present in IPDVB, but the charter does not reflect this reality yet!
 - *Today, 3/10 of IPDVB agenda items cover DVB-S2 (vs. 0/10 @ IETF 62)*

- ▶ *Decide directions of the work: under which conditions should it become a WG item?

Conclusions (bis)

▶ DVB-S2 *will* replace DVB-S

- *“DVB-S2 is so powerful that in the course of our lifetime, we will never need to design another system” (Alberto Morello, Chairman of the DVB-S2 Technical Module)*

▶ DVB-S2 is a very hot topic now

- *Satellite market actors (e.g. Hughes or PBS in USA) are already testing S2-based solutions*
- *Recent conference/workshops proceedings reflect very active research on DVB-S2*

▶ Shouldn't the scope of WG be broadened to DVB-S2 ? (charter)

- *May be the best chance for long term deployment of techniques developed by IPDVB for satellites*

▶ Shouldn't we adopt this draft as a WG item?

- *Define the adoption terms*

THANK YOU!

QUESTIONS ?