DATA TRACES FOR P802.3BN

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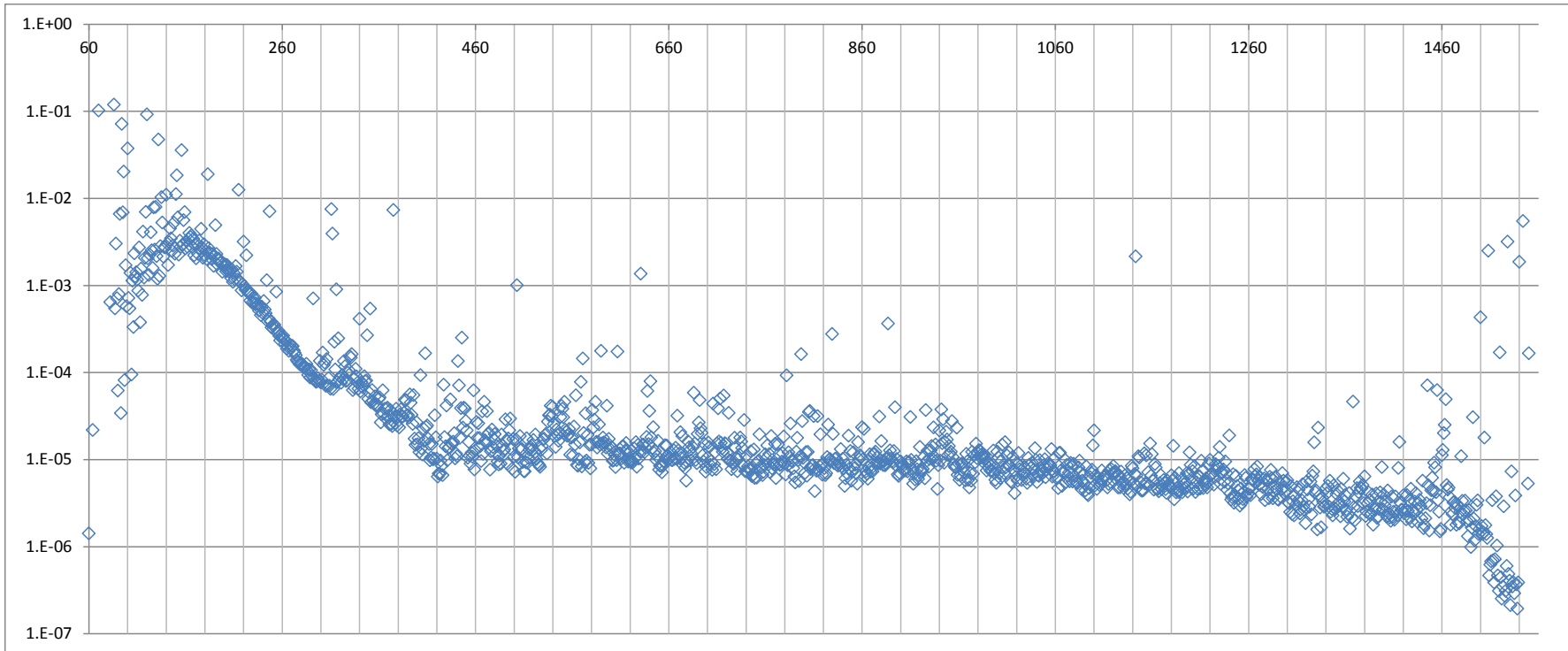
Rev R01

Data Traces (i)

- Following on the suggestion at the last meeting in York, UK, Bright House Networks is contributing a series of upstream data traces collected from production networks

- Data is collected at the OLT / CMTS and then stripped from any private information, including IP addresses, payloads, etc. leaving only the basic information set:

  – Packet number (in the trace)

  – Arrival time (hour:minute:second format)

  – Packet size (at capture time, excluding preamble and FCS, but including all other header fields)

  – Protocol type (numeric value)

- Data traces are pre-processed prior to upload to generate statistical data (see next slide)

Data Traces (ii)

- Each uploaded package includes the following files:
  - *Cleaned.csv* – contains processed data traces with {packet number, time stamp, packet size, protocol number} tuple per line
  - *PSD.csv* – contains the packet size distribution for the whole trace, with {packet size, packet count} tuple per line
  - *PSD Per Protocol XXX.csv* - contains the packet size distribution for protocol XXX, with {packet size, packet count} tuple per line
  - *Summary.txt* – contains the summary information about the trace, i.e., number of packets and start and end timestamps
  - *Trace Information.txt* – contains primary information about the trace, date of capture, service type captured, etc.
  - *CRC.sha* – contains SHA1 checksum for individual files in the trace (for control purposes)

PSD Example (all packets)

- X-axis: packets size (octets) as captured
  - See the trace description for details of what is included in packet size

- Y-axis: probability of the given packet size
  - The sum of all probabilities in the packet trace is equal to 1

Closing Thoughts

- Data traces shared up to date are for commercial services on EPON only

- Data traces for residential services on EPON are pending. Residential traces are available today as captured on CMTS headend only.

- Data traces are shared as public-domain information
  - No need for copyrights, letters of assurance, etc.
  - If used as part of published work / paper, an acknowledgment to Bright House Networks as the source of data would be welcome.

- No interest in downstream traces has been expressed to date
  - None were captured and shared

THANKS !