IETF103-Bangkok, bmwg

- draft-vpolak-mkonstan-mlrsearch-00

  – https://tools.ietf.org/html/draft-vpolak-mkonstan-mlrsearch-00

  – Authors: Vratko Polák, Maciek Konstantynowicz

  – Presented by: Ole Trøan

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<u>M</u>ultiple <u>L</u>oss <u>R</u>atio <u>Search</u> for Packet Throughput (MLRsearch)

1) Proposes changes to [RFC2544], specifically to packet throughput search methodology.

2) Defines a new search algorithm, MLRsearch, a packet throughput search algorithm suitable for deterministic (as opposed to probabilistic) systems.

3) MLRsearch discovers multiple packet throughput rates in a single search, each rate associated with a distinct <u>P</u>acket <u>L</u>oss <u>R</u>atio (PLR) criteria.

4) Starting point for MLRsearch is determined by measuring <u>M</u>aximum <u>R</u>eceive <u>R</u>ate (MRR)

5) Existing working implementation in <u>F</u>ast<u>D</u>ata.<u>io</u> <u>C</u>ontinuous <u>S</u>ystem <u>I</u>ntegration and <u>T</u>esting (FD.io CSIT), collaborative open-source projected hosted by <u>L</u>inux <u>F</u>oundation <u>N</u>etworking (LFN).

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Probabilistic Loss Ratio Search for Packet Throughput (PLRsearch)

1) PLRsearch assumes that system under test is probabilistic in nature, and not deterministic.

2) Addresses situations where deterministic algorithms (e.g. binary search per [RFC2544] or MLRsearch with single trial) return results that when repeated show relatively high standard deviation.

3) This problem is greatly exacerbated with NFV devices undergoing a soak testing, aimed at verifying continuous system performance over an extended period of time, hours, days, weeks, months.

4) PLRsearch takes this indeterminism into account, by modelling system under test using a specific probabilistic model (Poisson Distribution) and using a fitting function approximating the unknown function in the critical region determined based on specified Packet Loss Ratio (PLR).