TWAMP Light YANG data model

draft-mirsky-ippm-twamp-light-yang-09

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SDN-based TWAMP-Test

TWAMP-Test Reference Model
From -07 to -09

- Welcome Xiao Min (ZTE) and Wei S Luo (Ericsson)
- Controls for test session and performance metric calculation
- Packet loss statistics
- Percentile
- DSCP handling mode
Continuous testing mode for Session-Sender

leaf number-of-packets {
    type union {

        type enumeration {
            enum forever {
                description
                "Indicates that the test session SHALL be run *forever*.;"
            }
        }
    }

default 10;
description
"This value determines if the TWAMP-Test session is bound by number of test packets or not.";
}

Then measurement-interval defines interval to calculate performance metrics:
leaf measurement-interval {
    when "../number-of-packets = 'forever'" {
        description
        "Valid only when the test to run forever, i.e. continuously.";
    }

type uint32;
units "seconds";
default 60;
description
"Interval to calculate performance metric when the test mode is 'continuous'.";
Periodic testing mode for Session-Sender

leaf number-of-packets {
    type union {
        type uint32; {
            range 1..4294967294 {
                description "The overall number of UDP test packet to be transmitted by the sender for this test session";
            }
        }
    }
}

Then \textit{repeat}, defines number of test sessions or forever, and \textit{repeat-interval} define how the Session-Sender performs testing. The \textit{session-timeout} defines when the Session-Sender calculates performance metric per each test session.
Packet Loss Statistics

grouping packet-loss-statistics :
• uint32 loss-count - number of lost packets during the test interval;
• percentage loss-ratio - ratio of packets lost to packets sent during the test interval;
• int32 loss-burst-max - maximum number of consecutively lost packets during the test interval;
• int32 loss-burst-min – minimum number of consecutively lost packets during the test interval.
Percentile

typedef percentile {
    type decimal64 {
        fraction-digits 2;
    }
    description
    "Percentile is a measure used in statistics indicating the value below which a given percentage of observations in a group of observations fall.";
}

To configure percentile reporting use percentile in grouping `twamp-session-percentile` with three leaves (need more creative names) with default values 95, 99, and 99.9 correspondingly.

Percentile values may be reported for latency and jitter:
- round trip
- far-end
- near-end
typedef session-dscp-mode {
    type enumeration {
        enum copy-received-value {
            description
            "Use DSCP value copied from received TWAMP test packet of the test session.";
        }
        enum use-configured-value {
            description
            "Use DSCP value configured for this test session on the Session-Reflector.";
        }
    }
    description
    "DSCP handling mode by Session-Reflector.";
}
Next steps

- RFC 7750 – reporting results of DSCP monitoring
- WG adoption