Test Multimedia G.1050

The ITU-T G.1050 is a recommendation describing an IP network model that can be used for evaluating the performance of IP streams. The focus is packet delay, delay variation, and loss. IP streams from any type of network device can be evaluated using this model.

Engineers may use the IWL implementation of the ITU-T G.1050 test cases for the following purposes:

- simulation of real-world IP network impairments (packet delay variation and packet loss characteristics);
- testing of any type of IP stream(s) under simulated network conditions using pcap files. The IP stream(s) can be evaluated using standard test cases or user-defined simulated network conditions;
- testing of any type of IP stream using hardware emulation of simulated network models using standard test cases or user-defined simulated network conditions. [Source ITU-T]

IWL recommends using the specification as of 2007, and not the 2011 specification because the latest version has removed the "likelihood of occurrence" concept. Many of the other specifications outlined in the 2011 version have been supported for several years by the IWL network emulators.

Here is the link for the ITU document:

http://www.itu.int/ITU-T/recommendations/rec.aspx?rec=11074&lang=en

Networked Multimedia Testing Model

Each one of the IWL tests for the G.1050 introduces a specific network anomaly or impairment that is likely to occur on today's internet. The device under test, such as a voice over IP phone, a video stream, or a data storage application, must continue to operate correctly in the face of each network anomaly. The device must not crash or fail in any way.

Guarantee the Success of New Initiatives

Networked applications and devices may not perform in mobile, cloud, and WAN environments as they perform in the local area network. Bandwidth limitations and/or network anomalies in the new environment introduce performance problems that did not exist in the local area network. This is particularly true of multimedia devices containing voice or video streams -- such devices are far more sensitive to adverse network conditions. Evaluate performance prior to deployment and take corrective action to assure a successful initiative

Replicate a Full Range of Adverse Network Conditions

The G.1050 provides a standardized model that all device manufacturers can utilize to test a range of known, deployed, network configurations containing network anomalies and/or bandwidth limited conditions. In this way, the device manufacturer can test a product for each condition, and be certain that a product will perform reliably on today's internet.

Evaluate Performance Before Deployment

With the introduction of IWL Network Emulators, an accurate emulation of mobile, cloud, and WAN fidelity became possible in the lab. For the first time, non-Internet traffic could be removed from the stream, allowing IT staff to evaluate performance and get the required data. For the first time, bi-directional traffic could be incorporated in the emulation.

The ITU-T Recommendation G.1050 specifies capabilities available in IWL Network Emulators since their inception.

IWL Offers Additional Mobile, Cloud, and WAN Performance Tests

In addition to the all of the G.1050 network model tests, our network emulators also include:

- Session Initiation Protocol (SIP) impairment tests that are commonly used in setting up calls in VoIP and video network devices to check the robustness of SIP implementations to vulnerabilities and attacks;
- A set of Rate Limitation Scenarios to determine how well the new multimedia device performs under bandwidth limited conditions;
- Alternative network models that allow the user to go beyond the 189 rate combinations and eight severity levels of the ITU G.1050 and define a specific network anomaly to test a specific situation;
- Secure Sockets Layer / Transport Layer Security Protocol (SSL/TLS) for securing data exchange between client-server applications;
- Transmission Control Protocol (TCP) and Internet Protocol (IPv4 and IPv6) for finding and fixing bugs (compliance and standards);
- Geosynchronous Satellite Link Emulation for pre-deployment testing of satellite applications.

+1.831.460.7010
info@iwl.com

Copyright 2017. InterWorking Labs, Inc., dba IWL. ALL RIGHTS RESERVED. KMAX, Maxwell, SilverCreek, and InterWorking Labs are trademarks of InterWorking Labs, Inc. All other names are trademarks or registered trademarks of their respective owners. 11/27/2017