10 things you need to know about...


IP Measurement (IPM)

1 There is a challenge in monitoring the IP networks of broadcasters.

Simple Network Management Protocol (SNMP) is the only standard way to interrogate devices made by different manufacturers. Device parameters that can be accessed using SNMP are specified in standard Management Information Bases (MIB). Although there are many well-adopted standard MIBs, manufacturers also have private MIBs specific to their own devices.

2 The EBU-IPM Group is providing an integrated solution to monitoring media networks.

The group has published a new Standard specifying a set of common parameters, so that the same media-specific parameters from devices of different brands can be accessed with a standard SNMP message. This will enable media streams between any two devices to be monitored using a device-independent software tool. Based on this concept, the group also developed the EisStream software purely based on standard SNMP.
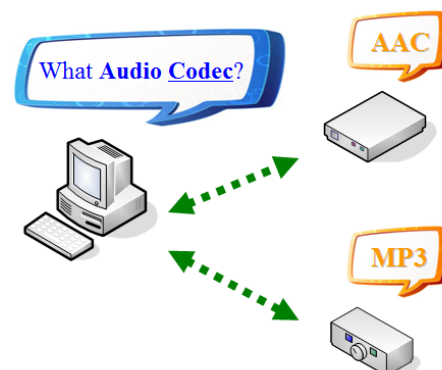
3 The Standard forms Part 7 of the existing SNMP common control interface standard, IEC 62379.

This published standard already defines a common interface for audiovisual devices using SNMP. The work done by the group uses the same basic framework as defined in this Standard.

4 The Standard represents the minimum set of parameters required for monitoring media streams.

Only the set of most fundamental parameters are selected in the new standard. These parameters, such as audio/video codec, bit rate and transport protocols, are the most basic requirements for monitoring an end-to-end media stream.

5 The Standard can be easily incorporated into existing vendor MIBs.

Many network devices, such as switches and routers, already use IETF standard MIBs by importing these into their private MIBs. The new MIB standard can be imported in exactly the same way into an existing private MIB.

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6   EisStream is the software platform that could harness the power of the new standard.

The software is based on 3 existing standard MIBs that are already adopted by all major manufacturers. This makes the software ideal for monitoring multivendor networks. Once implemented with the new standard, the software will be able to deliver the full benefit of it.

7   EisStream can automatically generate up-to-date topology for an unknown network.

Using advanced algorithm to process data obtained from standard MIBs, the software can discover all devices on the network and derive their physical connectivity and routing information. Using this information the software is able to identify the actual path of IP traffic on every individual port of the devices.
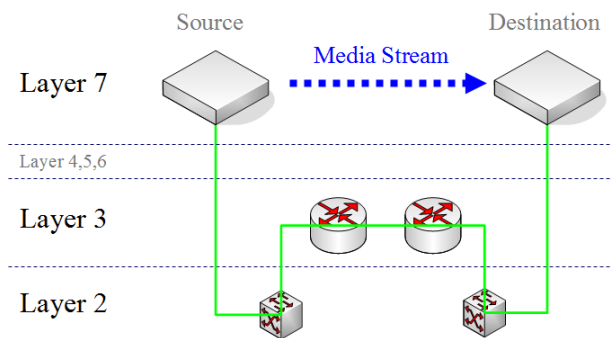
8   EisStream is capable of discovering and monitoring multicast channels.

By pulling the multicast routing information from all the routers on the network, the software can discover all multicast groups and construct a tree structure for each of them. This allows the software to monitor multicast traffic as well as end-to-end streams.

9   EisStream does not interrupt the normal operations of the network.

The software only sends SNMP messages to valid IP addresses obtained from the routing information of known devices. The SNMP traffic is light-weight and easily controllable with firewall settings.

10   The solution will benefit both broadcasters and manufacturers.

Broadcasters rely on open standards to monitor their network in a unified and efficient way. Devices supporting open standards will eventually become more popular. This synergy will drive the management cost down for broadcasters and sales up for manufacturers willing to adopt the new standards.

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