

IEC / IEEE 60802 - IA profile

Network diagnostics –
what shall be detected?

-To be discussed-

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Basic scope

IEC / IEEE 60802 decided to use IEEE802.1AB for network discovery

Fulfillment of the requirements for network diagnostics need to be checked; deviations need to be stated and solved

Topology deviation

Expected topology may be defined by the customer. In this case deviation needs to be detected.

Thus, a compare between expected topology and real topology needs to be supported. End-stations, Bridges and Links need be checked and any deviation signaled.

-> Topology check shall be supported

Adjust MAUtype and MAUtype mismatch

Disabling of auto-negotiation together with adjust MAUtype is needed to ensure fast Linkup in case of FastStartup use cases.

Thus, parameterization of the expected MAUtype and the detection of MAUtype mismatch (one side auto-neg and one side fixed links) is needed

-> Adjust MAUtype and signaling for MAUtype mismatch shall be supported

Check MAUtype

Expected MAUtype, even if auto-negotiation is used, need to be ensured.

Thus, a compare between expected MAUtype and real MAUtype is needed

-> Check MAUtype and signaling for MAUtype mismatch shall be supported

Check path delay / bridge delay

Expected and real path/bridge delay may differ in a way that interfere with planning (Real is greater than expected)

Thus, a compare between expected and real values may be needed

-> Check and signaling for mismatch shall be supported

Path delay asymmetry

Path delay is measured in both directions. The deviation between both direction needs to be checked.

Thus, path delay measurement deviation shall e.g. be smaller than +/-50ns

-> Check and signaling for mismatch shall be supported.

Value need to be covered by the TSN-IA profile

Port statistic counters

Port statistics, in 64bit mode, both for MIB-2 and IEEE802.3br are needed for network diagnosis

Thus, these counters are needed

-> Port statistics shall be supported.

Thank you

Questions?