



## Veryx ATTEST™ MRP Conformance Test Suite DATASHEET

Veryx ATTEST™-CTS Media Redundancy Protocol (MRP) automated test suite provides Equipment Manufacturers, an easy and efficient solution for the verification of MRP in Industrial Ethernet Switches. ATTEST enables significant speeding up of testing cycles and reduces the "time-to-market".

Veryx ATTEST MRP Conformance Test Suite is designed for conformance testing of MRP implementation in Industrial communication networks using ATTEST -- a powerful test framework that requires minimal time for set-up and enables efficient use of time and resources.

Veryx has devised about 111 test cases that comprehensively test for MRP compliance. These test cases have been grouped into 8 convenient test groups based on the IEC specifications for each category of functions.

ATTEST MRP test cases verify the MRP support for:

- Manager : MRP switch connected with other MRP clients in a ring
- Client: MRP switch connected with other MRP manager and other MRP clients in a ring.

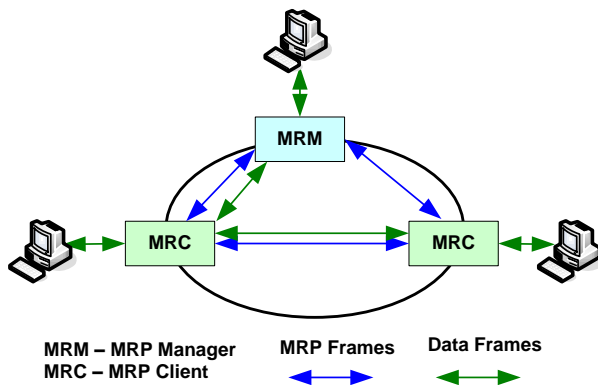


Figure 1: A typical industrial Ethernet network showing a ring with MRP Manager, Client

ATTEST MRP Test cases verify the generation and handling of Test, Link Up, Link Down, Topology Change MRP frames from neighboring MRP Switches. The messages are verified for both tagged and untagged protocol frames. It can verify the MRP behavior for recovery time of 500ms. The port states are verified with the help of tagged as well as untagged data frames.

ATTEST MRP Conformance Test Suite is written in industry standard Tcl scripts. Well-defined APIs and source files provide the flexibility to add, customize or modify the test cases for specific requirements. Together with other Layer 2 Conformance Test suites LLDP, RSTP, VLAN, LACP, Veryx provides one of the most comprehensive solutions for conformance testing of Industrial Ethernet Switches.

### About Veryx Technologies

Veryx Technologies (formerly Net-O<sub>2</sub> Technologies) provides innovative Verification and Measurement Solutions for the global communications industry. ATTEST solutions verify networking equipment being used for Access, Carrier Ethernet, Data Center, Edge, Enterprise, Industrial and Security. The unique offerings from Veryx enable customers to reduce the "time-required-to-test" and enhance their "time-to-market".

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### SPECIFICATIONS

IEC 62439: Industrial communication networks:  
high availability automation networks. – 65c,  
62439/Ed 1.0, 2007-04-06

### MRP TESTS

- \* Applicant state machine
- \* MRP Manager - Ring Port states
- \* MRP Manager Protocol State Machine
- \* MRP Manager with multiple clients
- \* MRP Clients - Ring port states
- \* MRP Client Protocol State Machine
- \* MRP Clients with MRM and other MRCs
- \* Multiple MRP managers in a Ring
- \* MRP Frame Format verification

### PLATFORM REQUIREMENTS

- \* ATTEST 6.x Framework
- \* 4 Ethernet ports
- \* Serial or additional Ethernet port for DUT management