

Troubleshooting utilizing SNMP

For solving intermittent faults in broadcast networks

Your task

Do you operate terrestrial, cable or satellite networks? If so, you might be familiar with this problem: Some stations just can't seem to keep operating smoothly. Devices set off alarms for no real reason. There are inexplicable signal conditions. Customer complaints come in, although the management system is not indicating any errors. As an additional challenge, faults do not occur regularly, or they are not reproducible.

You need to act now, because every dropout costs money, and every customer complaint damages your reputation. So you install additional monitoring equipment. Engineers and technicians then wait for the event to occur, but nothing happens.

However, as soon as the monitoring program is over, problems arise again. You need a monitoring setup that is open and autonomous and offers flexible configuration options.

Broadcast solution

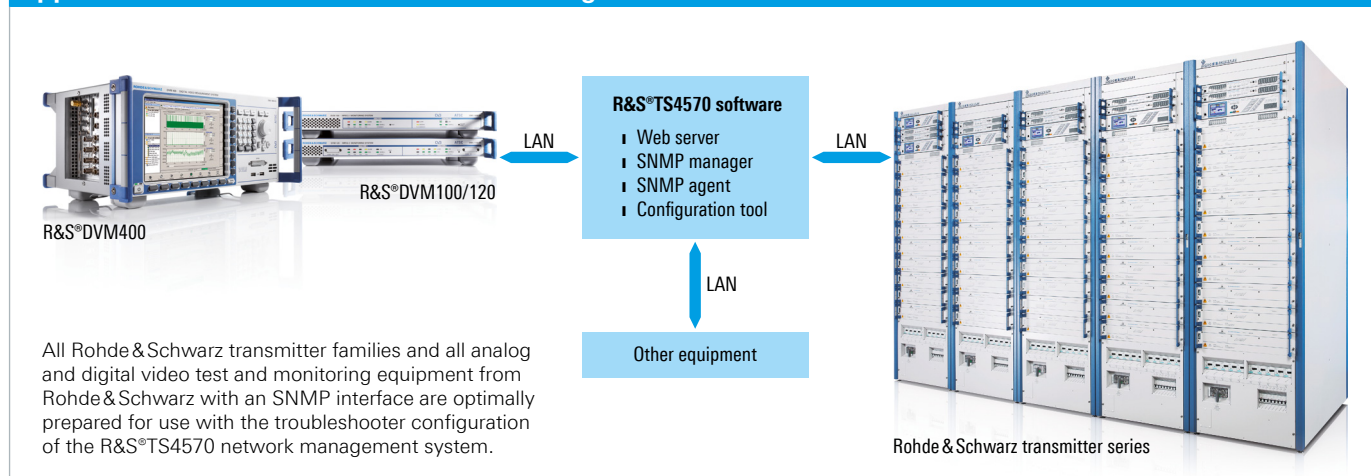
The Rohde & Schwarz solution based on the R&S®TS4570 network management system can meet these needs. Here, it doesn't matter if you are already using the system's basic components or if you want to use the troubleshooter option as a supplement to an existing system.

The R&S®TS4570 is highly flexible, is based on standard components, and can communicate and cooperate with all devices and software tools that are based on the simple network management protocol (SNMP). Using SNMP offers the advantage of being able to monitor a majority of the networked devices. SNMP provides a wide variety of capabilities for monitoring not only TV transmitters, but also transport stream analyzers, uninterruptible power supplies, etc.

The R&S®TS4570 makes it possible to poll, process and display the parameters involved. Should any parameters exceed the set limits, the R&S®TS4570 can generate control commands. Alarms from individual devices are collected and automatically passed on to other or higher-level management systems. The system status is displayed by a user-configurable web GUI (graphical user interface) that users can adapt without requiring any special programming skills. Of course, our specialists can also provide these services upon request.

The system is installed at the faulty station, where it can quickly be configured with the right settings to match the specific monitoring task.

Application scenario for troubleshooter configuration of the R&S®TS4570

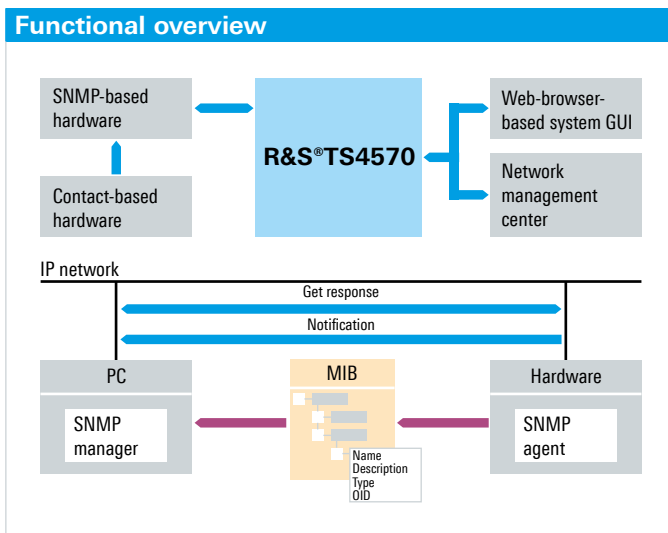


This configuration can be changed at any time through remote maintenance access via an IP connection. Any of the parameters can also be changed in this way.

The R&S®TS4570's expression engine helps to correlate required dependencies on device events. This tool makes it possible to create all logical combinations without special programming skills. The graphical user interface makes it easy to learn how to create such combinations.

Various actions can be triggered depending on the type of event: logging, sending of a message via SNMP, or control of a device via SNMP.

The following diagram is a functional overview of the R&S®TS4570 troubleshooter configuration.



Advantages

Easy to use

The GUI enables the user to create monitoring and control profiles without requiring expert skills. Instead of having to write scripts to create logical expressions, the GUI provides a touch and feel that is similar to Visio and the LabVIEW™ programming platform. The web-based front-end allows local or remote operation of the application.

Open solution

The solution is vendor-independent and can communicate with any SNMP-compliant device.

Event correlation

Alarms or events from different devices can be logically combined to correlate or summarize information.

High degree of flexibility

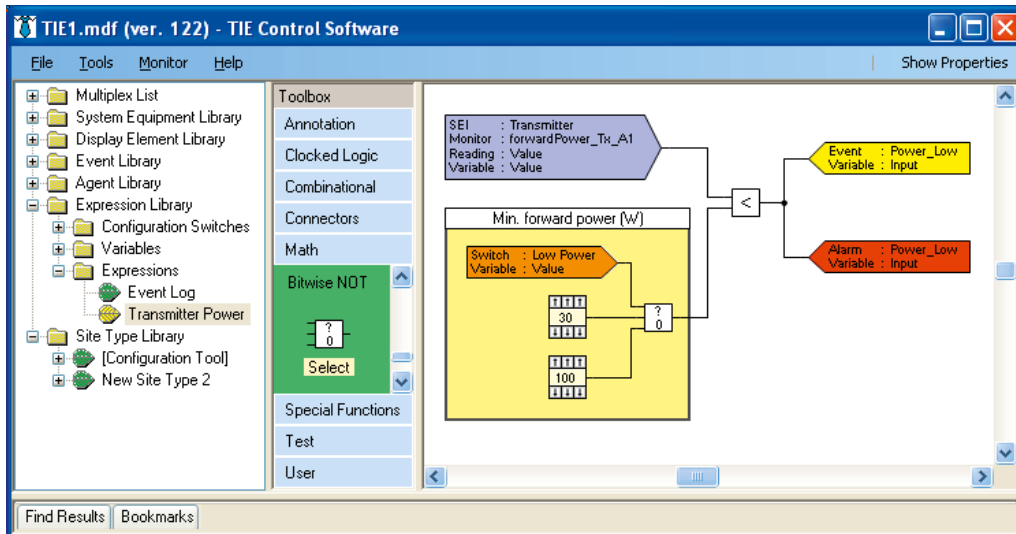
The application is fully customizable. All parameters are user-definable. For example, the user can select the frequency at which object identifiers (OID) are to be polled or define the device box that is to appear on the web GUI.

Performance

Tests have shown that 300 OIDs per second can be polled via LAN without any loss of computing performance. There are no limits for setting up monitors, controls, summary alarms, logical expressions or device elements.

Resource saver

Once the R&S®TS4570 is set up and running, engineers can leave the site. Alarms will be forwarded automatically to indicate status changes. The system can work autonomously.



Expression engine

- For creating logical equations by using graphical elements such as and, or, equal, bigger, smaller, etc
- When an expression becomes "true," actions (such as write event, send trap, or set equipment) are executed

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