Enabling operators to pro-actively manage network issues

AND Alert, an optional Web-based platform with generic interface to monitoring solutions providing users with real-time network data

Monitoring solutions often are only able to display alarms on a per-object basis.
As a result, they cannot recognise an alarm's

- relevance
- location
- relationship to other network components
- relationship to other alarms

Consequently, valuable time is lost trying to identify actual position of problem and possible remedy. Any attempt to incorporate topology within the monitoring system generally means continuous additional effort and costs; which both can be considerable.

AND Alert visualises alarm and CPE states taking both topography and topology into consideration, a Web-view of the network documentation. This allows the operator to quickly identify the likely source of the problem and immediately set about rectifying the situation.

Monitoring solutions

AND Alert currently supports the following types of monitoring solutions:

- Transponder-based element monitoring, e.g. Cisco ROSA™ and Teleste EMS™
- CPE performance monitoring, e.g. Axiros™ and Arris ServAssure™

Transponder-based monitoring

AND retrieves alarms from monitoring systems using a common key, e.g. transponder id. Resulting from its awareness of the network topology, AND is then able to put these alarms into context.

It is possible to jump from an error message to the associated network component in the network documentation. Further alarm-related data can be accessed by calling up the monitoring system.

CPE performance monitoring

CPEs deployed in FTTH and DOCSIS networks, e.g. ONTS and cable modems), can be used to alert the NOC and service staff to state changes.

By using a common key, e.g. house address, AND receives CPE status information from external systems. The CPEs are displayed in the maps with colour coding depicting their real time states; these states can be user defined.
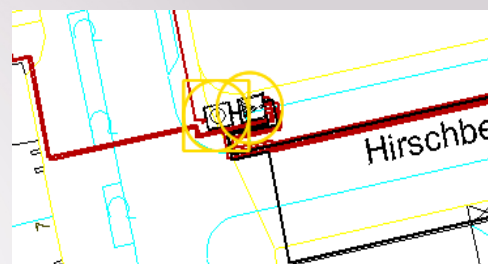
Alarm list (last 100 entries)

NIS node ID	Installation number
1739	N07n
1747	GA07.01

Fig. 1: Warning and alarm list following exceeded threshold

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From the network topology data, AND knows the CPEs supplied directly or indirectly by network elements such as line amplifiers and fibre nodes for cable networks. In the case of FTTH this might be one or more adjustable network types such as street cabinets, enclosures, or PON splitters.

If alarm thresholds are exceeded, these elements generate a corresponding alarm message and are colour coded depending on the percentage of CPEs that are not operating normally. As a result, AND can identify the common points of failure.

Interfacing to AND Alert

AND requires the following information from the monitoring system:

- Common ID
    - Transponder-based monitoring → transponder ID, e.g. IP address
    - CPE-based monitoring → CPE ID plus address ID
- Component status
- Performance indicators (optional), e.g. temperature, levels, supply voltage, etc.
- Link to component representation in monitoring system

Data from monitoring system is pushed to AND Alert web service using standard Web tools.

On receipt, AND Alert writes to the AND database linking the data to AND topology and topography data.

Note: AND Alert requires both AND WebAccess and AND NISservice options.

Further benefits

As AND Alert is Web-based, it means service personnel when out on the network can have the latest information on their mobile devices, e.g. Android™ smartphones, iPads™, or Windows™ notebooks.

The ability to resolve network issues promptly and effectively not only helps to reduce service expenditure but also helps to prevent churn resulting from disgruntled customers. Keeping customers happy goes a long way to keeping customers.

Video clip

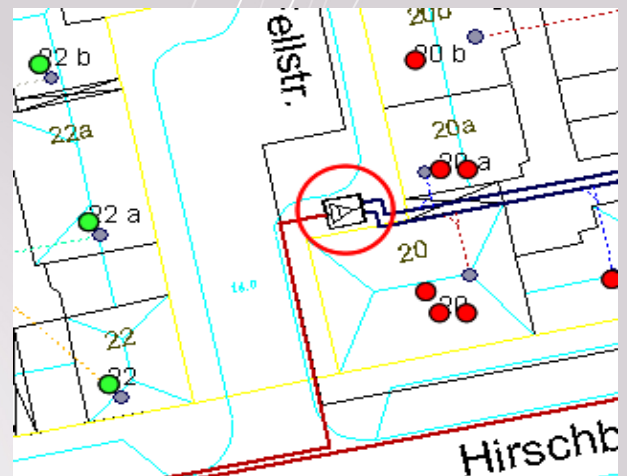You can find a corresponding video clip on the AND YouTube channel www.YouTube.com/ANDsolution.

Fig.2: Amplifier is ringed red following CPE failures