



Alarm Manager

Fault
Management
System

**Gain control on
your network**
Reduce the impact in QoE



Manage to anticipate the detection of impact in service quality

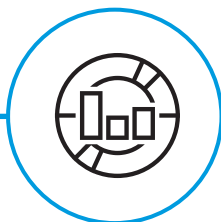
The need to change from a pure network approach to a service quality and customer experience driven approach places the CSP in face with a set of challenges. One of it is to have an integrated view of the network, being that in most of the cases the information is spreaded in several systems. Additionally, real-time events generates excess of information that reduces the efficiency in faults detection and makes difficult to focus on real problems.

Effectiveness in root cause detection enables the anticipation of problems potentially affecting the service and provides the capability to troubleshoot and eventually resolve the problem before it impacts on customer quality.

Having a convergent solution for all networks, empowers CSPs with valuable and actionable insights that will help them gain operational efficiency, support strategic business decisions and provide excellent and meaningful experience for each and every subscriber.



Current market



Quick and Effective Business decisions.
Reduction of operational costs.

Challenge



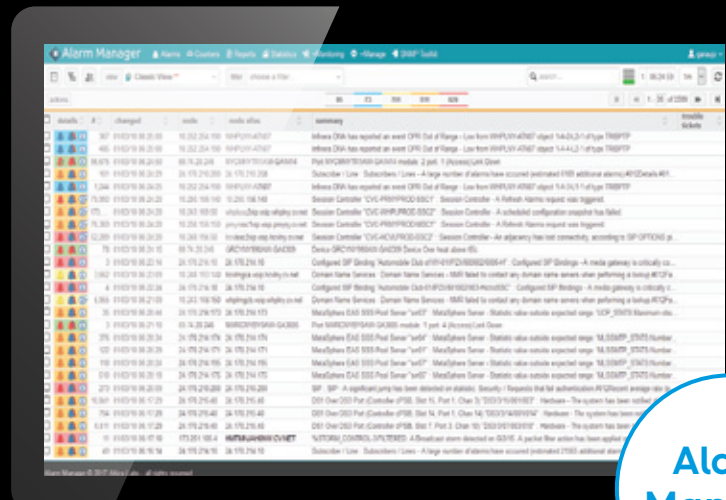
Best Quality of Experience.
Service always available.

Business benefits

- **Detection of problems in real time**
For different technologies and networks
- **Service impact analysis**
Could be enriched integrating with network and service inventory
- **Root-cause detection**
Through event correlation
- **Increase service availability**
Anticipating the detection of impact in service availability/quality
- **Gain operational efficiency**
Delivering actionable intelligence to the right people ensuring accurate error detection and fast resolution

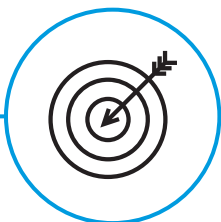
Centralized fault management system

Alarms Collecting, Filtering, Processing and Correlating for different technology and provider sources



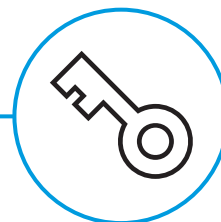
Alarm Manager

Opportunity



Real-time detection of problems.
Excess of information makes difficult to focus on real problems.
Diversity of technologies and vendors.

Solution



Centralized collection and processing of events from the network and/or external systems, for fixed and mobile worlds.



Who benefits from it?

Key differentiators

- Real-time monitoring of infrastructure (network, equipments, platforms) and telecommunications services (VOIP, VPNs, ADSL,...);
- Out of the box integrations with main vendors;
- Scalable solution, highly configurable and disaster recovery compatible;
- OSS integration with Trouble Ticket and Inventory systems using industry standards and APIs;
- Alarm Manager is part of TM Forum certified NOSSIS Suite.



Time reduction on failures detection
Increase service availability



OPEX reduction
Increase revenue



Network/Service Operations Center (NOC/SOC)



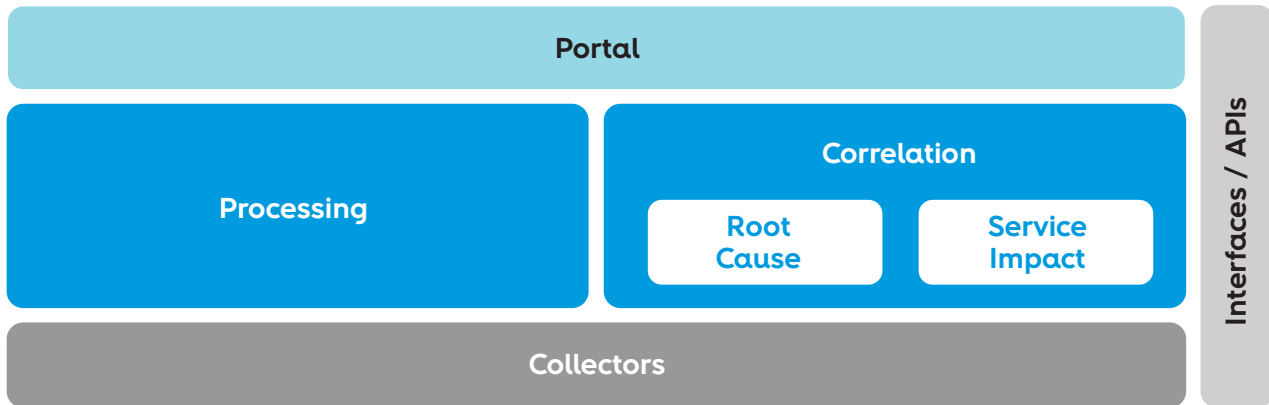
Back office operational and engineering teams



Managers to support business decisions

The architecture

Alarm Manager' modular and scalable architecture easily adapts to the continuous network and services evolution, providing support for state-of-the-art network technologies and its services.



Main features

Alarms acquisition and display

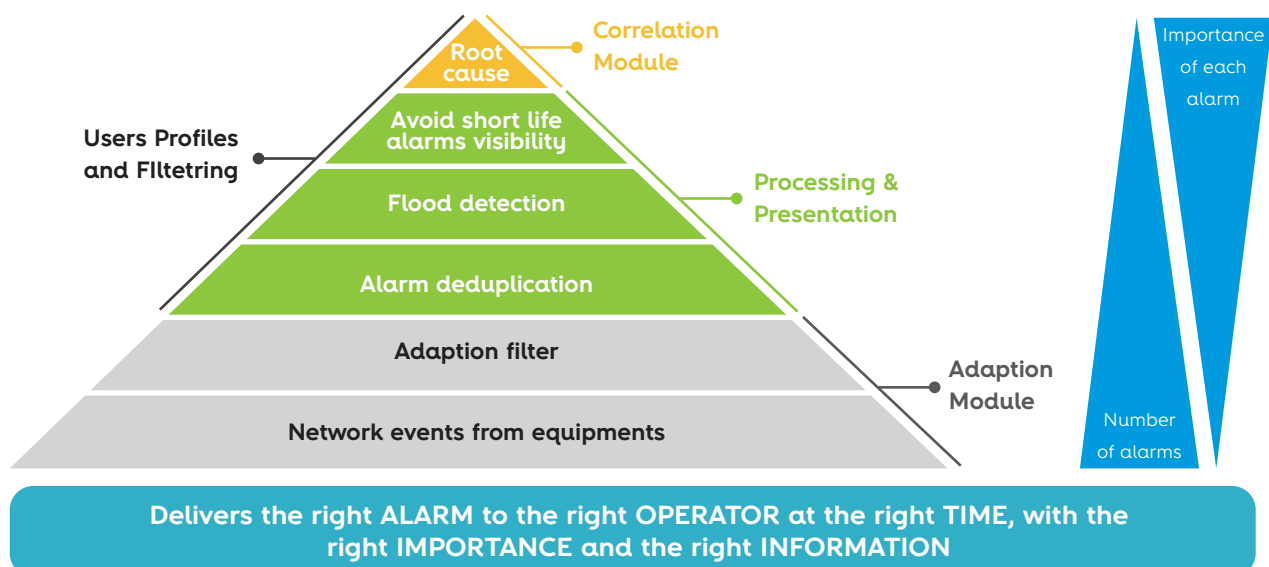
- For SNMP, ASCII, CORBA , Q3, POP3, IMAP and SYSLOG;
- For all types of equipments and technologies;
- Alarms displayed in X.733 format, highlighted using standard color schemas according with alarms severity.

Alarms Supression Mechanisms

- Alarms correlation to identify root-cause (Creation of alarms hierarchy relations);
- Flapping detection (Alarm state transitions for programmed time periods.)

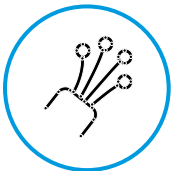
Notifications mechanisms

- Multiple types of actions (sms, email, voice call, script execution and automatic creation of trouble tickets) with escalation support.



Use cases

Alarm Manager can be deployed in any network including support for the most recent technologies like LTE/VoLTE or SDN/NFV networks.



Monitoring GPON

OLT monitors the managed ONTs and generates failed communication events.

Alarm Manager processes these events and can enrich them with information obtained from the Inventory system.

Alarm Manager correlation engine, through pre-defined correlation conditions for FTTH, check the affinity relations between processed events and identifies 'Fiber Cut' and 'Power Cut'.

Identify possible root cause



Monitoring mobile

Mobile cells generate events whenever a problem occurs.

Alarm Manager processes these events and can enrich them with information using the Inventory system.

Alarm Manager correlation engine, through pre-defined correlation conditions for Mobile, check the affinity relations between processed events and identifies 'BTS down', 'NB down', 'eNB down'. If all services in the same site are down, then a 'Site down' will be generated.

Identify possible root cause in a three level hierarchy



Automatic creation of TTK

Actions module allows to configure the automatic creation of TTKs

Alarm Manager has a very powerful action module with escalation support that allows to send emails, sms, make voice-calls, execute scripts and create TTKs.

It can be used to create automatic TTKs whenever the correlation module detects a 'Fiber Cut'.

Creates TTKs in external systems without human intervention



References

Customers:

- MEO (Portugal), UNITEL (Angola), MTC (Namibia), CTM (Macau), CVT (Cape Verde), Timor Telecom

Motivation:

- Deliver the right ALARM to the right OPERATOR at the right TIME, with the right IMPORTANCE and the right INFORMATION

Application scenarios:

- Engineering and planning teams;
- Network/Service Operations Center(NOC/SOC).

Added value:

- Detection of problems in real time;
- Root-cause detection making it easier to focus on real problems;
- Service impact analysis allows to correctly prioritize problems.
- Increase service availability rising customer loyalty and reduce churn.



About Altice Labs

Delivering key telecommunications technologies since 1950, Altice Labs has been shaping the future of technology, enabling Communications Service Providers and Enterprises to offer advanced and differentiated services to their customers and users.

Altice Labs is an innovation and transformation catalyst supported on a strong and dynamic Innovation Ecosystem. Through technology, we are committed to improve people's lives and the way in which companies do business.



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