

# TELECOM: UTILIZING CORRELATION IN MODERN SERVICE ASSURANCE



As the expectations of telecom customers rise and competition intensifies, operators need to work quickly and efficiently to resolve any issues that arise. That would be challenging enough if network operations center (NOC) agents only had to respond to each issue once, but given the complexity of today's telecom network environment, it's more common for a single issue to trigger a flood of alarms and tickets. Agents need a clear understanding of how these tickets relate to each other and impact services and customers—and which issues are the most urgent to address.

## Empowering the NOC with automated ticket correlation

Automated ticket correlation can take a few different forms. One involves ticket hierarchy—the relationships among tickets at different layers of the network. For example, let's say a fiber cable is cut. This will generate a ticket at the resource layer. At the same time, the interruption of services provided through that cable, such as customer broadband, will generate a ticket at the service layer. Based on the ticket relationship hierarchy, these two tickets can be correlated and understood as stemming from the same issue.

Given this understanding, the NOC agent can gain insight into both the customer and service impact of the fiber cable cut. The correlation also helps with common cause analysis for these tickets, and helps the agent prioritize which ticket to work on first, i.e., fiber will be more helpful to address first as the underlying issue for both tickets. This can occur in tandem with temporary remediation work

on the service layer trouble ticket, such as rerouting customer broadband traffic while the fiber is being repaired.

This more complete understanding can also help NOC agents maintain quality levels for customers. For instance, the internal operational level agreement (OLA) to fix the fiber may be five days, while the child trouble ticket for the broadband at the service level may have a more aggressive service level agreement (SLA) of three hours, reflecting its direct impact on customers. Seeing this relationship, the NOC agent can make an informed decision whether to prioritize the fiber fix at a higher level, perhaps based on the effectiveness of the remediation activities in place for the child ticket.

In addition to correlation based on ticket hierarchy, tickets generated around the same time, event, or location can be clustered to make it easier to see potential common causes. As similarities and patterns are discovered across multiple incidents, they can be correlated and grouped according to common causes, enabling the NOC to accelerate the resolution of both the underlying issue and the resulting incidents.

## **Automating ticket correlation—from manual rules to machine learning**

As a first step toward automating ticket correlation, operators can define business rules to dictate how tickets should be clustered and what types of patterns to look for. However, the need for regular maintenance of these rules can quickly become cumbersome. Ultimately, cognitive technology will offer a more practical and sustainable approach, using machine learning (ML) to understand patterns across tickets and update this understanding over time as the environment evolves. Meanwhile, NOC agents can shift their focus from time-consuming incident prioritization and analysis and concentrate on more complex remediation actions that require human intervention.

To evolve toward fully automated ticket correlation, telecom operators will need service management built to deliver artificial intelligence (AI)-enabled processes, reduce manual effort, and support greater predictive analysis. Key capabilities will include real-time incident correlation to enable a faster resolution of tickets with common issues; probable cause analysis to automatically identify the most likely cause of an issue; and greater visibility into the health and quality of services throughout the network environment. NOC agents will need faster, simpler access to data on services and issues, tailored to their specific persona and responsibilities.

By freeing NOC agents from the distraction of constant, often overlapping alerts and tickets, telecom operators can improve the productivity and effectiveness of network operations to deliver a better experience for customers.

For more information, please visit

<https://www.bmc.com/it-solutions/transforming-telecommunications.html>.