

Use Case:

Fault Management and Root Cause Analysis

Across a Multi-Domain Network

Problem Statement:

One of Kazakhstan's leading telecom operators faced critical challenges managing a highly complex, multi-vendor network environment.

Alarms from transport, microwave, mobile core, RAN, and IT domains arrived in incompatible formats with no single source of truth. During alarm storms, NOC teams were overwhelmed by noise, making it nearly impossible to distinguish real root causes from secondary effects. Translating alarms into actionable tickets was equally manual – each alarm assessed individually, routed by hand, with no automation connecting fault detection to incident creation.

Solution Overview:

TechNarts integrated its NART OSS Suite across all network domains into one continuous, automated workflow.

- **Alarms collected and normalized** in real time, enabling consistent correlation across all sources and domains.
- **Meaningless alarms filtered out** before reaching the NOC, keeping focus on actionable events.
- **Duplicate alarms eliminated** and lifecycle states tracked end-to-end. Related events grouped under a single root event, repetitive patterns flagged automatically.
- **Each alarm enriched** with topology, site, and location context. Cause-effect logic separated root causes from symptoms, suppressing downstream effects once confirmed.
- **Topological RCA traced alarm relationships** across nodes and links, evaluating time, proximity, and dependency to pinpoint the true fault source in seconds.
- **High-confidence faults automatically generated incident tickets** routed to the responsible team
- **Coverage extended to IT-layer events** including core applications, databases, and virtualized functions.

About TechNarts

TechNarts is a leading **OSS provider** with deep expertise in telecom software **since 2007**. Through its **NART OSS Suite** product family, it delivers modular, future-proof solutions for **Resource Management, Network Assurance and Network Fulfillment & Orchestration**. Its systems align with **TM Forum's ODA and Open APIs**, helping operators boost service reliability, optimize resources, and accelerate digital transformation.

Result:

The deployment gave the operator a single, automated, and fully accountable fault management ecosystem across every domain.

- **Unified visibility across all domains** in a single platform, eliminating fragmented operational views.
- **Alarm noise reduced** through correlation and suppression.
- **Root causes identified in seconds** using topological RCA.
- **Secondary and symptom alarms suppressed** ensuring operators saw the main issue.
- **Incidents dispatched automatically** eliminating manual triage.
- **Secure and audit-ready operations** through role-based access controls.
- **Reduced manual effort** across fault assessment and incident management.