SKYCARE AI: ARTIFICIAL INTELLIGENCE FOR NETWORK OPERATIONS

FEATURES OF SKYCARE AI

- **Advanced BI-based Reports**
- **Real-Time Dashboards and Reports**
- **Spectrum Monitoring**
- **Anomaly Detection**
- **Location Map**
- **Smart Thresholds**
- **Automatic Troubleshooting**
- **Scheduled Maintenance**

Network Operations teams are under increasing pressure to maintain network health and ensure customer satisfaction — at less cost.

This is challenging as networks support more and more subscribers, applications and services, and the number of resources to be managed exponentially grows.

Network Operations organizations are up against rapidly soaring volumes of data, generated by infrastructure and applications that must be captured, analyzed and used to optimize the network's performance.

Moreover, decentralized network architectures and the dynamic nature of applications and services make their management more complex.

Managing such complexity is becoming increasingly difficult; the ability to respond fast enough to incidents after they happen to meet demanding SLAs is almost mission impossible.

As Communication Service Providers (CSPs) demand network operations efficiency, AIOps is emerging as a technology to address business needs and digitize NOC infrastructure.

AIOps, or artificial intelligence (AI) for IT operations, is the application of advanced analytics in the form of machine learning (ML) and AI and is used to help operations teams to achieve increased efficiency and to better achieve their business goals.

INTRODUCING SKYCARE AI

To help CSPs mitigate the challenges of increasingly complex network operations, Gilat developed SkyCare AI, an AIOps platform designed to pinpoint service and infrastructure issues, accelerate remediation and drive service quality improvement.

More specifically, SkyCare AI is a cloud native, AIOps platform that provides advanced monitoring, reporting, analytics and automated tools using AI/ML technologies. It helps network operations teams to predict and prevent potential issues, react faster to failures as they occur, and ensure optimized resource utilization. In addition to the platform, customers receive customized technical assistance, as Gilat experts learn their network and business domain and help customize the solution to their specific environment and needs.

FEATURES OF SKYCARE AI

Advanced BI-based Reports

SkyCare AI utilizes Business Intelligence (BI) tools to facilitate the transformation of raw data into meaningful insights. Leveraging Gilat's extensive system knowledge and experience in network operations, we created a pre-defined set of BI-based, historical reports. These reports provide a highly effective tool for traffic and performance trend detection, outage prevention and resource optimization. It is also possible to create customized BI-based reports for specific types of analyses.

Real-Time Dashboards and Reports

Real-time dashboards provide each user team with a summarized view of its domain-specific KPIs. The dashboards enable users to get the overall network status at a glance. The dashboards also identify the best and worst performers, providing quick access to those elements that require the operator's utmost attention. Additional details are then easily accessible by drilling down into the KPI or network element of interest.

Real-time reports are also provided for the entire network including Gilat HUB equipment and VSATs, as well as external equipment such as switches, routers, etc. These reports provide deep visibility into the current performance of every element in the network, assisting in troubleshooting and detailed investigations when the need arises.

Spectrum Monitoring

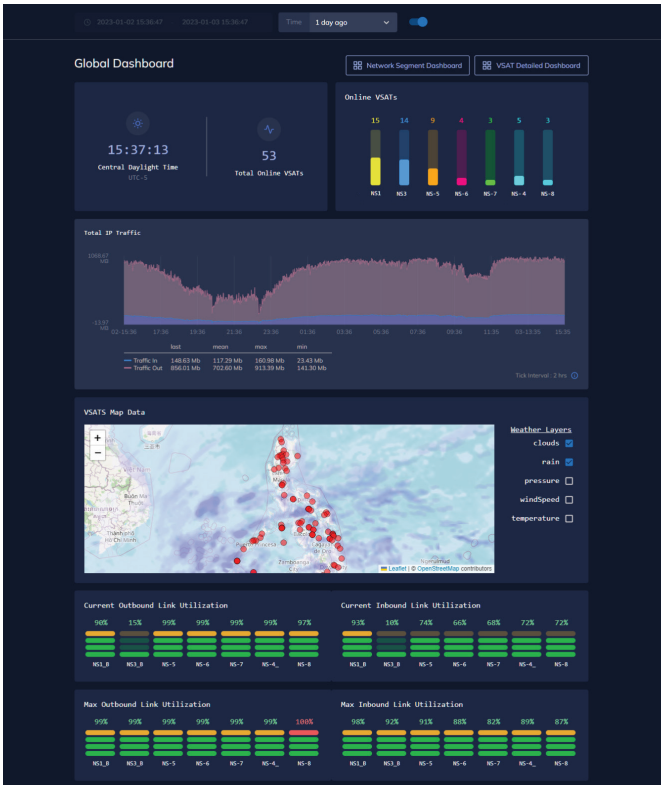
SkyCare AI Integrated Spectrum Analyzer provides real-time and historical RF monitoring, as well as alarms on signal variation.

With its automated RF performance measuring, the spectrum monitoring capability allows operators to track vital RF parameters in real time and to be alerted whenever one of those parameters goes out of range. It also provides historical reports and long-term trend analysis on those parameters to identify emerging problems before they affect service.

Anomaly Detection

SkyCare AI combs through large amounts of historical data and discovers atypical data points within a dataset. These outliers act as 'signals' that identify and predict problematic events. More specifically, the platform analyzes big data looking for correlations between various KPIs and between KPIs and faults, to identify "nontrivial" KPI relationships and abnormal behavior.

By proactively detecting issues before they impact the network, including but not limited to unusual RF or traffic degradation, CSPs reduce network service disruption and downtime.



Main Dashboard

Location Map

SkyCare AI includes an intelligent view on the application map to guide you to the root cause of the issue being investigated. The geographical map displays the Gateways and VSAT locations, with color-coded status indications as well as weather and MODCOD distribution overlays, to easily identify local area-based performance degradation and any correlations.

Smart Thresholds

SkyCare AI captures and analyzes network performance data in real time and triggers alarms when a deviation from a pre-defined threshold is detected.

Both static and adaptive threshold configuration modes are supported.

Adaptive thresholding is an advanced SkyCare AI capability that

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saves the task of manually reconfiguring thresholds. This works by reviewing a determined number of previous days and identifying the normal baseline relative to time-of-day and day-of-week.

Using SkyCare AI smart thresholds you benefit from early detection, avoiding potential issues such as overutilization of network resources or degraded service quality well before they become a failure.

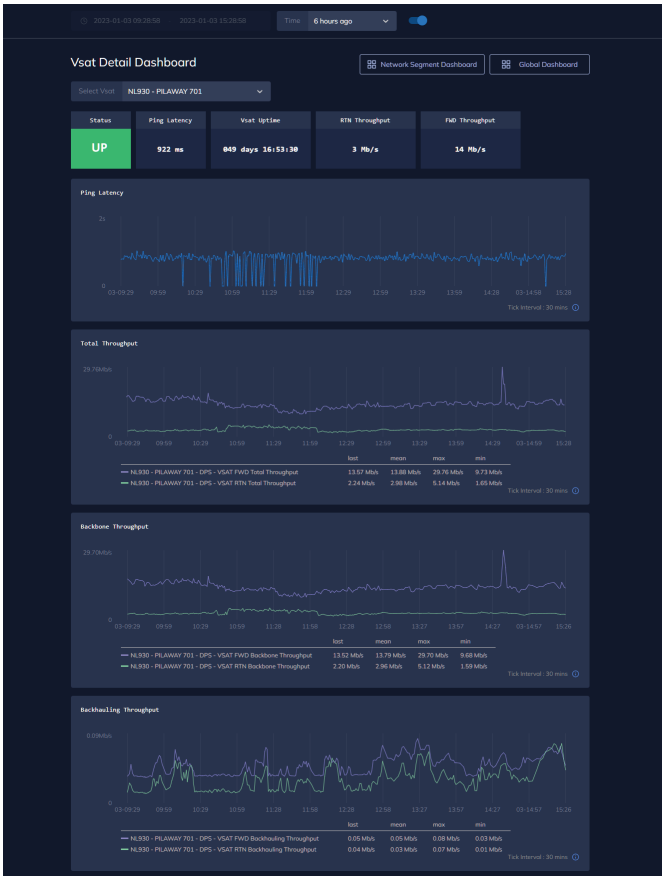
Automatic Troubleshooting

Once a problem has been identified, SkyCare AI automatically verifies the faulted entity's main KPIs, runs a set of diagnostic tests and provides remedy recommendations or even automatically performs corrective actions. Supported diagnostic aids include VSAT traffic statistics, RF performance, current weather conditions, self-test and RF audit results. Possible remediation acts may be reset or moved to a redundant component.

Automatic troubleshooting enables fast recovery from existing or evolving service degradation and helps maintain superior quality of service with limited human resources.

Scheduled Maintenance

The scheduled maintenance feature of SkyCare AI allows network operators' teams to run maintenance and testing activities automatically on a selected day and time or a regular basis.
Possible scheduled activities include but are not limited to:
- RF Audit, Ping, Speed-Test for all or specific VSATs
- Component restart for both hub elements and VSATs
Test failures will raise an alarm including the test details.
The ability to automate network maintenance and testing procedures allows operators to maintain network health without the extra workload associated with this task.



Real-Time Reports

SUMMARY

The ability of AIOps to help network operation teams manage new volumes of complexity while maintaining superior service quality translates into direct improvements in business results.

Gilat has been at the forefront of the satellite communications industry for over 3 decades. This has provided a unique opportunity to analyze massive amounts of data, which is the basis for our algorithms and automation tools. With the capabilities of AIOps and years of experience in network operation, SkyCare AI provides the ML/AI and automation tools to meet your specific domain needs.

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