

ServAssure[®] Alarm Central

Proactively Discovering and Resolving Impairments



PRODUCT OVERVIEW

Communication Service Providers (CSPs) are amidst a very competitive environment. A key differentiator for CSPs is the experience they deliver to their customers. There are several factors that affect a customer's experience positively or negatively. One of the critical areas is how CSPs efficiently manage their network operations. To manage efficiently means to be proactive and prioritize the right set of network problems that enable technicians in fixing customer problems before they experience them or restore services quickly, both leading to a better experience.

Cable operators deploy their services to customers over a Hybrid Fiber Coaxial (HFC) plant. The HFC network spans millions of miles of cable deployed over actives and passives to the customer's home and is a complex environment that is further affected by environmental changes like temperature etc. Hence for cable operators to manage their operations efficiently goes beyond just collecting data from the network, but instead proactively providing technicians with actionable insights including root cause(s) to major network issues that shift their focus from analyzing the data to fixing the problem immediately.

ARRIS's decades of experience in working with Cable operators coupled with its extensive RF expertise has led to the development of ServAssure Alarm Central – automating the identification and prioritization of existing and potential service impairments with its patented algorithms. Alarm Central provides a proactive and repeatable process for plant maintenance and outage teams to do their jobs, so service is more predictable and the business is more successful in delivering a superior customer experience. Through advanced correlation and analytics, Alarm Central allows operators to focus on what is most important by creating an environment where impairments are discovered and resolved proactively. To accomplish this, Alarm Central has three modules: Proactive Manager, Outage Manager and Virtual Spectrum.

Alarm Central Proactive Manager allows operators to proactively detect service impairments and trends – allowing resolution before an outage occurs. Complex patented correlation analysis is performed on telemetry from subscriber devices: DOCSIS pre-equalization data is heavily leveraged as a key performance indicator (KPI) and the analytics engine uses other KPIs (CER, SNR, FEC, Spectral Response, Channel Frequency), along with proven radio frequency (RF) troubleshooting techniques, to locate the source of the impairment

Alarm Central Outage Manager uses DOCSIS® device status and HFC network topology to correlate service outages in the HFC plant. The goal of this module is to detect service outages in almost real-time, identify the root cause and location of the outage, and automatically notify plant maintenance teams to resolve the outage. Rules exist to allow filtering small outages, lightly penetrated regions, issues that do not persist, correlation to various parts of the cable plant topology, and special situations around multiple dwelling units/ buildings.

NEW IN 2018!

Alarm Central Virtual Spectrum provides cable operators an easy way to inspect signal performance and better prepare for DOCSIS 3.1 launch without rolling a truck. A simple click on the device starts a session, using the CM as a test point. Full visibility up to 1.8 GHz spectrum allows operators to find intermittent noise at a subscriber home, isolate impairments to a specific node bus leg, or quickly detect problems including Roll-Off/ Tilt, LTE interference, and adjacency. Advanced features, including Peak Hold, Spectrum-zoom, and the ability to view multiple CMs simultaneously, give operators a high-value interface that saves them time and money.

FEATURES AT A GLANCE

- Fix customer outages before they call based on near **Real-Time Outage Detection**
- **Automated verification of alarms** to eliminate false positives and improve operational efficiency
- **Real-time problem verification** to avoid repeat truck rolls
- Proactively addresses amplifier issues affecting multiple customers
- Improved alarm propagation including **above the Fiber Node** for accurate Root Cause Detection
- Improve OPEX with better **isolation** of plant vs. in-home issues
- Alarm Central can be integrated with 3rd party tools to create an **automated end-to-end ecosystem**
- Improving Operational Efficiency with **enhanced usability**

BUSINESS VALUE SUMMARY

- Improved customer experience
 - Fewer call center calls based on proactive maintenance
 - Higher service take rate due to high performing HFC plant
- Reduce number of plant maintenance truck rolls
 - by correlating related symptoms to common source of impairment
- Reduce number of residential truck rolls
 - trouble calls identified as part of a plant issue
- Reduce trouble calls and increase subscriber Quality of Experience (QoE)
 - by finding/ resolving issues before service is affected
- Reduce MTTR (Mean-Time-To-Restore)
 - through reduction of time spent locating and fixing plant issues



ADDITIONAL NEW FEATURES FOR 2017

- **Near Real-Time Outage Detection** (less than 5 minutes to detect) allows operators to provide a superior customer experience by not only informing customers about outages before they call but in several cases significantly reducing the time to restore their services.
- The ability to **Filter Proactive and Outage Alarms** based on the area of responsibility held by the technician allows the operator to further achieve operational efficiency by prioritizing on the alarms with the highest severity.
- **Modulation Switching** indicators enable operators to better understand and troubleshoot major quality/ capacity swings in their network.
- **Further Automation in Ingesting Topology** so that bad data in one file does not compromise the existing data in the system. If the threshold for successful ingest is not met, the file is not ingested.
- **Enhanced Usability** with icons indicating acknowledgement of Alarms with comments as well as several enhancements to the **Timeline and Graphs**.

The screenshot displays the ServAssure Alarm Central interface. On the left, a list of alarms is shown with details for selected items. In the center, a map displays the geographic distribution of cable modems. On the right, a table titled 'Highest Issue Severity on Cable Modems' provides a summary of issue counts and severities. Below the map, a graph shows signal quality metrics over time, with a 'Properties' panel on the far right for configuring the graph's appearance and data sources.

# Cable Modems w/Issues	Highest Issue Severity on Cable Modems		
	Minor Issues	Major Issues	Critical Issues
1 to 9 Cable Modems	Minor	Minor	Minor
10 to 49 Cable Modems	Minor	Major	Critical
50+ Cable Modems	Major	Critical	Critical

CUSTOMER CARE

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