Guavus Proactive Ops: Alarm Correlation & Prioritization Datasheet

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Operations centers continue to face a losing battle of fighting too many fires with not enough firefighters. The proliferation of monitoring and reporting solutions are overwhelming operations teams with alarms without any context around their impact on customer experience.

To make matters worse, the maturity of DevOps models combined with increasing adoption of virtualized services has made the task of correlating alarms across silos nearly untenable. Manager of Manager (MoM) solutions provide more sophisticated parent/child relationship discovery, but most do not consider the impact to customer experience and therefore lack true prioritization.

Which alarms are truly problematic, and which are just symptoms of a larger issue? A performance issue may look catastrophic from the network perspective, but customers may hardly be affected. Conversely, events that don't look significant at an infrastructure or network level could be far more disastrous from the customer's perspective if left unattended.

Without the right analytical tools, you may be missing the forest for the trees when addressing alarms individually.

Guavus Proactive Ops Alarm Correlation & Prioritization (ACP)

Guavus ACP is an analytics module that uses machine-learning to prioritize alarms based on potential impact to the customer experience. It helps consolidate infrastructure, network, field, and customer incidents into a single Service Operations Center with one cohesive view to avoid multiple triage situations.

One failure typically generates many alarms in a dependent system; ACP is able to identify the underlying issue and all its associated symptoms and alarms to reduce noise and enable quick remediation. ACP prioritizes the alarms by calculating the probability of the alarm causing impact to customers or disrupting service, as well as considering the number of potentially impacted users.
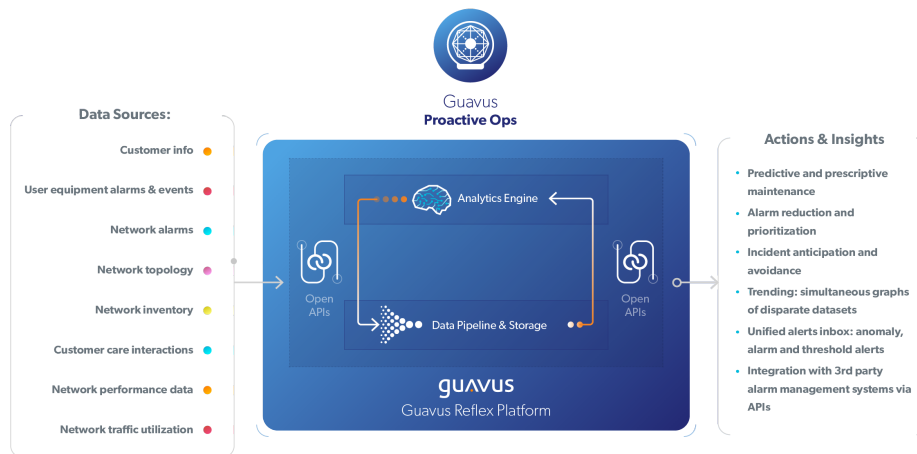
Benefits

- Prioritize alarms based on impact to the customer

- Dramatically reduce the number of alarms to analyze by consolidating alarms that share the same root cause

- Proactively address emerging issues by accurately predicting which alarms would convert to meaningful customer incidents

- Avoid multiple, redundant triage situations by aggregating operations centers from different departments into a single Service Operations Center with one cohesive view

- Identify a wider range of issues, including those that may cause large alarm cascades, using automated detection and triage system of multiple alarms

In addition, ACP enables organizations to proactively address emerging issues before they severely affect customers by using historical information to determine alarms that foretell impactful incidents.

The ACP module addresses the following three core use cases:

- Alarm noise reduction
- Proactive incident creation and prioritization
- Automation of issue resolution

The Guavus ACP module sits on top of the Guavus Reflex® platform, which powers operational analytics across a wide array of data domains and use cases. The modular design allows you to easily add capabilities as your needs evolve.

Guavus technology is designed to ingest, correlate and analyze high volumes of streaming and stored data in real time. The resulting enriched datasets is fed into Guavus modules to address operations use cases such as prescriptive operations, proactive operations, agile change management and assisted customer support.
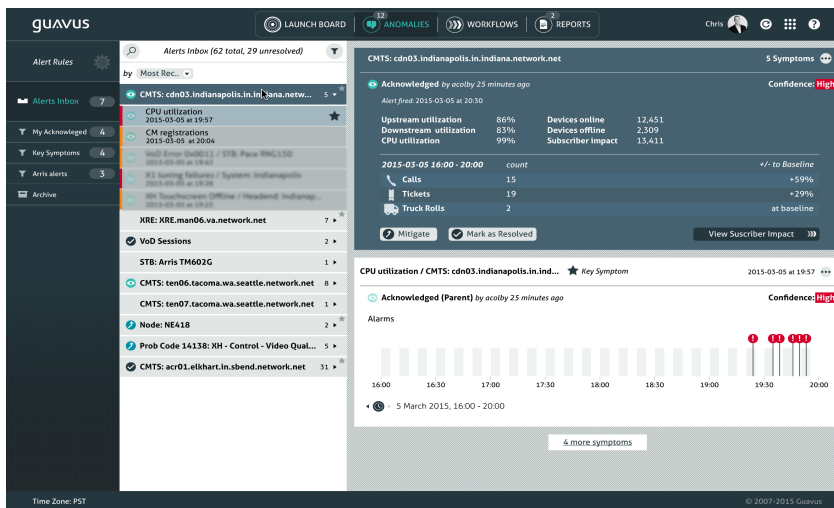

Figure 2. The user is provided with data relevant to the overall issue related to the specific alarm

Reduce alarm noise to quickly remediate issues with real customer impact

Today's Operations Centers are overwhelmed with alarms and events. The traditional troubleshooting paradigm has meant thousands of alerts and KPIs are produced per software or element. Unfortunately, it is estimated that **more than half of alarms received are not customer-impacting, or are simply symptoms of another, potentially bigger issue.**

Each false alarm detracts attention from the real issues. This alarm "noise" causes delayed responses to bigger and more severe issues, which can cost tens of millions per year in care interactions and churn.

However, eyes-on-glass, traditional monitoring of single-level alarms is time-consuming and simply not effective. One single alarm such as a service disruption or network component failure can result in cascading effects and multiple alarms across the system. A linear approach to alarms often identifies only the biggest-impacting issues, with additional time required to reconcile multiple alarms to one single issue.

Guavus ACP module efficiently identifies, correlates, and presents, at scale, those alarms that may represent customer impact or service disruption. The ACP module groups the alarms that are related to each other to reduce the "noise" and let the operations team focus on the alarms that are causing the problem. It also interacts with other alarm management systems to auto-clear the grouped alarms identified as not being the source of the problem.

Highlights:

- Correlated alarms are represented as a holistic event. Identification of parent/child relationship is used to group alarms that are related to each other and reduce the number of alarms that need to be investigated.
- Alarms correlation & triage eliminate the costly process of manual triage and supports quick identification of a much wider range of issues, including those that may cause large alarm cascades
- The auto-clearing alarms identified as "noise" minimizes the manual work typically involved in clearing alarms, and crucially enables quick remediation to avoid any significant customer impact

Not responding in a timely manner to Sev2 and Sev3 alarms cost one organization tens of millions annually in network ops costs

Proactively address service-impacting events and automate incident creation

Standard measures such as extreme KPI variances and customer calls are typically used to detect issues. Unfortunately, this approach is woefully reactive, with detection often occurring after customers have already been fully impacted and costs incurred.

A massive amount of service data exists, and it tells the story of the service health in real time if analyzed correctly. A multitude of alarms and events can even provide early warning signs of service disruption.

Guavus ACP proactively identifies service-impacting incidents so that organizations can address these issues before most customers realize any effects, and before most subsequent care costs (call/service center interaction) are incurred. The module uses information from previous customer-impacting incidents to determine symptoms and identify groups of correlated alarms. This removes the need to monitor alarms individually, and instead focus on prioritized issues. It also automates the creation of trouble tickets when an incident has already been identified/predicted.

Highlights:

- Proactively identifies service-impacting incidents by analyzing the multitude of alarms and raw network data, enabling you to address the issues before customers are affected
- Predicts service-degrading issues by understanding the correlated network health indicators in order to recommend preventive maintenances
- Prioritizes incidents based on potential customer impact
- Automatically creates trouble tickets in 3rd party incident management systems

Resolve network issues without manual intervention

Technologies such as virtualization and Software Defined Networking (SDN) have been embraced by many organizations in the hopes of making the network and its functions more flexible. This would enable process automation and ultimately the creation of self-healing capabilities that react automatically to service disruptions. However, in order to fully automate issue resolution, an analytics system is first needed to understand the issue, its origin, and ways to solve it.

Once the root cause of an incident has been identified, The Guavus ACP module triggers an automated response to solve the issue. It communicates with the network orchestrator or controller, which in turn can take action based on the input received. This enables the organization to close the loop on service assurance and resolve issues without manual intervention.

Highlights:

- Proactively identifies the root issue of the fault and the action needed to resolve the issue
- Communicates with the controller or orchestrator to initiate the actions needed to resolve the issue
- Keeps track of the progress of the changes made in the service by receiving confirmation from the orchestrator on the status of each action

Once the action is complete, it will monitor the network to understand how the changes have affected overall service performance.

A global business uses Guavus ACP to predict with 93% accuracy which alarms would convert to customer care incidents and prioritize alarms that had the highest impact on customers

Summary

Organizations need to see the world through the eyes of their customers rather than from inside their network in order to compete effectively in today's markets. Unfortunately, the traditional troubleshooting paradigm produces millions of alerts without providing any context of the user experience. This often leads Operations centers to chase after false alarms, or those that have minimal impact on the user.

The Guavus ACP module prioritizes alarms based on potential for customer impact, and predicts disruptive issues based on historical data. You can dramatically improve your customer experience and cut costs while still maximizing the alarm system already in place.

About Guavus

Proven at the world's most demanding customers, Guavus is at the forefront of streaming big data analytics, artificial intelligence and machine learning innovation. Guavus processes half a trillion records every day for over 450 million individuals, enabling enterprises to analyze data the instant it's captured, driving faster decision-making, lower costs and higher growth.

The Guavus Reflex® advanced analytics platform enables customers to gain a competitive edge by helping them put all their data to work to uncover new insights and make better quality and timely decisions. Guavus provides next-generation big data analytics applications for systems planning and operations, mobile traffic analytics, marketing, customer care, security and IoT.

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