



## Automation and machine intelligence hold the keys to a customer-aware operations function

The new service operations landscape encapsulates a series of technological and organisational changes to which communications service providers (CSPs) are transitioning. Analytics will play a vital role in enabling automation and machine intelligence for this new world, says Chris Menier, the vice president of products and marketing at Guavus

**T**he move from the network operations centre (NOC) to the service operations centre (SOC) is underway. At the same time, CSPs are transforming their networks and moving past the concept of big data as simply collecting and storing data in great volumes. It is now evolving to the next step, which centres on the insights and the business impact that can be harnessed from this data. The true paradigm shift will occur when CSPs use machine intelligence to gain contextual insights from this massive data set and apply them to business practices.

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Global CSPs must employ this new breed of analytics that go beyond the traditional siloed way of monitoring service performance and availability to bridge the gap between existing OSS and today's complex operational environment. By gaining a holistic view of service operations and adding context to this disparate data, CSPs can analyse events enriched with relevant factors. CSPs are empowered with an accurate understanding of the service function and which actions will have the greatest impact on improving the customer experience.

### Make way for machine-learned KPIs

Most CSPs currently use static key performance indicators (KPIs) to define business goals and measure customers' quality of experience. However, in an ever-changing operational environment in which

virtualisation, new devices and applications are modifying customer behaviours, the static way of computing and measuring performance is no longer proving to be an accurate indicator of success.

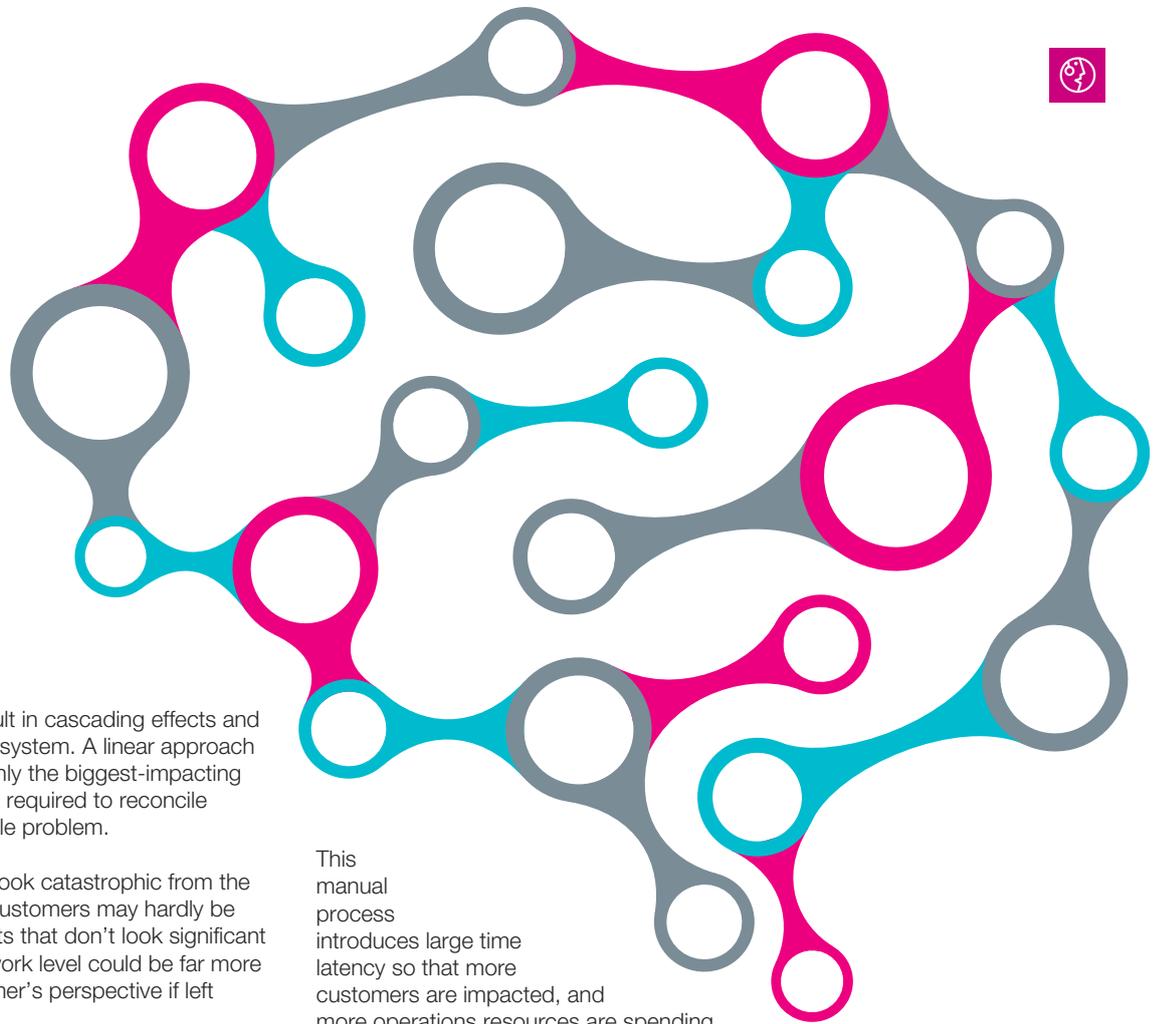
Today's operational complexity requires dynamic, machine-learned and nuanced indicators that consider contextual factors such as customer, seasonality, population density and other noise. CSPs can utilise machine learning to automatically detect meaningful anomalies and prescriptively identify the root cause of issues. They can then repair customer-impacting events with speed and agility.

### Put out more fires

Today, CSP operations centres 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 cost millions per year in care interactions and churn.

However, eyes-on-glass, traditional monitoring of single-level alarms is time-consuming. One single alarm such as a service disruption or network 

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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 problem.

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.

The goal, therefore, must be to view these alarms with the proper context. Using machine-learning, CSPs can consolidate alarms based on shared root cause and prioritise alarms based on potential impact to the customer experience. This can dramatically improve the customer experience and resource management while maximising the use of the alarm system already in place.

### Mitigate the impact of planned maintenance

In this hyper-competitive environment, CSPs need to deliver new service capabilities and innovations at a faster pace without sacrificing service availability or performance. Customers with a volatile service experience are three times more likely to take their business elsewhere.

Unfortunately, deploying software upgrades/patches and making network or infrastructure changes often has unforeseen impact on the service that can be very difficult to detect. To make matters worse, digital transformation and the shift to DevOps environments can further obfuscate the true impact of change management events on services, and thereby, the customer experience.

Current methodology around change management deployment relies on interaction between multiple teams to understand any negative impact. Customer support teams might notice a spike in inbound requests or a rapid degradation of another customer experience indicator; Operations teams may investigate the details of those customers, and ultimately tie this back to a maintenance or upgrade.

This manual process introduces large time latency so that more customers are impacted, and more operations resources are spending time on triage instead of remediation.

By applying machine intelligence to data that is collected and correlated across service tiers and customer experience indicators, organisations can better understand the real-time impact of change management events on all areas of their network.

### Transform the operations function

In order to truly differentiate based on customer experience, CSPs need a predictive technology that can determine whether something is about to degrade or fail altogether – and how much that will matter to the customers. In this way, CSPs can address the issue before customers take notice.

Using advanced machine intelligence, CSPs can identify classes of behaviors that may portend customer experience issues in the near term. This enables service operation center staff to proactively improve customer experience by giving them likely consequence and impact for taking certain actions. With this enriched information, CSPs can make informed decisions about where to prioritise their resources and time to improve the customer experience.

The age of big data collection is being eclipsed by machine intelligence. By understanding critical context and predicting outcomes with deterministic data, CSPs can gain unprecedented insight into their operations. Using this new generation of machine-driven analytics, they can drive costs out of their business and prioritise fixes with a confident view on where to put valuable resources for the greatest impact on the customer experience.



**Chris Menier:** Analytics provides the essential foundation for CSPs to successfully navigate the new service operations landscape

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