



Most Probable Cause (MPC)

Advanced Root Cause Analysis with Automation for Enterprises



Today's digital workplace and its associated requirements for your business are constantly evolving. As unified communications (UC) continues to grow, enterprises are searching for turnkey solutions to deliver detailed insights of their IP voice traffic in order to maintain the quality of service their employees and customers expect. Enterprises need end-to-end visibility to address a multitude of operational issues, detect problems in real time, and proactively respond to changing network dynamics to avoid future performance and security issues. Businesses need a single analytics solution that utilizes machine learning (ML) algorithms to quickly identify problematic areas of their network and the underlying root causes to provide superior and secured quality of services to users.

Most Probable Cause (MPC)

The Ribbon's Most Probable Cause (MPC) application is part of the wide-ranging Analytics portfolio. MPC enables customers to use machine learning algorithms to address enterprises root cause analysis when troubleshooting network performance and security issues across their unified communications network. The MPC application brings forth prebuilt ML algorithms and automation to provide end-to-end network troubleshooting and enable Enterprise IT Operations to quickly diagnose and resolve network related issues. With Ribbon's ML-based Most Probable Cause application, Enterprises now have 3 deterministic approaches to identifying root causes of network or user issues.

Ribbon's MPC allows your operations team the following new approaches:

- 1) Descriptive:** looking at the past for trending patterns
- 2) Predictive:** looking at the future for areas that might become a problem
- 3) Prescriptive:** looking at incoming information and uses instant analysis to improve the performance

MPC Benefits:

- **Descriptive Analysis** - looking at the past for trending patterns
- **Predictive Analysis** - looking at the future for areas that might become a problem
- **Prescriptive Analysis** - looking at incoming information and uses instant analysis to improve the performance

In this case, MPC utilizes machine learning to infer relationships between problem areas and underlying protocols, dimensions, and metrics. For example (Figure 1), In your unified communications infrastructure with SBCs, MPC automates service assurance by reducing the analysis time which reduces Mean Time to Resolution. By looking at the relationships between various call failures, destination failures, routing failures, subscriber failures, congestion, equipment failure, blocked calls, resource failure, signaling failure, authentication failure, licensing failure or quality of experience issues across network elements and end-user devices, Ribbon's MPC application enables Businesses to understand potential impact areas to their networks and users.

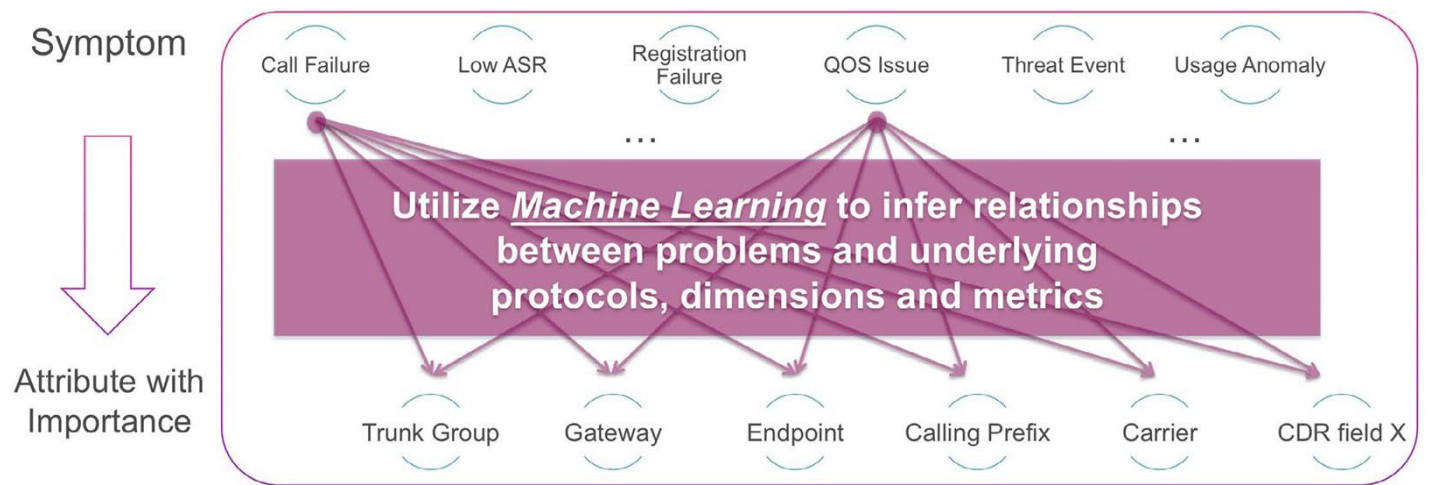


Figure 1 – Automated troubleshooting with MPC, reducing Mean Time to Resolution & Mean Call Handling Time

Figure 1, highlights an example on how the Ribbon Analytics MPC application utilizes machine learning to infer relationships between problems and underlying protocols, dimensions and metrics across different data sources in a communications network. The MPC application provides proactive analysis (**Figure 2**: Dashboard) on performance issues relating to SBCs & Gateways. MPC in a communications network can be used to automatically identify **call failures, destination failures, routing failures, subscriber failures, congestion, equipment failure, blocked calls, resource failure, signaling failure, authentication failure, licensing failure** or customer QoE issues by providing ML models for each symptom category listed above.


The screenshot shows the "Create Most Probable Cause" dashboard. At the top, it says "Tools / Most Probable Cause / Create Most Probable Cause". Below this is a form with several sections. The "Name" section has a checkmark icon and an edit icon. The "Symptom" section has a sub-label "Specify the Symptom of the MPC Workflow". Below this is a "Workflow Type" dropdown menu set to "Adhoc". There are two dropdown menus: "Category:" set to "Wireline SBC Core GSX CDRs" and "Symptom:" set to "Congestion". At the bottom right of this section are "Previous" and "Save & Continue" buttons. Below the form are sections for "Time Interval", "Failures", and "Confirmation", each with a greyed-out input field.

Figure 2 – Dashboard highlighting MPC Workflows in Fixed Voice network with SBCs and Gateways

Issue Resolution in Minutes

With Ribbon Analytics Most Probable Cause (MPC) application Enterprises can diagnose complex networking and service issues across all possible contributors such as network domains, devices, and end-users. These new ML applications automate Enterprise service assurance efforts by inferring relationships between problem areas and underlying protocols, dimensions, and metrics. This reduces critical analysis time and vastly reduces Mean Time to Repair, from weeks to minutes.

- Ribbon's new Most Probable Cause applications leverage ML algorithms and automation to provide end-to-end network monitoring and enable businesses to quickly diagnose and resolve network related issues.
- Ribbon's MPC applications reduce the amount of time it takes to detect, resolve, or recommend prescriptive actions from hours and days to minutes, dramatically improving MTTD and MTTR.
- The MPC applications integrate seamlessly into the Ribbon Analytics portfolio and can incorporate third party data feeds to create deeper inferences on potential, existing and future network problems.

Contact Us  Contact us to learn more about Ribbon solutions.