Network Incident Invaders:
Human-Guided Automation for Accelerated Resolution

Contents

Enterprises continue to struggle with the scale and impact of network incidents every day. Inability to respond fast enough to these incidents impedes the ability of Network Operations to deliver mission-critical business services. This adds significant risks to the business including decreased customer satisfaction and attrition, lost revenue, financial penalties, damage to brand, and more.

Impact of Network Incidents and Outages

Network operations in financial services, retail, transportation, telecommunications, and other industries are going through a digital transformation to support transactions and improve customer satisfaction. A network outage can be paralyzing to customers, catastrophic to the business, and lead to lost revenue and compensation. According to a global survey[i], 74% of Network Operations professionals say network-related outages occur several times a year and 59% report network complexity is only growing and network outages are more frequent than ever. The majority of network-related issues are reported by end users, indicating network incidents materially affect employees and customers.

When it comes to remediation, 79% report it takes hours–or up to two days–for network issues to be remediated.

When millions of transactions take place daily online or through a Point-of-Sale (PoS) system, are manual remediation efforts enough?

Current Network Remediation Methods are Inefficient

Businesses and Network Operations teams are not blind to these challenges, but current methods are inadequate. Diagnosing and resolving network incidents are largely manual processes, prone to human error, and extremely time consuming. Benchmarking these remediation methods, another study[ii] of network ops professionals found:

» 71% of respondents primarily use Command Line Interface (CLI)-based tools for troubleshooting

» Only 4% of teams indicate they apply automation for network diagnosis and troubleshooting in *a satisfactory way*

Frontline agents have to swivel chair across multiple command-line tools and poorly-maintained scripts. They also lack contextual and prescriptive procedural guidance to quickly validate, diagnose, and resolve network incidents. This leads to a high rate of escalations to expensive and scarce level 2/3 agents, Subject Matter Experts (SMEs), and engineers who often have to repeat steps to address the incident, leading to further delays.

Another significant challenge is key operational knowledge is in the minds of SMEs (aka tribal knowledge), and they are spread thin across the organization. Without a solution available to capture this tribal knowledge and make it available to frontline agents to quickly resolve incidents, how can frontline agents be empowered to resolve network issues without escalations? More than half of organizations do not have the ability to codify and share best practices and many have problems collaborating and coordinating across teams when troubleshooting network issues.

Automation and Leveraging Human Expertise are Essential to a Robust Network Incident Resolution Strategy
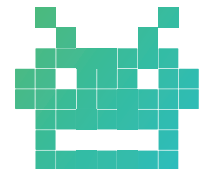
Automation accelerates the resolution process, reduces human errors, and helps operations teams handle a growing network footprint and associated incidents. Current automation tools fail to live up to their promise as they're often rigid, inflexible, and irrelevant to resolving complex incident types.

How are current automation tools failing to live up to their promise?

» Difficult to develop, lack ease of use, and hard to maintain

» Lack essential capabilities for incident resolution or provide human interaction and guidance

» Require professional development skills that are not easy to find in operational teams and are expensive resources

Meanwhile, existing Knowledge Management tools also fail to live up to their promise to capture tribal knowledge and deliver context-specific operational guidance to frontline agents and work in tandem with automation.

How can Human-Guided Automation help Network Operations teams in their approach to Incident Resolution?

Understanding Human-Guided Automation

Human-Guided Automation brings together two core ingredients for an effective and scalable incident resolution strategy. Automation with human action dramatically improves incident resolution capabilities for Network Operations.

Human-Guided Automation provides users the ability to:

» Fully automate validation, diagnosis, and resolution of network incidents with human approvals baked into the automated workflow at key points for human oversight

» Use results of automations to lead humans, including less-experienced Level 1 agents, to precise, context-specific guidance to diagnose and resolve an incident

» Automate component tasks within a larger manual process. Results of automations are available on-demand to other automations and human agents through the entire resolution process

» Seamlessly embed automations within SME-approved manual procedures; results of automations can be consumed in line within manual actions to maximize agents' productivity

» Capture tribal knowledge with no coding skills to memorialize SME knowledge as automations for use by other individuals and teams

Human-Guided Automation: Procedure Updates in Response to an Agent's Choices

Human-Guided automation is essential for Incident Resolution because it enables an effective "left shift" strategy for the fastest response – at the lowest cost – so incidents can be resolved with no human involvement. When a human needs to be involved, frontline agents or users (in a self-service mode) are able to resolve the incident with step-by-step process guidance and human-led decision making.

This capability enables the simplest to the most complex incident types to be optimally addressed by a mix of automation and human expertise and judgment, further reducing costly and time-consuming escalations. When escalations and SME involvement are a true last resort, the power of automation does not stay restricted to only tasks that are fully automatable, but even tasks that have a large agent-led component.

Furthermore, tribal knowledge no longer resides only in the minds of experts but can be captured as procedures and automated for resolving incidents faster. These packaged "safe" automations can be shared with frontline teams like Service Desk and Level 1 agents to execute specific diagnostic and remediation actions on the network infrastructure without escalations, whereas normally these frontline agents would not have permissions to access these systems.

Conclusion

Resolve Systems is the market leader and pioneer of Human-Guided Automation. Resolve has been deployed by the largest global enterprises, Communication Service Providers, and Managed Service Providers and is proven to rapidly transform network incident resolution with this powerful concept. Enterprises should explore Human-Guided Automation to transform incident resolution for network operations teams.

References

i.   https://www.veriflow.net/survey/

ii.   http://www.netbraintech.com/resources/whitepaper/2017-state-of-the-network-engineer-report/

About Resolve Systems

Resolve Systems is the global leader in providing a single platform for enterprise-wide incident response, automation and process orchestration for Security Operations, IT Operations, Network Operations and service desk teams.

Resolve accelerates incident response and resolution by supplying engineers with partially or fully customized human-guided automations, powerful real-time incident collaboration and the omnipresence to orchestrate existing systems, across silos.

Headquartered in Irvine, California, USA with operations in EMEA and APAC, Resolve Systems works with nearly 100 of the largest global firms and is majority owned by funds affiliated with Insight Venture Partners, a leading global private equity and venture capital firm investing in high-growth technology and software companies.

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4