Why Your Existing Tools Are Not Enough For Effective Incident Resolution

Abstract
Why your existing trouble ticketing, event management, knowledge management, and automation tools are unable to significantly reduce costs for incident handling and improve repair times and customer satisfaction. Resolve Systems provides a new approach and proven solution for accelerating incident resolution that can decrease your OPEX by 15–30%.
Executive Summary

Expensive engineering and support costs and unacceptable incident resolution times have driven companies to pursue a variety of solutions to improve productivity and quality of service. These solutions have ranged from Closed Loop Automation (IT Process Automation tools, Event Management Systems, Business Process Management Tools), Knowledge-based approaches (Wikis, Sharepoint, Knowledge Management tools), and custom-built approaches. However, these solutions have all fallen short in their efforts to reduce costs or shorten times to resolution and have a minimal impact to improving customer satisfaction.

Closed loop automation solutions at best can only address 10 to 15% of incident resolution processes. These 10 to 15% that lend themselves to the closed-loop scenario tend to be the simpler processes, and are often the least valuable to fully automate. Closed-loop automation tools have neither been easy-to-use or flexible, which has led to prohibitively high development costs and limited returns on investment. Additionally, these solutions do not address the additional 85% to 90% of the resolution processes because of the incredible complexity required to completely replicate the judgment of expert engineers needed at key decision points. Effectively addressing the additional 85–90% of the processes can be a game-changer that can have a massive impact on the profitability and competitiveness of a company.

The Knowledge Management (KM) based approaches are reactive in nature and don’t help proactively resolve an incident before it becomes an escalation. KM systems only make a best effort of finding relevant documents on request, but do not provide precise step-by-step and contextual guidance that L1 agents need in order to prevent costly escalations and increased resolution times.

RESOLVE: A new and proven approach for incident resolution.

The RESOLVE System offers a new industry-changing approach to accelerating incident resolution that addresses 100% of incidents. RESOLVE provides a nexus of automation, decision trees, contextual content, analytics and user friendly administrative capabilities that address the shortcomings of other alternatives for improving incident resolution. Highlights of the RESOLVE approach include:

- Enabling Level 2 agents to quickly create the automations that they know best. No longer is the business at the mercy of IT resource constraints and long development times.
- Easily automate resolutions with RESOLVE’s Automation Builder and other drag ‘n drop authoring capabilities shortening time-to-value and decreasing the on-going cost of ownership.
- Partially automate complex processes that serve up contextually relevant content via knowledge base, wikis, and decision trees at the “big brain decision points”. This is where the huge ROI resides but has been inaccessible until RESOLVE!
- Prebuilt modular content that supports quick and easy deployments and lower TCO.
- Proven success deploying and supporting large-scale global telecoms and financial enterprises with fast time-to-value and achieving an ROI in months NOT YEARS.
- Ultimately resulting in reduced OPEX by 15% to 30%

This whitepaper describes the challenges faced by Network and IT Operations with incident resolution and RESOLVE’s innovative approach to this challenge.
the service provider to contain costs nor the customer whose service is disrupted for an unacceptable longer stretch of time.

So, why exactly has it been so difficult for service providers to improve their processes and provide speedy diagnosis and resolution of incidents when they do occur? The failure lies in the existing approaches that have been used by these companies.

Limitations of Existing Approaches to Incident Resolution

Operations Centers have used two existing approaches to Incident Resolution:

1. **End-to-end [Closed-loop] Automation Tools** to create complete automations that can diagnose and resolve incidents without any engineer involvement.
2. **Knowledge Management and Search Applications** to provide information to frontline agents to address incidents and customers escalations

Both of these approaches have failed to deliver the desired results for Operations Centers and they continue to sink deeper in the quagmire of incidents.

**End-to-End [Closed-loop] Automation**

End-to-end automations can deliver results in the diagnosis and resolution of some incidents. However, using this as the primary strategy has had a fatal flaw — It is estimated that only 10–15% of incidents make sense to be automated in a closed loop fashion. The rest, which form a vast majority of incidents, are too complex in terms of the human judgment required to justify the effort of fully automating them.

The resolution procedures for these incidents are simply not well defined to model and automate, and they wind up being too expensive to tackle with the automation tools being used.

**Knowledge Management and Search**

The other existing approach to improving incident resolution has been to leverage Knowledge Management and Search software solutions. This approach has also not helped these operation centers deal with incident resolution effectively; there are many reasons for this.

First and foremost, knowledge-based approaches are reactive in nature and don’t proactively resolve the incident before it becomes an escalation. Once the issue is escalated, the KM systems only make a best effort of connecting the issue with documents that seem most relevant for the issue at hand. The front line L1 agent, who is often the least trained, has to sift through documents and swivel chair between multiple tools to identify the most relevant procedure to diagnose and repair problems. Knowledge articles only provide a reference and do not provide precise step-by-step and contextual guidance to drive the resolution process. The L1 agent in this environment is often relegated to routing incident escalations to more experienced and expensive L2 engineers. Meanwhile, any documented procedures are inevitably avoided or overlooked and this makes keeping the content up-to-date extremely challenging. This is clearly not an approach that scales as complexity and volume increases.

Many businesses have unwisely (in hindsight) invested excessively in the end-to-end automation tools and projects and have had to stall their automation initiatives as a result of spending millions of dollars and thousands of hours without enough demonstrable ROI.

An unfortunate blemish in the name of automation, as it has a powerful role to play in the incident resolution strategy of the operations team.

The largest providers of these end-to-end automation tools have been large software vendors like HP, CA, IBM and BMC. Unfortunately they have made little strides in fundamentally making automation development simple and cost effective. For example, non-professional developers such as L1/L2 agents who are responsible for the resolutions cannot build their own automations and have to rely on dedicated automation teams of professional developers and the subject matter experts to build automations. In addition, these large vendors have been able to bundle their automation tools into large volume licensing deals with customers and not felt the need to remove barriers to adoption and deployment. These tools therefore remain underdeveloped, under-deployed and underutilized even though many organizations own the licenses.

Knowledge Management has its role in many scenarios such as managing enterprise organizational knowledge. Unfortunately, they are not well suited to incident resolution in Operation Centers and many businesses have failed to realize that. In the context of incident resolution “less is more” and is counter to the idea of building very large, enterprise-wide knowledge repositories espoused by traditional Knowledge Management vendors.
The excessive amount of information creates noise and becomes a major impediment to connecting the agent with the right process.

**RESOLVE for Accelerating Incident Resolution**

RESOLVE is leading the market with a new innovative approach to accelerating incident resolution — transforming many organizations’ ability to scale network and IT operations through automation and context-specific process guidance.

The core tenets of the RESOLVE approach are:

- An incident resolution solution needs to address all incident types — those whose resolutions can be handled by closed-loop end-to-end automation as well as those that require human interaction. To scale network and IT operations, incident resolution needs to be completely automated where possible and streamlined such that L1 agents are able to address as many repetitive problems as possible.
- Automations have a key role to play in the incident resolution strategy — not just for closed-loop automations, but also when there is a large manual component to the resolution process. They dramatically accelerate resolution times, reduce scope for manual errors as well as reduce complexity, enabling less skilled engineers to diagnose and repair more problems. They minimize manual labor that is better leveraged for innovation and improvement rather than constant firefighting.
- For incident resolution, process guidance and automation are two sides of the same coin. By combining process guidance with automation, complex repetitive problems can be broken down to smaller steps which can be more easily automated while leveraging L1 agents to make human decisions to guide complex resolution processes.
- To accelerate and drive broad adoption of automation, the automating of resolution processes needs to extend beyond strategic end-to-end automations created by IT automation development teams. L2 and L3 Subject Matter Experts (SMEs) need to be empowered to create and maintain resolution procedures and automations that directly impact their team effectiveness. The incident resolution platform, therefore, needs to be easy-to-use and support content creation (including automation) by L2 and L3 support engineers.
- The resolution strategy needs to inherently support a “crawl, walk, run” phased approach to roll-out. For example, it should be possible to partially automate a resolution procedure (e.g., incident validation) and seamlessly automate more steps of the procedure over time as ROI and business benefits are observed.

With this vision, Resolve Systems has developed an industry transforming product, the RESOLVE System for Accelerating Incident Resolution that has revolutionized how incidents are handled by Operation Centers. As an example, a very large Internet Services Provider in the US has reported saving 20,000 L3 engineer man-hours annually by automating alert validation and diagnostics within their L1 resolution procedures. A large IPTV service provider in the US has reported a monthly savings of $1.8 million by enabling first call resolution with automation and process guidance.

**On average, a RESOLVE automation project reduces OPEX by 15% to 30% and breaks-even inside of a year or less.**
Key Capabilities of the RESOLVE System

The following are the key innovation areas and capabilities in Resolve:

**Process Guidance**
RESOLVE Guided Procedures form the backbone of the incident resolution process. Rather than provide generic reference knowledge documents that are not used and difficult to maintain, RESOLVE connects L1 agents to the right context sensitive resolution information to resolve incidents without escalations. Process Guidance includes:

1. **Resolution Procedures with Embedded Automations**: Provide engineers with step-by-step instructions to troubleshoot problems. Embedded automations can be executed directly from within a Guided Procedure that also delivers the right contextual information required to make decisions and to repair the incident.
2. **Dynamic Decision Trees**: Navigation structure to direct L1 agents to the right resolution procedure through a context generated set of question and answers. Results from automations, or user inputs, lead the agent to the right next step and ultimately to the complete resolution.
3. **Resolution Dashboards**: Allow service agents to quickly isolate problem areas for complex services and navigate to decision trees for process guidance.
4. **Assessed Automation Results**: Provide assessed automation results directly within the procedure, summarizing the technical details for consumption by an L1 agent while retaining necessary details for experienced engineers.

**Resolution Automation**
Automations are generally perceived as tasks that run in the background from start to finish with no human interaction. This approach that is the focus of existing automation tools, greatly limits the type of incidents that can addressed. RESOLVE goes beyond these closed-loop scenarios and introduces the notion of “Human Guided Automation” where people, process guidance and automation come together to accelerate incident resolution and deliver quicker, more significant value from automation. RESOLVE’S automation capabilities include:

1. **Automation Builder**: Easy-to-use automation development environment that enables non-developers, such as L1 and L2 support technicians, to build automations quickly.
2. **Pre-built Automation Library**: Library of re-usable and prebuilt action tasks and automations to expedite development and reduce time to roll out of new automations.
3. **Interactive Automations**: Automations that can be embedded in RESOLVE’s manually driven Guided Procedures and Decision Trees. This capability allows for the power for automation to be applied to any step in any manual resolution process in order to reduce MTTR and error rates.
4. **Enterprise and Carrier Grade Platform**: Ability to handle the most demanding scale of incidents and event automations.

**Incident Collaboration**

Resolve provides capabilities that support all human contributors (e.g. L1 agents, L2/L3 SMEs and Automation Developers) to seamlessly and contextually collaborate in the resolution lifecycle, both during the resolution process, as well as around process improvement efforts. Key capabilities in RESOLVE supporting collaboration include:

1. **Collaborative Resolution**: Allows service agents to collaborate with peers to troubleshoot and resolve problems as they are happening. Communications are automatically captured in Resolution Records.
2. **Social Connectivity**: Allows all stakeholders to be connected and continuously updated on all changes within the environment. Includes feedback, reviews, forums, update alerts, flagging content for improvement, and content creation.

**Insight & Analytics**

Drawing deep insights from incidents that occur and identifying gaps in current resolution processes in order to drive improvements, are essential to a solid resolution strategy. Capabilities in RESOLVE for insight include:

1. **Resolution Records**: Records that capture the complete history of each incident including diagnostics conducted, results of diagnostics, actions of L1 agents, and so on. Resolution Records dramatically reduce resolution time when incidents are escalated to L2 or higher level engineers.
2. **Business ROI Reports**: Out of the box reports that measure time and cost savings in the resolution phase from resolve automations and other aspects of the RESOLVE System such as Guided Procedures.
3. **Analysis Tools to Identify Optimization Points**: Ability to analyze most used automations, resolution paths for L1 agents, incidents requiring most resolution time and so on, for continuous process improvement.

**Resolution Process Improvement**

Many incident resolution strategies have failed, because they have not been designed for long-term maintainability. RESOLVE does not look at maintenance and improvement as an offline activity performed periodically, but rather a core capability built into the continuous use of the System. RESOLVE’s key improvement capabilities are:

1. **Knowledge Centered Support (KCS)**: RESOLVE supports KCS methodology for content creation and maintenance, including the development of automations by L2 and SME engineers.
2. **Resolution Records**: Automatic capture of all executed automations, results, decisions and social collaboration within a record that can be associated with a specific ticket and event. Provides necessary context and avoids duplicated work upon escalation. Details captured for process improvement.
3. **Social Connectivity**: Allow L2/SME to automatically follow and be notified of feedback, review and improvement requests. Allow L1 to be notified of new content and procedures and updates.
4. **Content Request Workflow**: Supports structured workflow/request system for managing content lifecycle.

**Next Steps**

LET US PROVE IT TO YOU! In today’s hyper competitive, customer driven environment, businesses need to address service issues and incidents faster than ever or risk losing customers and significant revenue. Customers should not settle for status quo approaches such as IT Process Automation software from HP, BMC, IBM, CA, IPSoft, or ServiceNow. These systems were not designed from the ground up for holistic incident resolution and lack the innovation and usability needed for true business transformation.

Give us 60 minutes of your time and we will prove to you that we can transform your efforts for incident resolution, drive value into your business, deliver material ROI and change the way you think about automation and your existing tools forever!

Please contact us at info@resolvesys.com or visit us at http://www.resolvesys.com