



Service Assurance Process Transformation

**AIOps Accelerating Network
Operations Management**



Dynamic and increasingly complex operating requirements

Complexity outpacing human capabilities to deliver

Mandates for higher performance and improved availability

SERVICE ASSURANCE OPERATIONAL CHALLENGES

New service delivery methods create more Interdependencies across service layers

Incident and performance management siloed for the applications, the network and the cloud and inhouse infrastructure

Assurance Objective:

Detect and resolve service impacting events before the business or customers experience an impact.

The Solution:

New ways of working through process automation.

Adoption of a new service assurance operating model.

Leaner, more efficient and effective operational staff supported by augmented intelligence.

VIA AIOps

Delivers the **Full-Stack observability** needed to **transform operations** and markedly lower operational cost and provides the **intelligent automation** required to achieve a **new service assurance operating model** and a **new way of working**.

THE RESULTS

- > **Superior customer experience.**
- > **Significantly reduced cost.**
- > **Leaner, more efficient and effective operational staff.**

OBSERVABILITY AND INCIDENT MANAGEMENT

TRADITIONAL PROCESSES

Expert operators monitor the system within their scope/area of expertise (i.e. servers, network, apps, databases).

Operators triage alarms generated by the servers, applications, and network from independent monitoring tools.

Each of these tools may generate a ticket for the same underlying problem.

Nuanced or transient issues linger and can cause more serious events if unresolved.

VIA AIOPS SMART INCIDENT

AI-powered correlation substitutes for high levels of operator monitoring expertise across the service ecosystem.

A single incident that determines cause, symptoms, and impact.

Incidents contain correlated events and anomalies by leveraging full-stack observability.

Incidents are fully triaged and contextualized for immediate action.

Identification of nuanced and transient issues.

RESULTS

Faster time to issue identification.

More efficient operations staff.

Less operator expertise required.

Eliminates redundancy of multiple efforts underway to tackle the same or related issues across the ecosystem.

Eliminates chasing symptoms, moving focus to the root cause.

Lowers monitoring tool cost.

Reduces time to resolve nuanced issues.

VIA AIOPS TRANSFORMS OPERATIONS

TRADITIONAL PROCESSES

Operations staff detect, report, categorize and prioritize incidents.

Population and data set affected investigated by 2nd level support staff.

Support staff verifies issue closure.

Research undertaken to diagnose the problem.

Fix staff notified to resolve.

Staff closes incident and communicates to up and downstream systems as needed.

VIA AIOPS SMART INCIDENT APPROACH

Automated analysis of root cause, correlated symptoms and impact.

Automatically engages the proper fix agents.

Automatically communicates bidirectionally to third party systems with all necessary information.

Impact predicted to prioritize action.

VIA Digital Fingerprints provide fix agents with recommended actions.

Closed-loop remediation with northbound and southbound systems.

Incidents may be actioned automatically for resolution.

RESULTS

Faster time to identify root cause, symptoms and impact.

Fewer manual process steps and much less human intervention to identify probable cause.

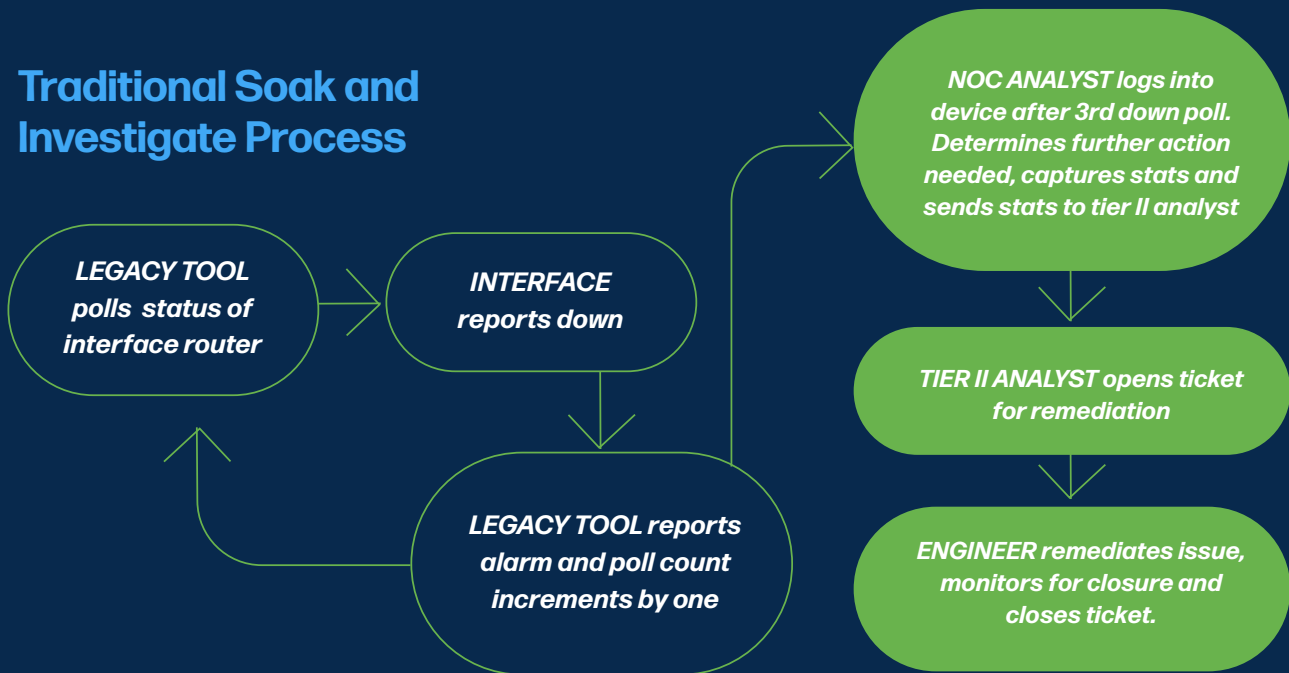
Evolution towards further remediation automation.

Faster mean time to resolve.

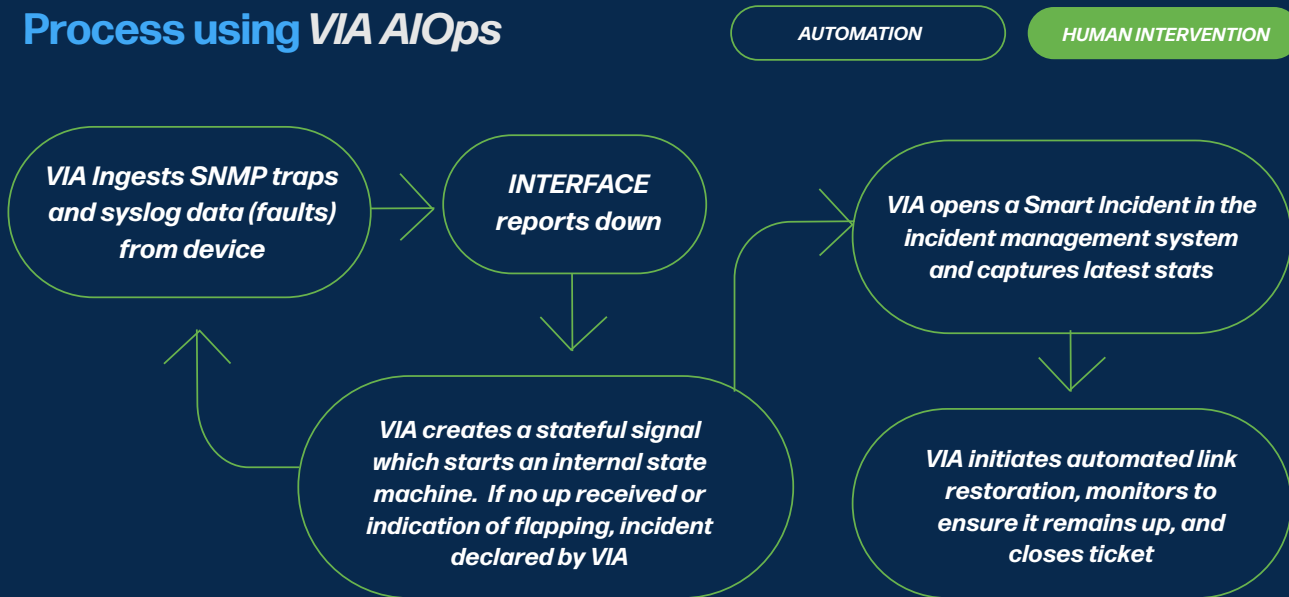
Improved communication across operational groups.

PROCESS TRANSFORMATION ILLUSTRATION

Traditional Soak and Investigate Process



Process using VIA AIops



With VIA, NOC staff focuses on prevention and remediation and **not monitoring for restorations that can be automated**

VIA AIOPS *NEW* SERVICE ASSURANCE

Full-Stack Observability Across the Service Delivery Ecosystem

PROCESS AUTOMATION CAPABILITIES

Data Collection

Ingests data from network monitoring, system monitoring and application performance monitoring.

Asynchronous events and time series data supported.

Traps, logs, gNMI data collected from devices as well as model driven telemetry data.

Data not required to fit a specific data model.

Data Enrichment

Enriches and contextualizes data in real time through AI and machine learning.

Machine learned topology continuously maps and updates relationships between entities and services eliminating the reliance on network inventory.

Automatically develops and updates baselines for each metric and event stream using AI and machine learning.

Monitoring

Monitoring within and across technology layers, applications and service domains.

Monitor signals across all layers (APM, IPM, NPM).

Single pane of glass for fault and performance monitoring across technology domains.

Intuitive and dynamic UI with persona-based views.

VIA AIOPS NEW SERVICE ASSURANCE

Incident Management Across Service Domains

PROCESS AUTOMATION CAPABILITIES

Triage and Fault Detection

AI-powered cross correlation and affinity analysis delivers 4X reduction in triage effort.

Automatic cross correlations of signals determine if signals are related and should be treated together.

Automatically correlates customers' experience and change events.

Early outlier identification using Stochastic models to identify behavioral changes that thresholds miss.

Incident Declaration and Root Cause Analysis

Incidents automatically declared and placed in VIA incident Action Center.

Automatic prioritization of true business and customer impacting Incidents.

Machined learned topology classifies root cause and identifies location.

Each incident includes the symptoms, impacted infrastructure and customer populations.

Visual and text-based explanations of analysis and actions provided with drill down capabilities.

Remediation

Storing and retrieving actions that were taken on a similar incidents.

Learned remediation captured in incident management systems.

Vendor information on how technicians would remediate.

Closures

ITSM ticket automatically updated and associated incident information including symptoms, impacted infrastructure and customer populations delivered to downstream systems.

VIA AIOPS *NEW* SERVICE ASSURANCE

Evolution of Remediation and Extensibility

PROCESS AUTOMATION CAPABILITIES

Continuous Improvement

Continuous machine learning automates model improvement over time.

Extensible

New data sets added and a system model built in less than 60 minutes without the need to write code.

Extended Automation

Explainable AI and clear box approach instills confidence in operations teams to use analytics to implement automated remediation based on analytics delivered with VIA AIOps.

Closed-loop integration with service management systems supports full realization of automation objectives.

VIA AIOPS NEW SERVICE ASSURANCE

**Full-Stack Observability
Across the Service
Delivery Ecosystem**

**Incident Management
Across Service
Domains**

**Evolution of Remediation
Automation and
Continual Improvement**



← **PROCESS AUTOMATION CAPABILITIES** →

Data Collection

Ingests streaming data from devices, monitoring tools and telemetry.

Data Enrichment

Real time contextual enrichment, machine learned topology, automatic development and continuous update of baselines.

Monitoring

Monitoring within and across service domains with a single pain of glass for fault and performance management.

Triage and Fault Detection

AI powered correlation, signal grouping, early outlier identification, correlation to customers' experience.

**Incident Declaration
and Root Cause Analysis**

Automatic incident declaration with probable root cause, key systems, location, and customers impacted defined.

Remediation and Closure

Availability of remediation recommendations and automatic closure of tickets with communication to downstream systems impacted.

Continuous Improvement

Continuous learning and automatic model improvement over time.

Extending Automation

Clear box approach with explainable AI to instill confidence along with bidirectional communication with service management systems to extend automation to additional tasks.

Extensible

New data sets added in 60 minutes without writing code to support new and changing services.

Improved service availability by 60% and reduced staffing requirements by 50%.

Failure rate reduced by 28% avoiding addition of 20 full time staff at a cost of \$2.3 million.

Reduced MTTR by 40% for service disruption and by 80% for degradation issues.

QUANTIFIED CUSTOMER RESULTS

Double-digit improvement in net promoter score.

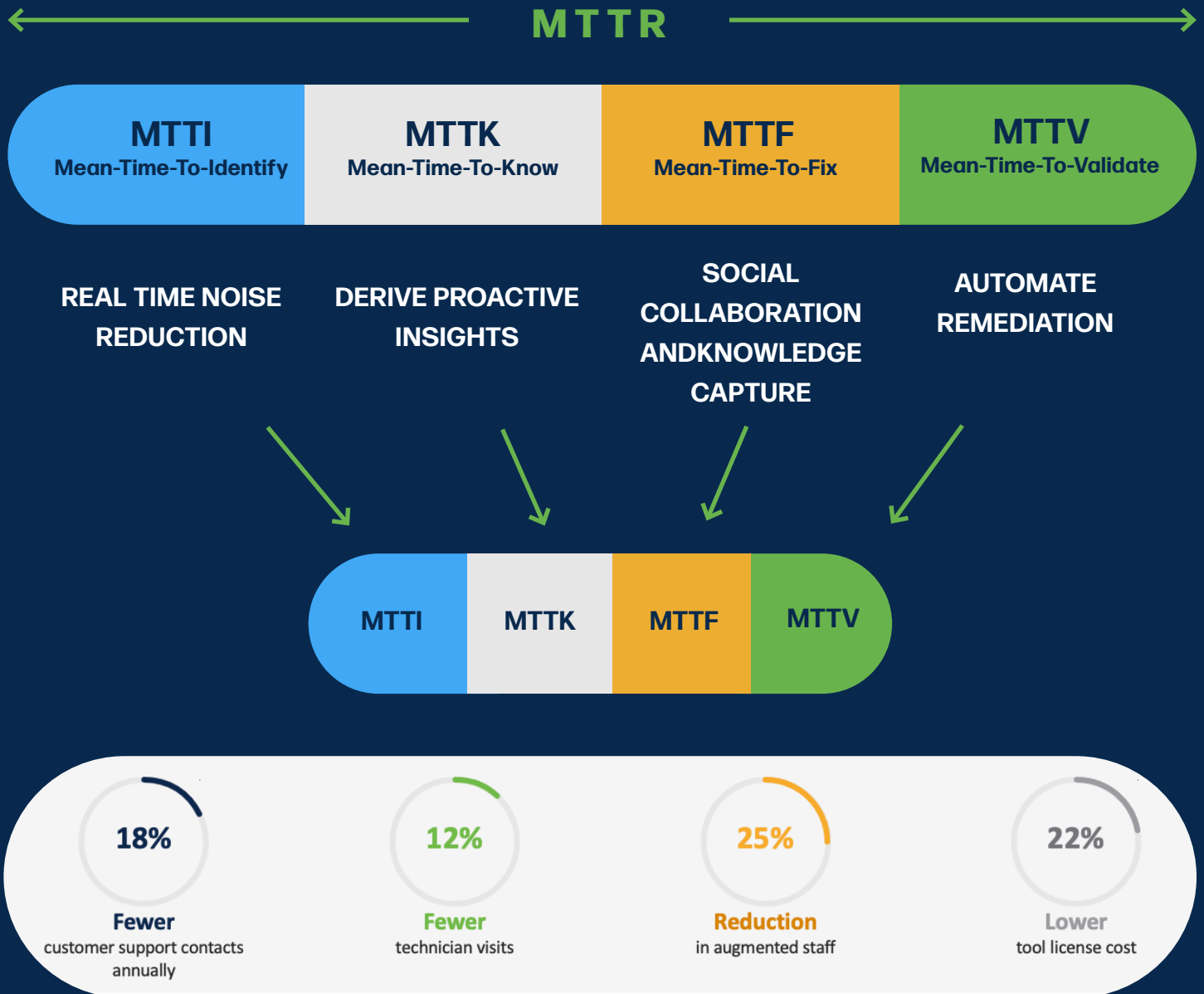
Missed orders lowered by 12% and quote to bill cycle shortened by an average of three days.

92% of incidents detected prior to customer impact.

17 separate incidents grouped together and an automated response initiated in 32 minutes without human intervention.

REDUCE THE INCIDENT LIFE CYCLE

VIA AIOps adds value across the **entire** ecosystem





ABOUT VIA AIOPS

VIA AIOps delivers the Full-Stack observability capabilities needed to transform operations and markedly lower cost. VIA's real-time analytics, artificial intelligence and machine learning provides the intelligent automation required to achieve a new service assurance operating model and a new way of working. This new operational model significantly reduces cost, enables a superior customer experience, and provides augmented intelligence to support a leaner, more efficient and effective operational staff.