



VIA AIOps: The Total Ecosystem Approach to Service Operations



Affordable Assurance
Delivered in a Private 5G
Network



Insurance Provider Achieves
End-to-End Service
Assurance



End-to-End Service Assurance
Achieved in a Complex Cloud
Infrastructure



5G Service
Assurance in Mobile
Telecommunications



Network Provider
Achieves Automation
Goals

Content Streaming Service Improves the Digital Experience



INDUSTRY INSIGHT

More subscribers and an increasing number of streaming services are outpacing industry expectations. More programming choices, more home-based entertainment, availability of high-speed bandwidth and the increasing number of personal devices capable of streaming content are driving growth.

Profitable growth requires managing the costs associated with scaling infrastructure and continuous service updates. It's not surprising that more subscribers translate into more interactions with the call center. Specifically, service access failures

account for a high percentage of interactions with the call center. Increasing interactions with the call center drive up cost and are leading indicators of service cancellations.

Besides the obvious concern with customer churn, the impact that call center overruns have on profitability can't be ignored. Consequently, more organizations are leveraging AIOps to improve end-to-end service assurance. AIOps is transforming how Operations uses IT data to control operational costs and improve the customers' digital experience.

INDUSTRY NARRATIVE

A popular content streaming service, having 30 million subscribers, was experiencing a higher than expected failure rate. The business reasoned that reducing the failure rate could flatten service cancellations as well as contain escalating call center costs. They had already implemented several monitoring tools for the network, application, and underlying compute/storage infrastructure. These siloed monitoring tools provided limited visibility and insight. What they needed now was real-time visibility across the entire service delivery ecosystem, together with the ability to detect, triage, and mitigate customer-impacting issues quickly.

The streaming service opted for a product that could provide both the ecosystem observability and the improved fault and performance management needed to accelerate time to issue resolution. They chose to implement **VIA AIOps**.



Besides providing unparalleled “ecosystem observability”, **VIA AIOps** operates across service layers to accelerate the time to detect, triage, and resolve both faults and service-impacting events. VIA provides automated root cause analysis and automated remedial actions that through explainable AI can be fully understood and checked by human operators. Through automated learning of the ecosystem’s interrelationships and ontology, VIA AIOps was able to correlate application

failures to network elements. Empowered by a deeper understanding of service failures, the service operations team was able to improve service, remediate quickly, and prevent service issues from repeating. Not only were they able to KNOW about a problem before the customer, they could often remediate BEFORE the customer was negatively impacted.

REALIZING VALUE



This streaming service was able to reduce failure rates by an astounding 28%.

By avoiding 11 million failures per year, they reduced call center interactions by 700 calls per day. By reducing call center interactions, they avoided adding 20 additional full-time staff that would have cost \$2.3 million dollars per year. Most important, Net Promoter scores improved. Reduced churn, improving profits and happy customers provided a win for everyone!

Network Operations Reduce Impact of Incidents on Customers



INDUSTRY INSIGHT

The numbers speak for themselves. Increasing number of employees on mobile devices, the pivot to remote work and the pervasive adoption of cloud has put enormous pressure on network operations. The average enterprise company uses over 1900 different cloud services. Instead of a handful of enterprise applications, you are required to manage a growing number of highly specialized SaaS apps for every team, market and data type. This creates a challenge for network operations that has never been experienced before.

The network is essential and as the network scales to meet the needs of the enterprise, network operations needs a pragmatic response. Observability is displacing monitoring as a core capability and AI and ML are required for automation of response and remediation. Manual triage of incidents is having a negative impact on mean time to repair (MTTR) because operators are overwhelmed with too many queues to monitor, too many dashboards to watch. The ability for Operations to rapidly determine the root cause of a service-impacting issue is no longer possible.

INDUSTRY NARRATIVE

A leading network operator, with a service operations staff of 100+ professionals, was tracking metrics across services to measure effectiveness. Single operators were having to deal with 450 incidents per month on a single service. Manual triage of each incident was slowing response and ultimately delaying remediation.

The network operator reasoned that if they could reduce the number of service interruptions caused by network incidents, they would avoid a staffing increase and, at the same time, improve service availability. Manual triage was

replaced by automated response, saving time and money and improving the customer experience.



The network operator chose **VIA AIOps**. In a matter of weeks VIA generated baselines on streaming data through unsupervised machine learning on hundreds of metrics and service elements. These baselines enabled VIA to reduce noise efficiently and identify anomalies faster. False positives with VIA were nearly eliminated.

With VIA's impact analysis, the overall service quality was further enhanced and the operations staff could better prioritize incidents having the greatest impact on the largest number of customers.

REALIZING VALUE



Network operations was able to reduce incidents to less than five incidents per day per service.

This improved service availability by 60% and reduced staffing requirements by 50%. Avoiding additional staff enabled the network operator to avoid a price increase ensuring them a stronger competitive posture in their market.



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Cable Operator in North America Improves the Customer Experience



INDUSTRY INSIGHT

Valued at approximately \$101 billion dollars, cable operators distribute broadcast programming often bundled with other services like Internet access and telephony. The industry employs about 214,000 people. The cable business is highly competitive and while actual subscription rates are expected to decline, the demand for premium packages and fee hikes are expected to sustain the industry. In larger markets the competition is fierce. This is a fragile business that relies on their ability to manage costs and provide exceptional service to reduce churn.

Change is a constant for cable operators. Network upgrades and the frequent application changes enabled by sophisticated DevOps platforms and CI/CD processes result in planned and unplanned service interruptions. Service interruptions resulting from these changes can lead to costly visits by technicians to subscribers' homes and businesses. Cable operators need the ability to detect changes that are impacting service and know before the subscriber calls to report a service issue.

INDUSTRY NARRATIVE

This top tier cable operator in North America was fielding thousands of visits a year by trained technicians to subscribers' homes and businesses. Besides the obvious cost of a truck roll, the service interruption between the time a call was placed by the subscriber and the time the technician arrived to remedy the problem was having a negative impact on the customer experience. Their frustration was reflected in the Net Promoter Scores (NPS) and the scores were impacting the cable operator's brand and ability to be competitive in larger markets.

The cable operator reasoned that if they could detect problems before the subscribers, they could avoid any negative impacts changes had on the customer experience. They selected [VIA AIOps](#).



VIA AIOps provides total ecosystem observability, realtime visibility across all layers of the service delivery topology. VIA monitors for and detects customer experience and service impacts caused by attribute changes introduced by the enterprise or an end-user subscriber (i.e., changes in subscribers' mobile devices or operating systems).

VIA enabled detection and mitigation of service issues caused by change, often before customers were impacted. VIA AIOps had an immediate impact on Net Promoter Scores by reducing the number of service interruptions and the time required to get service back online.

REALIZING VALUE



The company identified 200,000 truck rolls they could avoid by implementing VIA AIOps.

The approximate cost of reducing on site technician visits to subscribers represented a cost savings of \$16M. More important, subscribers weren't waiting for the technician to watch their favorite programming. Service was more predictable and Net Promoter Scores came in higher.

Medical Center Innovates with Telehealth Platform



INDUSTRY INSIGHT

According to Fortune Business Insights the global telehealth market size is projected to reach USD 266.8 billion by 2026. Rising adoption of telehealth services to combat the rapid spread of the COVID-19 infection will play a key role in boosting market growth. Telehealth platforms leverage the power of information and communication technology to provide remote healthcare services to patients.

The 2020 global health crisis has created immense pressure on existing healthcare infrastructures around the world, necessitating the employment

of technologies that allow patients to connect with their doctors from distant locations. Telehealth technologies have enabled medical professionals to ensure that patients with chronic and potentially life-threatening conditions receive necessary medical care during the health crisis. As providers implement these platforms, changes are required to adapt to the diverse needs of the patient population and medical protocols. Adapting to constant change while maintaining a stable, always on infrastructure is key to building trust in the system for patients and clinicians.

INDUSTRY NARRATIVE

A large University Medical Center in North America implemented telehealth to reach remote populations of patients with chronic conditions like diabetes and high blood pressure. Clinicians were overwhelmed by the rapidly increasing demands resulting from the pandemic. Effective use of the clinical staff was a benefit of implementing the telehealth platform. Finally, telehealth would alleviate the burden on urgent care facilities and hospital ER rooms overwhelmed by emergencies.

The telehealth platform was able to provide a bridge. Unfortunately, frequent abandoned virtual visits caused

by application upgrades and other unplanned failures interrupted service. This resulted in patients, anxious about their health, to increase costly visits to urgent care facilities, local clinics and hospital ER rooms for routine monitoring and orders for refills to required medications.



The Medical Center reasoned that if they could provide consistent and predictable use of the telehealth platform, they could reduce visits to remote clinics and urgent care centers. More important they could provide consistent preemptive care to patients suffering with chronic conditions before they escalated into a health crisis requiring hospitalization.

The Medical Center IT Operations team selected **VIA AIOps** to dramatically reduce the number of performance-impacting events to their telehealth platform.

VIA uses AI, machine learning and advanced analytics to automatically uncover issues and their probable root cause to accelerate problem resolution within and across applications and service domains.

VIA's unique Ontology capability discovers dependencies across the service ecosystem providing richer meta data for root cause analysis. This combined with VIA's ability to correlate issues directly to the patients' experience and prioritize action based on impact, enables issues to be identified and resolved before they impact the patient. Implementation of VIA had an immediate impact on patient wellness. Patients and clinicians came to trust the technology and rely on the virtual in-home visits to ask questions and clarify therapies.

REALIZING VALUE



This Medical Center was able to reduce aborted calls by 58%.

The IT Operations team was able to keep pace with application changes and systems upgrades putting them in a better position to prevent failures. By reducing the number of aborted calls, they saw a decline in the number of visits to clinics and ER rooms made by the target population. This improvement translated into an increase in positive resolution of insurance claims providing savings for patients and reimbursements for the Medical Center.

Regional Bank Transformation



INDUSTRY INSIGHT

The emergence of fintech and neo-banks has increased the level of innovation across the financial services industry. Just a few years ago, banks considered their many physical branches as a competitive advantage over neo-banks, which did not have the advantage of close contact with customers. Today, banks are redirecting the cost of maintaining these physical branches to digital, contactless banking services. Innovation is the law of the land, making the digital customer experience more important than ever before.

Today, the open banking models are enabling traditional banks to partner with neo-banks rather than compete with them. Fintech brings new capabilities faster with an improved customer experience. Traditional banks, willing to partner with neo-banks, bring their brand value and their customers, cultivated over generations to the relationship. The new business model requires a new operational model to guarantee the customer service experience.

INDUSTRY NARRATIVE

Based on key indicators, a large regional bank developed a transformation strategy where they would retain their core business, banking license, the customer database or CRM, and the compliance activity and rely on partners to bring new products based on fintech. Market research indicated a need to enhance offerings to attract new customers – specifically loan consolidation and more small business services. These products would generate revenue, expand bank relationships, and in turn lower the per account cost structure.

One characteristic of fintech is reliance on advanced technology. By partnering with two neo-banks, this bank was able to offer loan products using artificial intelligence to grant credit in just ten minutes, as an example. Their strategy included an integrated way to offer current and

new products to the customers using a branded platform with APIs linking to several specialized products developed by the partners.

The bank began a systematic closure of branch offices, replacing high touch interactions with machine assisted transactions and contactless mobile services offered from the cloud.



To enable the business strategy, IT created a plan to prioritize the service experience – ensuring the bank’s ability to be out in front of any problems that would impact the customer and their transactions.

The bank’s IT Operations team selected **VIA AIOps**. Unlike other solutions, VIA AIOps delivers end-to-end service assurance. VIA operates across service layers to accelerate the time to detect, triage, and resolve service-impacting events. AI, machine learning and advanced analytics improve the fault, performance and change management processes by reducing noise, detecting anomalies earlier, uncovering the root cause and prescribing actions automatically.

VIA’s feedback loop combines human and artificial intelligence to continuously improve accuracy of AI models and support the enablement of automated actions. VIA provides the probable root cause, key symptoms, impacted populations, duration, and severity for every incident. Users can provide feedback and context. The system uses this information to train the algorithm for greater accuracy. Over time, with consistency of response, automated actions can then be implemented for issue resolution

As the bank moved to a more agile product delivery schedule, **VIA AIOps** offered the ability **to manage changes without disrupting service**.

REALIZING VALUE

On average the bank projects a savings of \$1M dollars in the first full year by replacing manual, reactive tasks with automated proactive workflows. The bank anticipates growth from introducing new digital services. By implementing the VIA AIOps solution, IT believes they will avoid hiring more engineers, originally scoped for the project, to manage changes.

The bank is already experiencing unprecedented growth resulting from these new banking relationships and has been able to lower their per account cost structure. Limiting abandoned transactions for transfers, deposits and lookups is enabling customers to avoid fines for insufficient balances or late payments. The service experience is improving their overall competitive position in the communities they serve.



Based on data documented by other VIA clients, the bank anticipates that by automating 3 incident use cases the bank will see a 70-80% decline in mean time to repair (MTTR). Besides controlling the cost of acquiring talent, the bank expects to improve the customer service experience as measured by the Net Promoter Score (NPS). An important part of their brand campaign includes a consistent, safe, dependable customer experience for all new services.

End-to-End Service Assurance Achieved in a Complex Cloud Infrastructure



INDUSTRY INSIGHT

Traditional service assurance applications can easily be overloaded with operational data, impeding operator productivity. Explosive data volumes, disparate data formats combined with interdependent technology layers, microservices, and applications with more virtualization makes fault and performance management extremely difficult.

Traditional management systems rely upon siloed monitoring tools and support workflows within each service layer. These independent practices

constrain operational productivity and the overall service assurance process. Independent operational teams are often chasing symptoms within their silo when the root cause of the problem lies outside their visibility and control. Multiple support teams may be addressing the same or different symptoms but all of them attributable to the same root cause. Addressing these service issues is slow and extremely labor intensive.

INDUSTRY NARRATIVE

A large Middle Eastern Communications Service Provider operating across multiple countries and providing land line, mobile, data and cloud services faced these same challenges. They needed to optimize their service performance while reducing operating cost across service domains.

This provider required a system capable of monitoring the health and performance across a complex cloud-based service ecosystem. Core functions of the solution needed to include fault and performance management, noise reduction, and root cause analysis. Capabilities defined as key requirements of the solution included:

INGESTION, CLASSIFICATION AND ENRICHMENT

- Ingesting metrics, logs, event, and trace data
- Syslog data classification by the domain and service originating the event
- Syslog and metric data enriched with reference data on inventory, topology, and service dependencies of all the domains monitored



DETECTION AND ALERTING

- AL/ML-driven alarm noise reduction on fault data as well as anomaly detection on KPIs
- Correlation of event and metric signals for determination of service performance or customer experience issues
- Identification of root cause, key symptoms, and impact of incidents prior to wide-spread experience degradation

NOTIFICATION AND INTEGRATION

- Ability to easily integrate with the operator's existing workflows and Incident Management systems, including automated opening, updating, assignment and closing of tickets.
- Intuitive UI with persona-based views

They chose VIA AIOps as their end-to-end service assurance solution for their entire Telco cloud infrastructure. VIA AIOps met or exceeded their functional requirements delivering the value they expected for **both fault and performance management**.

REALIZING VALUE

This Communication Provider is now able to detect and solve more incidents faster within and across service domains. VIA AIOps implementation:



- Improved the overall service level delivered to subscribers
- Significantly improved service operations effectiveness and efficiency
- Consistently delivers the best information at the right times to the right people
- Reduced service operational cost

Affordable Assurance Delivered in a Private 5G Network



INDUSTRY INSIGHT

Colleges and universities, hospitals, manufacturers, and many other industries are investigating the feasibility of installing a private 5G network to achieve more flexibility, predictable data rate performance, privacy, and low latency. But all enterprises considering private 5G networks are often stymied by the operational issues surrounding the complexity of

network assurance in 5G environments. Maintaining the service quality is critical to ensuring the overall success of 5G. The question becomes how to ensure high network availability without adding significant operational cost and overburdening already constrained technical resources.

INDUSTRY NARRATIVE

One large midwestern university faced network assurance challenges common across many industries with the introduction of a private 5G network. These included:

- 5G's new transport network architecture and mobile access edge computing, increased network complexity and introduced new challenges for operations
- Their current fault and performance management systems relied on separate monitoring tools
- Staff augmentation within the existing budget was not feasible

When Service Assurance is managed and operated independently across the service delivery stack — compute, networking, and applications operational productivity and the overall service delivery process is constrained. Independent operational teams are often

chasing symptoms within their silo when the root cause of the problem lies outside their visibility and control. Multiple operations support teams may be addressing the same or different symptoms but all of them attributable to the same root cause. Addressing these service issues is slow and extremely labor intensive.



VIA AIOps delivers the information required to manage faults and performance across the service delivery stack in one application with a single incident inbox. VIA leverages AI, machine learning and advanced analytics to identify faults, performance, and customer experience issues faster and determines root cause from key symptoms.

VIA AIOps improves the customer experience and reduces cost. It delivers automated analysis and enables rapid remediation of events across all service layers. From noise to action, VIA operates through the entire event pipeline from observation, to analysis and action to not only reduce the time to diagnose the issues but to resolve them faster with automation.

REALIZING VALUE

With VIA implemented for their private 5G network, the college can now:



- Detect network events before the customers notice an impact to performance
- Determine the root cause and identify the impacted population for remediation
- Benefit from process automation and full integration with their back-end systems
- Support both their cloud native and traditional network environment with a single application for both fault and performance management
- Maintain a lower operational cost, enhance their customers' experience, and improve the overall efficiency of their Network Operations.

5G Service Assurance in Mobile Telecommunications



INDUSTRY INSIGHT

5G is the fifth-generation technology standard for broadband cellular networks. 5G is faster, delivers higher bandwidth and can deliver better services in high traffic areas. It can connect 100 times more devices per square kilometer than 4G and move data at up to 100x higher speeds. The benefits are many for both providers and subscribers but the challenges of effective operationalization of 5G to meet high

performance standards must be addressed to ensure the benefits are realized.

One of the key challenges of 5G is to be able to proactively identify network issues that might impact the customer experience (CX). As speed and latency improve with 5G so does the need for better reliability and stronger security.

INDUSTRY NARRATIVE

With implementation of a 5G network, a regional mobile telecommunication provider servicing multiple countries sought a solution that leveraged AI, ML, and advanced analytics to deliver the high-performance service assurance required in a 5G world. 5G requires the ability to:

- Deliver service assurance including fault and performance management across service layers and the technology stack
- Find and predict issues faster
- Automate root cause analysis

- Maintain a consistent high end-user experience
- Execute actions automatically

They chose VIA AIOps as their end-to-end service assurance solution to address 5G challenges. VIA operates across service technology layers to reduce noise and detect anomalies and outliers sooner, uncover the root cause from the symptoms, prescribe action, and integrate with existing systems.



VIA's unique capabilities on ingesting metrics, events, logs and traces and enriching this data with reference information on inventory, topology and service dependencies enables both fault and performance management processes.

Monitoring within and across technology layers, applications, and service domains combined with the advanced analytics including stochastic modeling and affinity analysis enables VIA to correlate issues directly to the customer experience and prioritize actions based on impact.

REALIZING VALUE



Now with VIA, their operations team is more effective and efficient using a single pane of glass to detect issues in seconds, troubleshoot in minutes, and provide subscribers with a superior level of service.



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Insurance Provider Optimizes Service Assurance across Service Domains and Applications



INDUSTRY INSIGHT

Superior customer experience along with maintaining customer premiums despite escalating costs are paramount to customer retention. But managing the technology complexity without continually adding skilled staff is an ongoing challenge. Virtualized environments, more applications moving to the cloud, ever changing applications as well as end user devices

make end-to-end service assurance challenging at best. To address these challenges, this Insurance Provider needed to simplify operations by breaking down operational silos and prioritize actioning performance issues that had a direct impact on the customer experience.

INDUSTRY NARRATIVE

Service applications for the Insurance provider were distributed across the enterprise in containers and many were cloud based. Application upgrades and fixes were becoming more frequent and each time change was implemented, there were unexpected downstream impacts. Users changing and adding devices placed new burdens on firewalls. User changes to devices and operating systems on the devices also introduced support issues, increasing the call volume to the support center.

VIA AIOps was selected to improve performance. VIA AIOps operates across applications and a vast complex network to rapidly identify performance issues, triaging related incidents and determining the probable root cause. Advanced analytics, machine learned topology and unique correlation techniques enable not only faster issue identification and cross domain resolution but enable direct linkage to support calls to enable continuous

experience improvement. Human and artificial intelligence are combined to accelerate the development and implementation of automated action and remediation.



REALIZING VALUE



Shortly after VIA implementation, 17 separate incidents were grouped together into a single incident through machine learning and correlation and an automated response was initiated. All of this was done in 32 minutes without human intervention. Resolution to these incidents before VIA implementation would have taken 8 hours to resolve.

Implementation of VIA AIOps has accelerated their mean time to issue resolution and reduced the number of customer support calls.



Network Service Provider Delivers on Automation Goals



INDUSTRY INSIGHT

Diversification and market expansion in today's uncertain economic environment requires breaking glass and doing things differently to deliver the highest quality service at the lowest cost. That must

include leveraging technologies that support massive scale at a much lower operating cost than the industry average.

INDUSTRY NARRATIVE

Accomplishing this is challenging using traditional methods. To remain competitive high service levels are critical to maintaining customer loyalty and retention. IT staff turnover over the last couple of years has been one of the highest in the industry and has increased cost and put performance at greater risk. At the same time, the migration to 5G technology has added complexity in service assurance management. This National Network Service Provider set a goal to increase the level of automation in their service assurance processes in order to achieve an operational staffing level at 10% of the industry average.

Implementation of VIA AIOps was chosen to support the achievement of their automation goals. VIA AIOps delivers automation through a combination of machine learning, augmented intelligence, closed loop processes, along with full integration with their Service Management system. A feedback loop that combines human intelligence

and AI reduces the effort and time required to improve the accuracy of machine learning. This enables a faster path to implementation of automated remediation of service issues. Bidirectional communication with Service Management Systems is supported by VIA AIOps which is critical to fully realizing this provider's automation objectives.



REALIZING VALUE

First VIA AIOps learns complex topology automatically and leverages this topology in correlation techniques for triage and root cause analysis across domains. VIA provides automated detection, analysis and prescription of the next best action. It defines the severity of impact and the customer populations affected, all automatically. Workflows for automated remediation can also be developed and continually improved through both taught and learned intelligence. The end result – faster mean time to issue resolution, more automation with a much lower number of staff, and happier customers.



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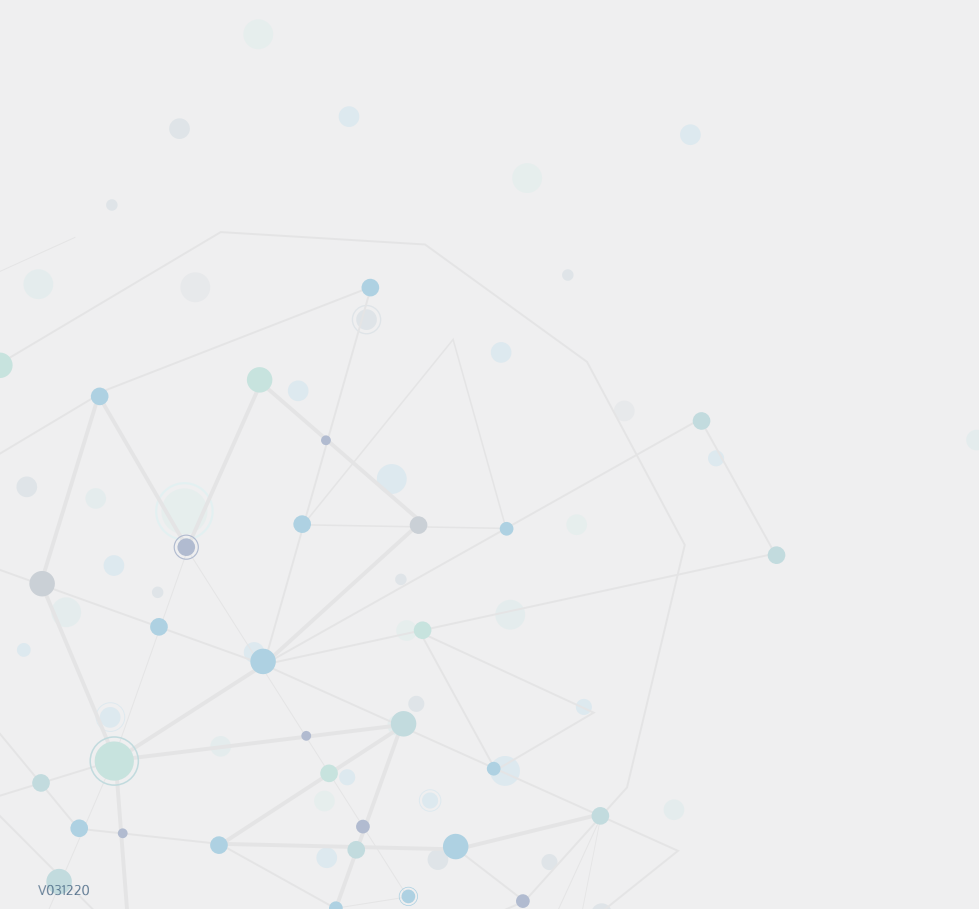


ABOUT VIA AIOps

VIA AIOps is a next generation AIOps application that enables intelligent automation across all layers of service delivery to improve the customer experience and optimize operations. VIA AIOps provides total ecosystem observability, and explanatory AI to increase confidence in automation. VIA AIOps delivers noise reduction, correlation, and intelligent automation across operational silos to enhance customer experience and reduce operational cost by enabling more rapid issue detection, mitigation and resolution.



[Learn more about VIA AIOps.](#)
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