

DATASHEET

360° Assurance for fixed voice

The need for holistic visibility and control of fixed voice services



Monetizing fixed connectivity networks means that Communications Service Providers (CSPs) increasingly rely on the ability to meet specific network and service performance criteria, in the form of service level agreements (SLAs) with their enterprise customers. More than ever before, there is a direct link between SLA adherence and revenue. More than this though, the operators that cannot demonstrate an ability to maintain acceptable network and service performance, are increasingly finding themselves locked out of opportunities with large and increasingly demanding enterprise customers.

This rapidly emerging emphasis on guaranteed service performance, as opposed to ‘best efforts’, is no less applicable for fixed voice services than any other enterprise connectivity service, and it places a fresh onus on the CSP to gain complete, real-time and proactive visibility and control over their fixed voice services.

But today’s tools for monitoring, troubleshooting and operating fixed voice services represent a constraint to CSPs in their efforts to achieve this. The following table summarizes the issues commonly faced by CSPs looking to deploy and scale lucrative fixed voice services differentiated by SLA guarantees.

<p>Fragmented, siloed monitoring tools</p>	<p>Monitoring tools are designed for specific network domains, and often used by separate teams, resulting in the lack of a comprehensive, correlated view of voice service experience, application performance and network resource performance.</p>
<p>Lack of visibility of service and experience of KPIs</p>	<p>Network monitoring tools traditionally provide network-specific KPIs in an isolated way, such as resource availability, utilization and throughput. But these do not translate directly into an understanding of customer experience, as perceived by the users themselves.</p>
<p>Manually intensive, time-consuming troubleshooting</p>	<p>Traditional troubleshooting tools are designed for static, simple network topologies, in which the root cause of an issue can be isolated often without extensive investigation. Today however, the fluidity of programmable network topologies and interdependencies across infrastructure, network functions and services has rendered these unfit for purpose. This is particularly true when faced with stringent SLA criteria that places direct monetary value on the CSP’s ability to isolate and resolve problems.</p>
<p>Inability to prioritize problems for SLA impact</p>	<p>Enterprise SLAs are often defined in a way that does not directly translate to the performance KPIs shared by network, service and experience monitoring tools today, and this adds manual effort to the assignment of priority for problems, and therefore increases the time taken to resolve problems, and the risk of SLA breaches.</p>
<p>Increasing prevalence of traffic encryption</p>	<p>Monitoring service traffic encrypted with advanced protocols such as TLS 1.3 is placing ever-greater strain on customer experience monitoring tools. Visualizing customer experience at scale is increasingly resource-intensive, both in terms of the monitoring tools themselves and the workload placed on the underlying infrastructure, with knock-on effects on compute capacity utilization and costs.</p>
<p>Increasing costs of customer care and triage</p>	<p>As CSPs scale out their fixed voice services, the overhead involved in managing and investigating customer calls grows exponentially, because they lack the tools to provide transparency and visibility to enterprise customers for first-level triage; and the complexity of voice services delivery at scale alongside other fixed line services creates an exponentially more difficult task of monitoring, troubleshooting and remediation.</p>

This translates into very specific capabilities that are required to address the common pain points faced by fixed voice services providers today:

In summary, the fixed voice service providers today require the capability to efficiently scale-out exponentially more complex operations, with a single, common automated assurance capability that fulfils six key pre-requisites:

- Correlation from experience to resource problems:** It must allow the pre-emptive correlation of customer experience (voice MOS) issues to root-causes that may span multiple domains and network layers. Integrating separate performance management, service assurance and customer experience management systems built on disparate architectures only diverts focus and exacerbates future go-to-market and technology adoption bottlenecks.
- Visibility and configurability of customer experience KPIs:** It must not only provide visibility of perceived customer experience, but also provide configurability of different composite KPIs to track the adherence to commitments codified in enterprise SLAs. The alternative is lack of scalability, due to an ever-increasing reporting overhead, reactive problem identification, and inaccurate problem diagnosis.
- Automated, proactive troubleshooting workflows:** It must provide pre-integrated but configurable workflow automation routines that automate unnecessary manual tasks, including reporting, alert configuration, assignment of severity, raising trouble-tickets and others. This must be extensible so that future technologies and processes can be automated. The alternative is an inability to adopt new, more agile processes and ever-increasing time and effort for service operations teams.
- Accurate and automated assignment of severity based on QoE impact:** It must provide the intelligence and insight necessary to uncover events and assign appropriate severity based on customer impact. The alternative is an inefficient use of resources, an increased volume of live severe problems and increased risk of SLA breaches.
- Cost and resource-efficient, on-demand use of traffic decryption and inspection tools:** It must enable scalable, secure and on-demand decryption of user-plane traffic to support the investigation of ongoing problems. The alternative is the continued reliance on appliance-based, resource-intensive 'workaround' approaches that are inherently insecure.
- Enterprise customer self-service portals:** It must support efficient scalability of B2B business and delivery models with self-service portals that empower the enterprise to conduct first-level triage, thus reducing the workload on the CSP.

<p>Correlation from experience to resource problems</p>	<p>Visibility and configurability of customer experience KPIs</p>	<p>Visibility and configurability of customer experience KPIs</p>
		
<p>Accurate and automated assignment of severity based on QoE impact</p>	<p>Cost and resource-efficient, on-demand use of traffic decryption and inspection tools</p>	<p>Enterprise customer self-service portals for first-level triage</p>
		

Introducing 360° Assurance for fixed voice, powered by NLA

Infovista 360° Assurance for fixed voice is part of the 360° Assurance family of solutions, powered by Network Lifecycle Automation (NLA). It brings together the traditionally siloed systems in the

categories of customer experience, service, and network resource assurance into a common platform and framework, with pre-integrated KPIs, workflows, reports, dashboards, alerts and models designed specifically for fixed voice services, accessible from a single portal and with flexible, configurable multi-tenancy for enterprise customer self-service. It provides the following key capabilities:

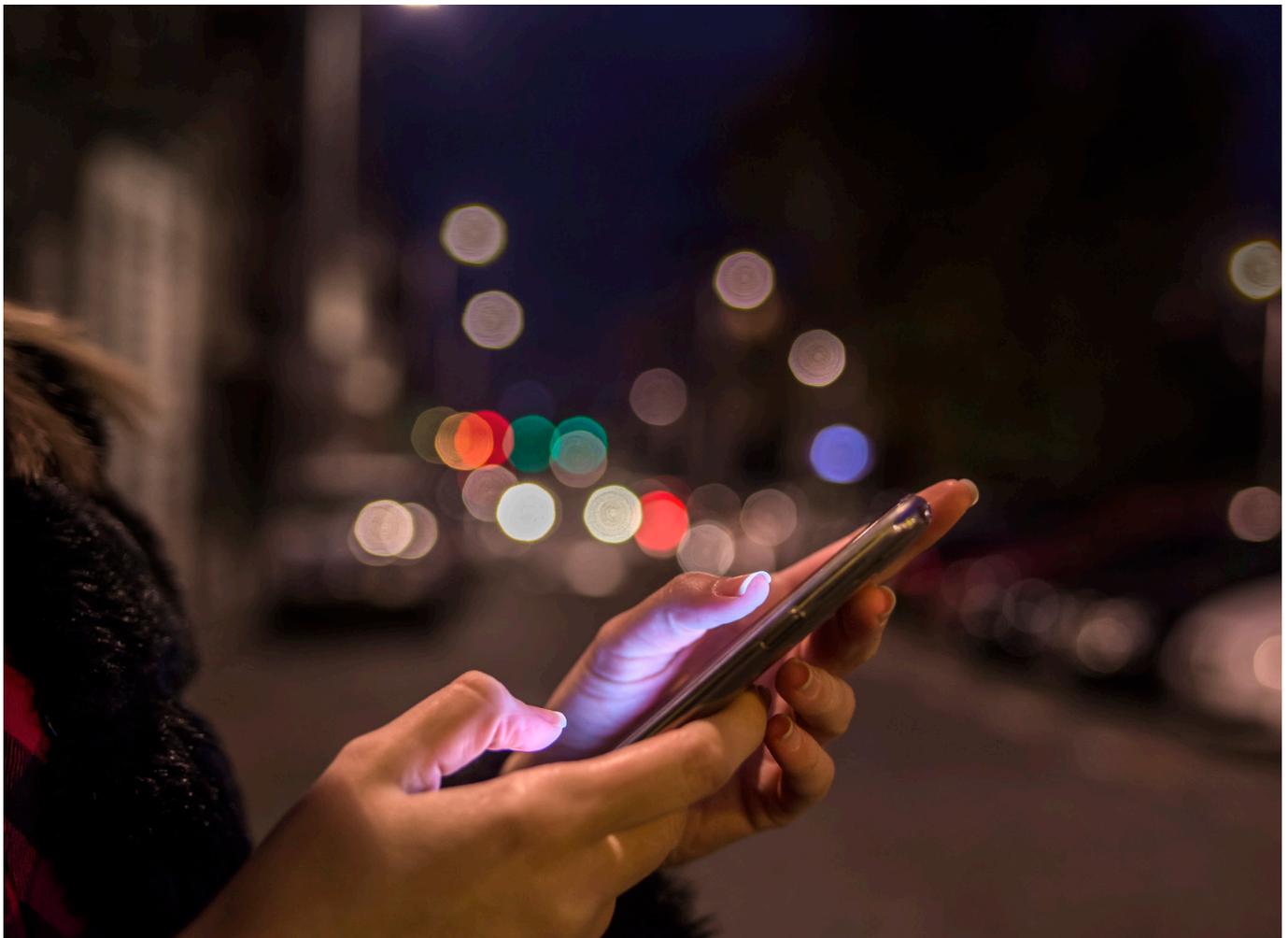
<p>Complete E2E visibility</p> <p>A single voice session can often involve 20 or more hops with multiple protocols, and how this is delineated varies among operators. The solution provides end to end visibility of entire sessions from a single, intuitive interface.</p> 	<p>Multitenancy for self-service</p> <p>Different participants in the value chain for voice services can be provided different, tailored dashboards from which to visualize the parts of the network and service that they provide or consume, reducing the workload on the CSP.</p> 	<p>Per-call efficient decryption</p> <p>The solution securely supports the decryption of individual calls with the minimal possible resource workload, even with ephemeral encryption methods, by efficiently managing individual session encryption keys when required for detailed troubleshooting of individual calls.</p> 
<p>QoE to infrastructure correlation</p> <p>The solution correlates transport performance and quality of experience KPIs in real-time, allowing drill-down investigation of root-causes impacting perceived customer experience, supporting multi-domain enterprise SLA assurance (involving combinations of transport and voice metrics, as well as accelerating MTTx in consumer service delivery).</p> 	<p>Automated E2E troubleshooting</p> <p>The solution provides a single user interface for troubleshooting from customer experience to the resource/ infrastructure layer, even when this involves radio access and core network scenarios. Automated correlation and enrichment further simplifies and accelerates the operations center's processes.</p> 	<p>Open API-based integration</p> <p>The solution provides flexible data sharing capability through open APIs, supporting scenarios in which the insights generated by the solution are used to support broader user cases such as sales planning, acquisition and retention initiatives, or customer segmentation.</p> 

Key user communities and business benefits

Due to the broad but detailed insights that the solution provides, it has relevance to a wide range

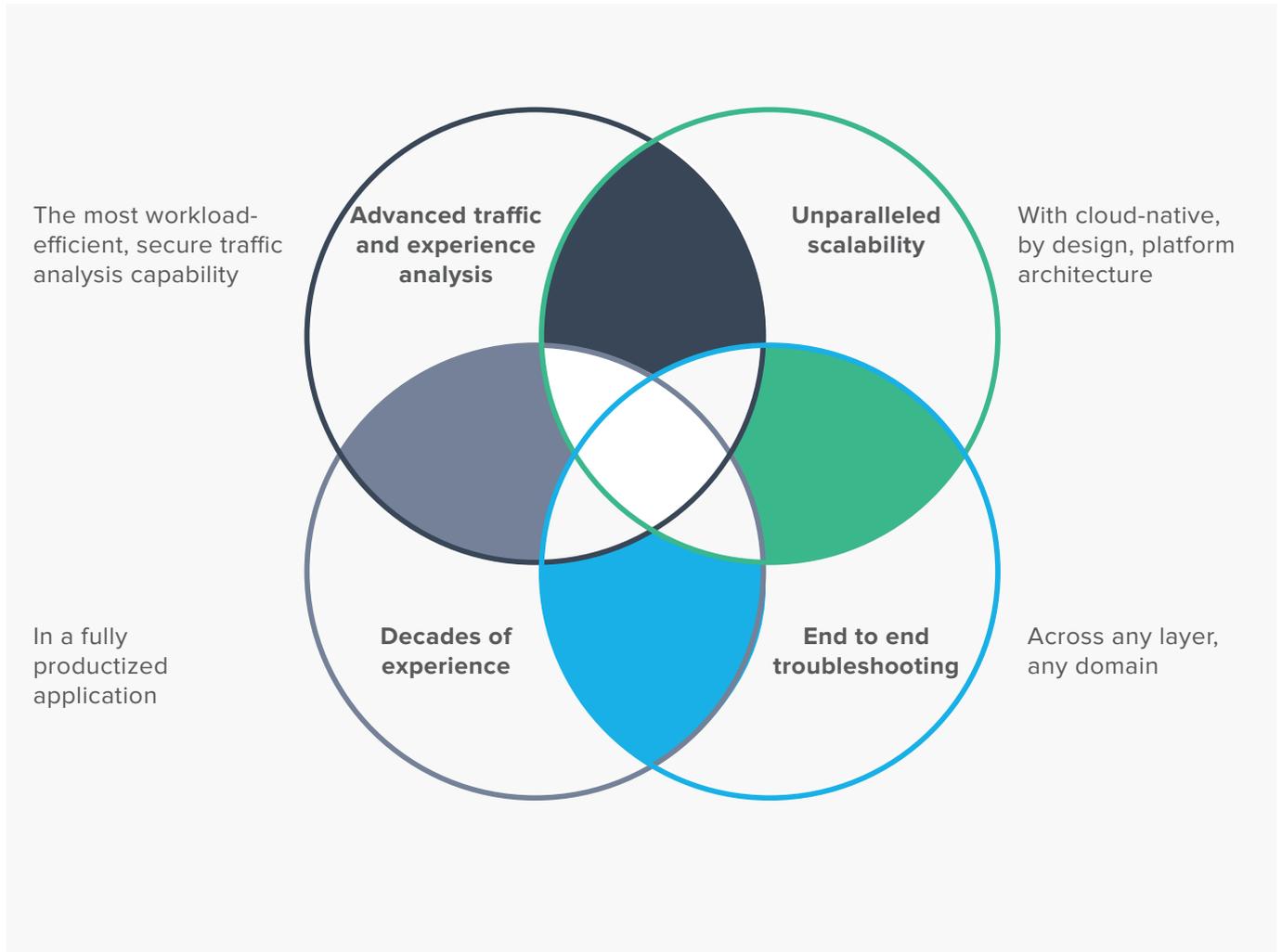
of stakeholders across the value chain for fixed voice services. This includes business stakeholders involved in the direct creation of revenue, as well as technology stakeholders involved in service operations:

Users	Benefits	Key features
<ul style="list-style-type: none">  Service provider account teams  CSP network and service operations centers (NOC/SOC)  Transport engineering teams  Voice engineering teams 	<ul style="list-style-type: none"> • Proactively monitor each customer's SLA status • Reduce MTTx, close trouble-tickets faster, reduce the volume of customer-initiated trouble tickets • Reduce root cause analysis times by more rapidly isolating the problem domains • Reduce cost-to-serve while providing transparency and monetizable performance insights to enterprise customers 	<ul style="list-style-type: none"> • Complete end to end visibility of service and network performance • Multi-tenancy for enterprise self-service • Secure, on-demand, per-call decryption with the lowest workload • QoE to infrastructure correlation with a single user interface • Advanced troubleshooting supported by automation • Open API-based integration <p style="text-align: center;">360° Assurance for fixed voice</p>



KEY DIFFERENTIATORS OF INFOVISTA 360° ASSURANCE FOR FIXED VOICE?

Infovista’s 360° Assurance for fixed voice solution has the following main differentiators:

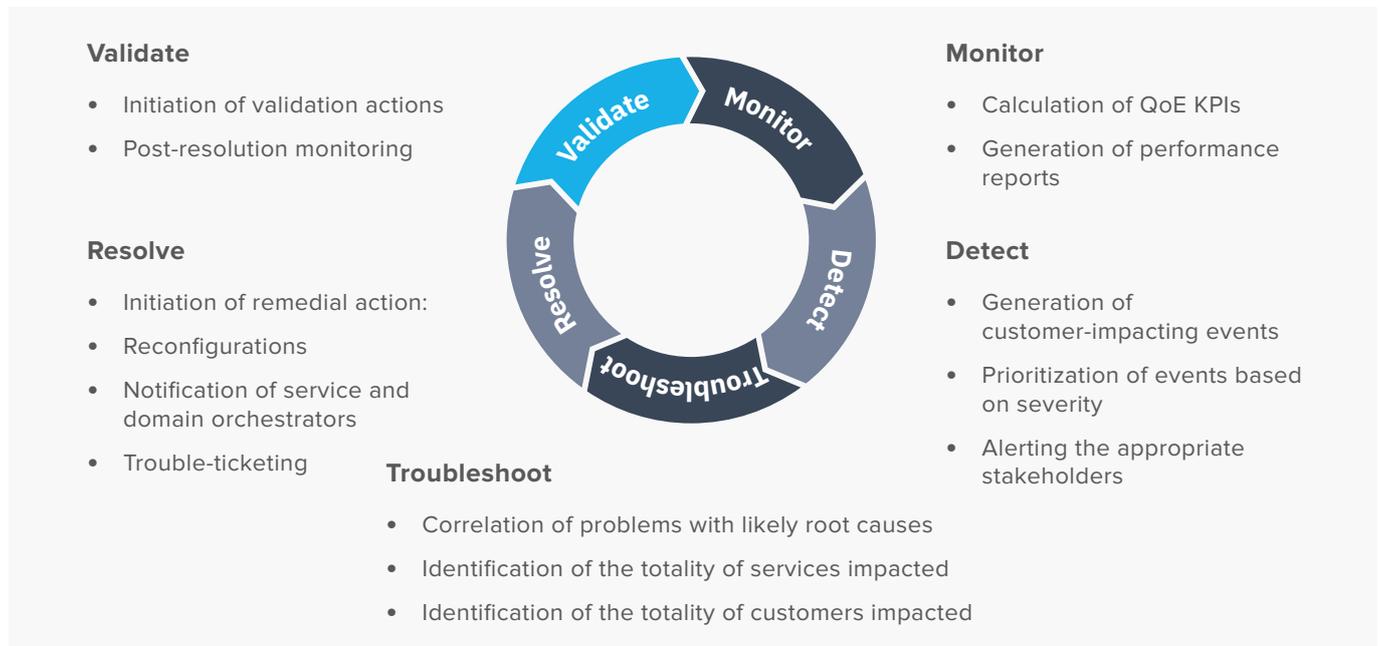


- **Advanced traffic and experience analysis** with the most workload-efficient, secure traffic analysis capability available today, supporting on-demand, scalable per-call session monitoring for advanced troubleshooting and root-cause analysis
- **Unparalleled scalability** with cloud-native, by design, platform architecture, enabling the solution to scale up or down, on demand, as alongside the growth of the business and in response to unexpected spikes in workload
- **Decades of experience** in a fully productized application, with a fully productized application that provides pre-configured advanced models, KPIs, dashboards and reports, alongside the flexibility and openness for rapid support of localized requirements without an over-reliance on services
- **End to end troubleshooting** across any layer and any domain, to support troubleshooting for emerging fixed connectivity scenarios such as those that involve the use of fixed-wireless access (FWA).

**360° ASSURANCE FOR FIXED VOICE:
PART OF THE 360° FAMILY OF SOLUTIONS**

360° Assurance for fixed voice is part of Infovista's 360° Assurance family of solutions, which provides a single application from which specific categories of service

can be assured through a broadly common five-step customer experience assurance lifecycle that introduces extensive automation at each step. These automations are described in the diagram below:



Each step in this process, and the automation involved in turn, is summarized below:

- **Monitoring:** Each of the solutions comes with pre-configured KPIs for monitoring a specific category of service as perceived by the end-user, which include for example, Mean Opinion Score (MOS) in the case of voice services, or different combinations of 5G slice QoS levels in the case of 5G network slicing. The solutions provide automated report generation and KPI calculations.
- **Detecting:** Within each solution, alarms are automatically generated based on performance levels crossing certain thresholds (anomalies), that are either outside the bounds of normally expected cyclical performance variations, or outside the bounds of agreed SLAs. The severity of these events is automatically allocated, based on the actual, or expected, impact on the end-user.
- **End-to-end troubleshooting:** The solutions leverage AI/ML descriptive and prescriptive analytics, for rapid, automated root cause analysis (RCA). The scope of RCA includes automated

correlation across network layers (identifying the likely resource-facing services and corresponding infrastructure causing unacceptable QoE), and across network domains (identifying, for example, root-causes in the core network that translate to customer-impacting performance problems in the radio access network).

- **Resolution:** The solutions leverage a common remediation orchestration engine, that can interface with external orchestrators, providing enriched information about the context of the network from a performance perspective; and directly with the network with automated configuration. Automated trouble-ticketing provides detailed and relevant contextual information when further investigation is required.
- **Validation:** Through real-time traffic monitoring or active testing, the solutions monitor the results of any remedial actions taken to resolve customer-impacting issues, both to validate that the issue has been resolved, and to monitor the networks, services and customer experience for any knock-on effects.

About Infovista

Infovista is the global leader in network lifecycle automation (NLA) for the next-gen networks era. With its unique NLA approach, Infovista allows communications service providers (CSPs) and enterprises to improve their network performance and customer experience, optimize their productivity, and reduce their costs, while maximizing return on their investments. Spanning the entire network lifecycle, Infovista's products and solutions leverage an open, integrated, cloud-native portfolio that automates tasks, flows, analytics, and decisions to the greatest extent possible. More than 1,500 customers, including 400 Mobile Network Operators, around the world rely on Infovista to plan, design, deploy, test, operate, support, optimize, evolve, report on and monetize their networks.



For more information please visit www.infovista.com
For sales inquiries please email info@infovista.com

EUROPE HEADQUARTERS Infovista S.A.S.

23 Avenue Carnot,
91300 Massy, France

Telephone: +33 1 64 86 79 00
Fax: +33 1 64 86 79 79

AMERICAS HEADQUARTERS Infovista Corporation

20405 Exchange Street, Suite 300
Ashburn, VA 20147 USA

Telephone: +1 855 323 5757
Fax: +1 703 707 1777

EASTERN EUROPE, ASIA, AND AFRICA HEADQUARTERS

PO Box 54753, Office 429, 4th Floor,
Building 8WB, Dubai Airport Freezone

Telephone: +971 4607 4924