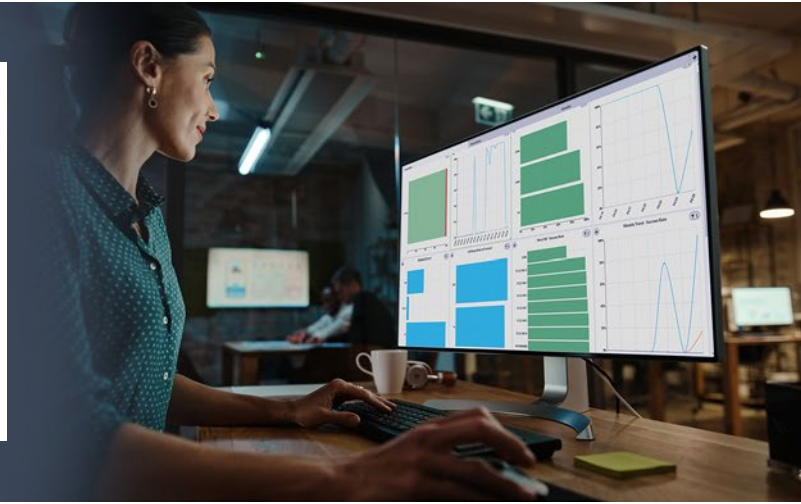


DATA SHEET

Ativa™ 2G/3G/4G and 5G-NSA Monitoring and Troubleshooting Solution



Quickly leverage 2G/3G/4G and 5G-NSA network capabilities

The Infovista **Ativa™ 2G/3G/4G and 5G-NSA Monitoring and Troubleshooting Solution** provides network operators with visibility into Packet Switched (PS) and Circuit Switched (CS) networks. It is also the foundation for adding 5G SA (Standalone) visibility. The solution improves network operations, reduces time-to-resolve, enhances network performance, improves consumer efficiency and reduces assurance systems workload and TCO.

Operators use the 2G/3G/4G and 5G-NSA Monitoring Solution to monitor legacy- and Enhanced Packet Core (EPC) networks for control and user plane traffic, visualize it and provide detailed performance analytics to identify and resolve the root-causes of problems and proactively manage and prioritize troubleshooting for network alarms.

What we can do

- Monitor:** Correlated access and core KPIs/KQIs (2G/3G/4G/5G-NSA)
- Detect:** 2G/3G/4G/5G-NSA Service failures and network performance degradation
- Isolate:** Determine the root cause of 2G/3G/4G/5G-NSA issues
- Analysis:** Identify faults faster and take action to resolve them
- Visualize:** Signaling, voice and data service performance, network quality

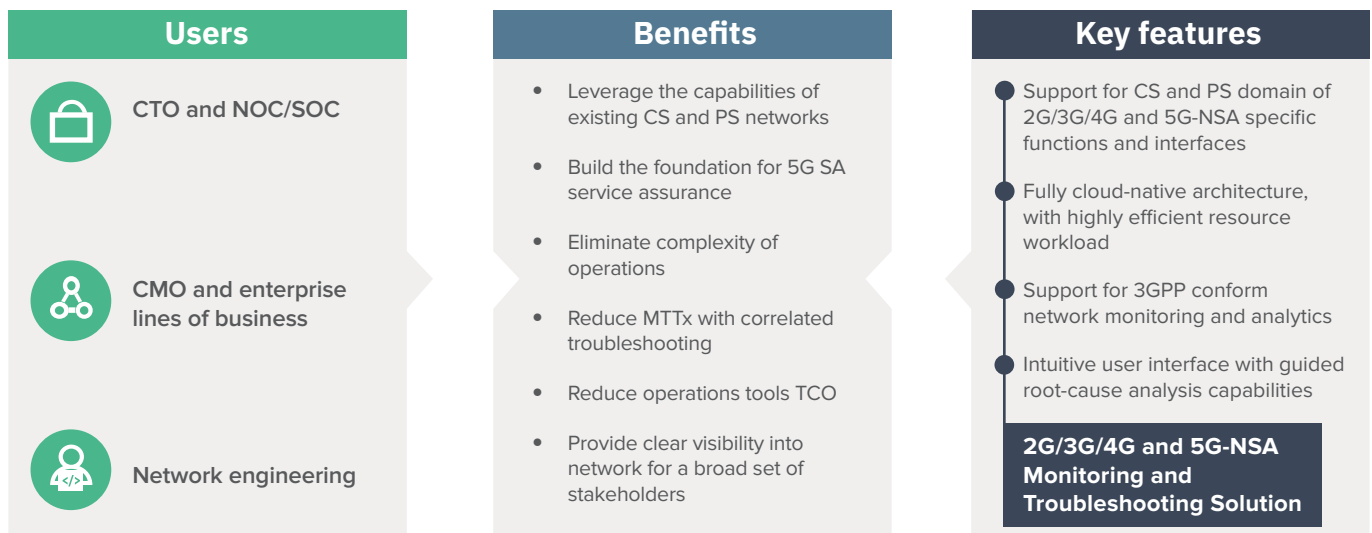


Benefits for customers

- Vendor agnostic:** Support for 3GPP standard protocols and interfaces
- Multiple technologies:** Support for multiple technologies including 2G/3G/4G/5G-NSA
- Proactive assurance:** Service model-based alarms for proactive assurance
- Detail-rich analytics:** Network and service performance analysis fully interconnected with troubleshooting tools for RCA

The solution provides detailed and flexible dashboards and reports showing protocol and interface performance across multiple domains, augmented with additional information such as Authentication and Accounting, to support in-depth analysis and troubleshooting.

The solution provides operators a wide range of domain and service level key performance indicators (KPIs) to support proactive service assurance, using advanced performance analysis and visualization tools such as flexible, configurable dashboard and reports.



Business challenges addressed by the solution

Existing monitoring solutions limit operators ability to visualize and proactively manage their operations with a focus on the customer. This results in poor customer experience, high OPEX, the reliance on multiple ‘silo’ assurance systems and an inability to respond quickly to changes in network usage and performance. Some typical challenges are listed below:

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| Silo monitoring tools for different networks or domains | Monitoring tools are designed for specific network domains, and often used by separate teams, resulting in the lack of a comprehensive, correlated view of service, application performance and network resource performance. |
| Lack of correlation to customer experience | Network monitoring tools traditionally provide network or domain specific KPIs in an isolated way, addressing only limited aspects. Fault finding, especially across multiple areas, networks and domains can be very complex, time- and resource consuming. |
| Complexity of fault to root-cause mapping | 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. This gets immediately complicated when faults and root-cause are in different domains or networks. Impact is seen in the time spend on analysing and making resolution recommendations. |
| Manually intensive, increasingly complex operations | Service-issue to network-event mapping is difficult and requires multiple specialized teams to resolve. Whenever there is no direct association between alarm and fault cause, complexity of operations require to manually analyse the data, increasing the need for simplification and automated analytics. |
| High infrastructure resource workload | Cost factor for service assurance is an important challenge. That includes not only the tools itself, but also infrastructure resources and the manpower needed to handle the workload. |

The 2G/3G/4G and 5G-NSA Monitoring Solution addresses these problems with an end-to-end view of services and networks, with cross-domain correlation and automated workflows for rapid problem identification, root-cause analysis and resolution.

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| <p>Data correlation of 3G/4G and 5G-NSA network functions, interfaces and procedures to resource problems</p> | | <p>Cost and resource-efficient, on-demand use of user-plane session monitoring and recording</p> | |
| <p>Visibility and flexible configurability of KPIs for network and services to address different consumer needs</p> | | <p>Automated troubleshooting workflows</p> | |
| <p>Advanced analytics for service and network performance</p> | | <p>Single web portal for unified monitoring of PS and CS, service and network</p> | |

Key features of the solution

The solution includes pre-configured dashboards, KPIs and analytics / troubleshooting capabilities specific to 2G/3G/4G and 5G-NSA networks, including:

Dashboards and reports

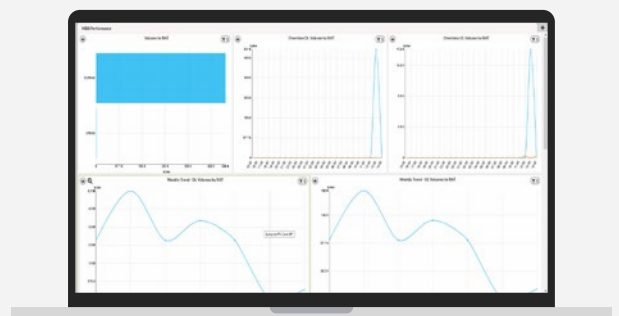
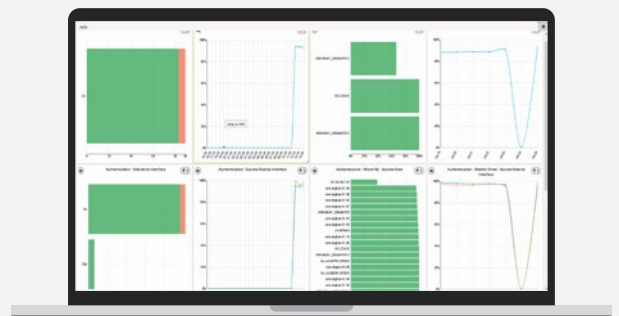
Service and network dashboards show key network and service KPIs that can be filtered by device types, network element types, locations, operation types and others. They summarize KPIs including success and failure rates, throughput, accessibility, speed, procedure durations.

These dashboards include:

- CS domain performance dashboards
- PS domain performance dashboards
- AAA analytics dashboards
- Service level analytics dashboards
- 5G NSA dashboards
- Performance analytics

Alarm dashboards provide real-time awareness of network and service alarms. Helping to prioritize these based on customer impact, with guided workflows for further investigation and troubleshooting.

Interactive reports enable faster isolation of problems. Covering CS domain (Access, Core and Call service), PS domain (Access, Core -SP and UP), devices and cells. Multiple filtering visualization options.

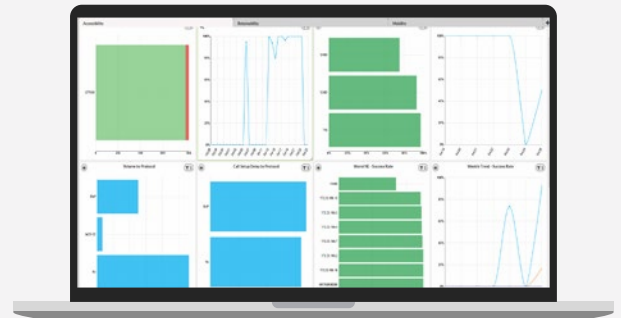


Analytics and troubleshooting

End-to-end tracing tools, providing a single solution for analyzing multi-vendor SD-WAN network environments from a single pane of glass.

Features include:

- Support for cross-protocol correlation for the rapid identification of problems and root-causes
- Support for drill-down analysis across user plane, control plane, transport and security plane data
- End-to-end session tracing, regardless of access point or service delivery method



KPIs and interfaces

Comprehensive interface support, including all interfaces for the supported mobile networks and protocols/interfaces. Multiple metrics supported for:

- Types of network elements
- Protocol/interface: MAP, CAMEL, BICC, SIP, ISUP, GTP, GTPv2, RANAP, S1AP.
- Per call metrics: volumes and ratio, call duration, packets, voice quality/ MOS score, latency and jitter
- Per protocol: volumes and ratio
- Per node: volumes and ratio
- Per media: packets metrics, voice quality/MOS, R-Factor, jitter and latency
- Per carrier metrics: volumes and ratio's, Call KPIs (MOS, R-Factor, packets, litter and latency)



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.