

# Compact network management

## Real-time ATM network performance monitoring

In air traffic management (ATM), blind spots are unacceptable. Yet the fragmented structure of ATM organisations and networks makes it difficult to monitor whether the network itself is meeting performance requirements for safety-critical systems. Our compact network management solution, Compact-NMS, a solution from the Frequentis vitalsphere portfolio, provides an independent real-time network measurement engine with a modern graphical interface that clearly visualises the impact of network performance on ATM applications and enables rapid root cause analysis of performance issues.

## Key features

### Real-time monitoring of individual ATM services

Compact-NMS measures network performance for each critical ATM service separately. By simulating application traffic, it provides very accurate measurements that enable technical operations teams to understand how network behaviour affects the flow of operational voice, control tower video, radar surveillance, meteorological and other data between applications.

### Enhanced situational awareness with brownout detection

Compact-NMS provides a comprehensive measurement methodology that enables full situational awareness. For example, it not only monitors the overall availability of the network, but also identifies network brownout events. This empowers operational teams to start investigating brownouts before they propagate into a bigger outage.

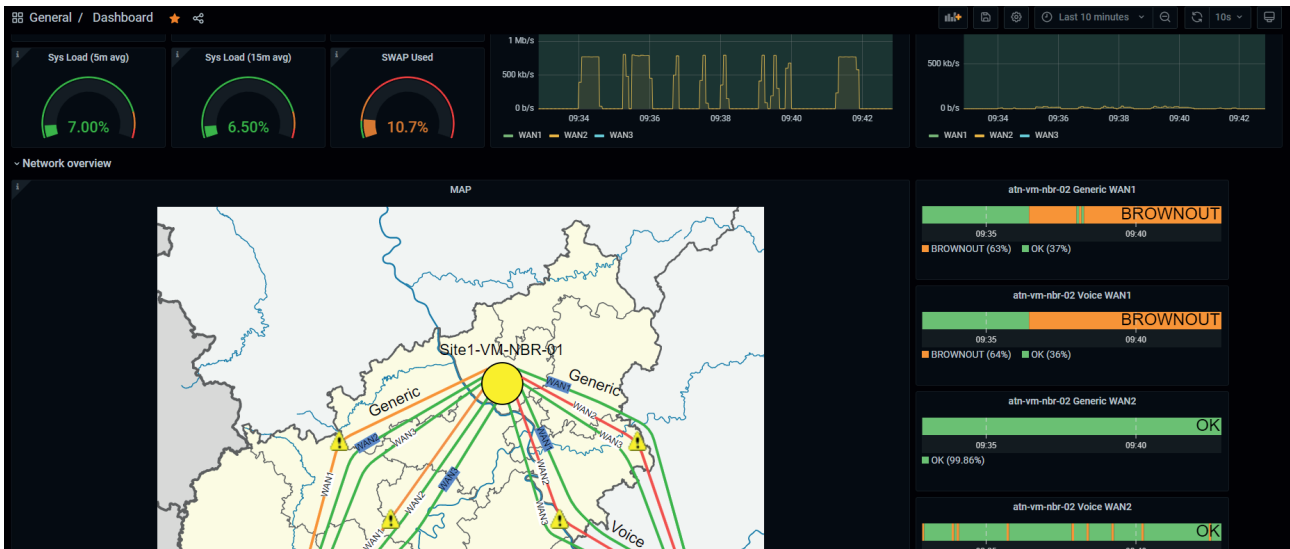
### MOS analysis for operational voice applications

To assess how network performance is impacting operational and safety-critical voice applications, Compact-NMS instantly integrates end-users' mean opinion score (MOS) measurements into its analysis, providing immediate feedback on the current voice audio quality.



## Compact-NMS at a glance

- Real-time application and network performance monitoring for safety-critical ATM environments
- Continuous measurement and visualisation enable rapid identification and root-cause analysis of performance issues
- Compact and easy to deploy on commercial off-the-shelf hardware with no changes to existing infrastructure



## Benefits

### Eliminate blind spots in situational awareness

The low-resolution, ad hoc monitoring provided by network devices and telco providers is not sufficient for safety-critical ATM systems. Compact-NMS monitors network performance continuously and provides the results in real time, enabling operators to eliminate blind spots in their situational awareness.

### Identify the root cause of issues rapidly

Compact-NMS empowers ATM operations teams to promptly identify whether performance problems are caused by the application itself, the organisation's local area network (LAN), or the telco provider's wide area network (WAN). This not only helps to find and fix

problems quickly—it also provides solid evidence of whether the telco network is meeting its service level agreements.

### Enhance monitoring with minimal cost and risk

Compact-NMS is a software-based solution that is supported by a variety of Frequentis hardware and also performs well on commercial off-the-shelf (COTS) hardware. This means it can be installed easily on existing infrastructure without impacting the current network configuration—a major advantage in the safety-critical ATM domain, where every infrastructure change requires extensive testing to mitigate risk.

## Technical specifications

Network size	Supports networks of all sizes from very small to very large
Supported network technologies	All networks (IP/MPLS, VSAT, TDM, Microwave, etc.)
Performance measurements	Continuous measurements with down to millisecond-level intervals
Configuration granularity	Payload size, packet interval, measurement period
Graphical interface	NetBroker Visualiser – a modern, user-friendly GUI
Hosting hardware platform	Selected Frequentis hardware or commercial off-the-shelf servers

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