



SOLUTION

- > WhatsUp Gold

RESULTS

- > Powerful, open monitoring system across the network
- > Scalable and easy to expand
- > Comprehensive information is centrally available
- > Daily reports improve the efficiency of operations

üstra Monitors Technical Devices at Bus and Light Rail Stations with WhatsUp Gold

With its city buses and light rail, üstra Hannoversche Verkehrsbetriebe AG is the leading group of public transportation companies in Germany. With over 154 million passengers a year, it is the most efficient public transportation service in Lower Saxony. Founded in 1892 as Strassenbahn Hannover AG, üstra transports Hanoverians through the inner city in ten-minute intervals under the motto “We Move Hannover”. With nearly 1,900 employees and more environmentally friendly vehicles, it covers more than 38 million vehicle kilometers per year (light rail and bus).

The Challenge

üstra is technically ahead of many other transport companies with a fiber-optic network linking most stops to a central control center. Destination signs, bus displays, emergency call stations, ticket machines and video surveillance at platforms can thus be centrally controlled and monitored. Since Expo 2000, üstra is also the network service provider working in association with the police to monitor traffic control cameras and traffic computers in the capital as well as the parking guidance system on the fairgrounds. The highway maintenance agency is also part of this association. The traffic management center, highway maintenance agency and üstra operate a common control center therefore, the requirement to staff these control centers with at least two employees around the clock became much easier and cheaper for all association members.

To monitor the entire technical network as well as its own office network from the central office, üstra implemented Ipswitch’s network management system WhatsUp Gold. This system was first installed when parts of the internal network were migrated from Avaya to Extreme switches. The transition from a homogeneous to a heterogeneous infrastructure at that time required an open management system, and an external service provider had recommended WhatsUp Gold, an easy-to-configure and scalable solution. Initially WhatsUp Gold only monitored the switches, but an upgrade to a newer version included the monitoring of servers and hard drives. Important SQL databases were also integrated since that time so that üstra not only monitors the services but can also read and process values from the databases with WhatsUp Gold. This is important for the light rail destination signs, for example, which are connected via RS 485 and confirm received signals through entries into an SQL database. In this manner, network management is also able to integrate comparatively old technologies.

Powerful Monitoring and Increased Efficiency

The monitoring of the technical network was significantly expanded in 2009, when üstra replaced all of the 325 ticket machines in the city area with new systems. An essential criteria in üstra’s request was that all hardware components of the new machines must have a MIB so they can be queried via SNMP. As part of this upgrade and with the assistance of the systems company P&W in Haltern am See, the WhatsUp Gold installation was then migrated to the current version. In total, each of the machines now has 25 monitor points, which the management system can use to provide comprehensive information. This includes the levels in the cash boxes, the output trays for change, the paper rolls for the ticket printing, the coin validator, and many other components.



At headquarters, all of the information collected by WhatsUp Gold is combined into reports that are utilized by far more agencies than just the IT team. “Before, cash boxes were exchanged on fixed routes and the ticket rolls were changed on rotation, regardless of whether or not they were empty”, states Ralf Krupp, who is responsible for üstra’s network management team, in describing the advantages of a central management system. “Today the responsible sales and technical managers receive a report each morning about the fill levels and technical status of all machines and can then use their personnel with much greater efficiency.” The control center and even the media department have access to the availability of the monitored systems. Comprehensive statistics are also created for üstra itself, as well as for the GVH (Greater Hannover Transport Association).

However, personnel is only one area where üstra is saving money. Now ticket rolls are better utilized, required maintenance measures are planned with more accuracy, and passengers who are caught dodging fares no longer have the excuse of defective machines. “We used to be more tolerant in such situations, since we often had defective machines due to vandalism”, says Ralf Krupp. “The new ones are not only much better protected against vandalism but we also know precisely whether and why a machine has failed or has limited functions. In other words, these excuses no longer work.”

üstra is currently monitoring about 2,200 devices with well over 5,000 active monitors in its entire network. In the internal network, this involves 80-90 switches and about 50 servers together with 300-400 monitor points, the rest coming from the systems at the stops. Particularly important, in addition to the ticket machines, are the emergency call stations, which are operated via SIP and – on the last mile – ISDN. It’s less important for efficient planning than a rapid response: Alerts from WhatsUp Gold can immediately notify the responsible department via email and SMS in case of a failure.

A second installation of WhatsUp Gold is used as back-up so that monitoring can continue even if a system fails. The fixed maintenance window, during which the monitoring of the machines, emergency call stations and other systems may be unavailable for 30 to 45 minutes, is only required once a month. And it only concerns the monitoring - the functionality of the systems is not restricted in any way.

Ralf Krupp is very satisfied with WhatsUp Gold: “Above all, we like the openness towards internal expansion and the ability to monitor almost any device. We make very intensive use of the options for expansion and adaptation. The software is very reliable, and the migration to new versions is also going smoothly.”

The Latest: Wireless in the Vehicles

The equipment of 234 buses and 143 light rail vehicles with wireless has already been completed. The company mainly wants to convert its passenger TV system to a new, cost-effective connection. The functionality, as it has been since the Expo, will hardly change. The data exchange will occur at the final stops and in the city center, where the vehicles usually stand still for two to three minutes. In addition, the vehicles will be able to transmit status information at the depots. The plan is to integrate all of the required Access Points into WhatsUp Gold. It will also be possible to find out when the vehicles are in the vicinity of an Access Point via syslog notifications. A test train has been running successfully since December 2010. This ensures the data supply of the board computers in the city buses.

About Ipswitch, Inc.

Today’s hard-working IT teams are relied upon to manage increasing complexity and deliver near-zero downtime. Ipswitch IT and network management software helps them succeed by enabling secure control of business transactions, applications and infrastructure. Ipswitch software is powerful, flexible and easy to try, buy and use. The company’s software helps teams shine by delivering 24/7 performance and security across cloud, virtual and network environments. For more information, please visit www.ipswitch.com, or connect with us on [LinkedIn](#) and [Twitter](#).

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RALF KRUPP

üstra’s Network Management Team

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