



*“ We didn’t need any complex manuals to begin using Observer. The interface was intuitive, and immediately detected errors which were highlighted, making them easy for network engineers to find. ”*

Bjoern Ferber | GELSEN-NET  
Network Engineer

## FROM TELECOM TO CLOUD: ENSURING RAPID PERFORMANCE

As the Internet has evolved from novelty to critical business resource, the business models of telecom companies have rapidly expanded from providing traditional landlines to offering Internet connectivity, IT services, and cloud resources.

With frequent new service rollouts, IT teams must quickly adapt their performance monitoring strategies to handle troubleshooting within their own internal datacenters and also to the ever-expanding networks, client sites, and applications.

The story of the west German regional telecommunications company GELSEN-NET epitomizes this rapid change, and illustrates how companies can evolve their monitoring strategies to ensure business and network success. Founded in 1983 as a regional phone service provider, the company has grown by providing comprehensive Internet connectivity and IT services to over 72,000 residential and business customers over a 50 kilometer area.

## CRISIS IN THE CLOUD

Over the past two years, GELSEN-NET has added extensive cloud services to its IT offerings, providing local businesses with external hosting, access to scalable storage, and cloud-based disaster recovery. The shift to the cloud has brought about significant new challenges for Bjoern Ferber, the network engineer in charge of managing

performance, ensuring quality of service, and validating service level agreements (SLAs) with clients. To ensure on-time execution of cloud-hosted applications and meeting SLAs, not only did the company need to be sure their network was performing at premium levels, they required flexibility and visibility into service performance from their datacenters to clients' sites.

This became clear when two of GELSEN-NET's larger cloud customers hosting LDAP and SQL database traffic in the carrier's datacenter began experiencing slower response times between the hosted servers and external clients. Ferber and his colleagues attempted to identify the cause of slow response times with Wireshark network analyzers, but lacked the application-layer visibility to find the issue between the servers, network, and clients.

“Wireshark provides a lot of information, but isolating problems requires significant upfront knowledge that we simply didn't have,” said Ferber. “You need to know the MAC and IP addresses along with packet payload details. Given the number of clients we have and the very nature of data being warehoused in the cloud, there's a lot to sift through. Navigating through large trace files was an unmanageable, waste of time.”

Ferber knew GELSEN-NET needed a flexible solution that could provide visibility and monitoring intelligence to resolve performance problems faster. Network consultants GORDION Data Systems Technology answered the carrier's

call with Network Instruments® GigaStor™ retrospective network analysis appliance, which captures terabytes of traffic and applies advanced analytics to resolve performance challenges. They chose the portable GigaStor appliance because flexibility was critical, allowing Ferber's team to begin troubleshooting problems at their datacenters and go offsite to the client when necessary.

To select a monitoring solution, the network team created test scenarios around a common Citrix® connection issue. In running the scenarios, GELSEN-NET's network team knew it was either a bandwidth issue or there were too many Citrix connections on the server. With GigaStor at the customer's site in the test situation, they were able to capture traffic, generate a filter, isolate the issue to the server, and provide resolution in an hour.

“Compared to other monitoring solutions, GigaStor allowed us to resolve problems faster,” said Ferber. “It was very intuitive and had a lot of features that quickly pinpoint problem causes. Competing tools weren't as user friendly to manage or in utilizing various analysis features.”



*“GigaStor is invaluable for capturing and providing complete analysis of traffic up to the application layer.”*

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Rather than running around for several days with two laptops and copies of Wireshark to solve problems, Ferber’s team is now able to track and resolve the same issues in less than 60 minutes using GigaStor.

Solving performance challenges faster also protects GELSEN-NET’s bottom line. With strict SLAs in place, Ferber’s team has between 5 to 8 hours to resolve the performance problem, otherwise the service provider risks paying the client money for downtime and outages.

“With quick problem solving, our GigaStor has quickly paid for itself,” said Ferber.

### APPLICATION TROUBLESHOOTING IN-DEPTH

Beyond cloud services, GELSEN-NET provides Internet connectivity and services to business clients, while they host the applications and servers. When problems occur, this means working closely with a customer’s network team not only to exonerate the carrier, but to help them resolve the issue. GigaStor’s long-term packet capture and application analysis are essential in locating the origin of the problem.

“Typically we’re assisting customers to resolve a whole host of issues from complex multi-tiered applications involving databases and Citrix, to simple connectivity challenges with Internet browsing and accessing web services,” said Ferber. “With GigaStor’s comprehensive and in-depth application analytics, we can quickly sift through many custom and standard applications and identify where the delay was occurring and why.”

### CERTIFYING NETWORKS VOIP-READY

GELSEN-NET provides a diverse number of IT consulting services including designing, deploying, and certifying networks as ready for critical applications. As a regional telecommunications firm, they have developed an expertise in certifying that networks are VoIP-ready.

These services vary depending upon customer need. Often customers have their own infrastructure and contract with GELSEN-NET to provide VoIP services and certification. Whereas, others may not have the network resources or expertise, and hire the service provider to build out the communications network and provide VoIP services and certification. GigaStor plays an integral part of VoIP preparations and rollout.

“We use GigaStor in the pre-consulting, deployment, and final testing phases of every VoIP rollout,” said Ferber. “Not only does the solution show VoIP test results quickly, but we can share the reports with coworkers and customers who don’t have telecom experience. For example, with the QoS tagging of VoIP packets, it’s easy to see the mistagged packets and understand what’s going on.”

### CONCLUSION

Whether dealing with Internet connectivity issues or chaos in the cloud, GigaStor provides GELSEN-NET with robust and rapid problem solving. The portable form factor gives the providers the power to handle performance problems wherever they may arise, ensuring quick results, continued customer satisfaction, and preserving the company’s bottom line.

“Since deploying GigaStor Portable, we’re now able to solve the vast majority of customer issues in under an hour,” said Ferber. “The faster resolution and VoIP intelligence the appliance provides have been critical in keeping our clients happy and allowing us to expand our IT and cloud services.”

### ABOUT GELSEN-NET

Founded in 1983 as a regional German phone service provider, GELSEN-NET has grown by providing comprehensive Internet connectivity and IT services to over 72,000 residential and business customers. Servicing a 50 kilometer area, GELSEN-NET offers the latest information and communication technology customized for the specific needs of businesses in Bottrop, Gelsenkirchen, Gladbeck and Herten.

Over the past two years, the company has added extensive cloud services to its IT offerings, providing local businesses with external hosting, access to scalable storage, and cloud-based disaster recovery.

For over 30 years, GELSEN-NET has focused on constant development and innovation. This dynamic is coupled with in-depth industry knowledge and a continued commitment to the region.



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