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# South Yorkshire Police

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**Adam Hill | South Yorkshire Police**
Network Infrastructure Architect

## Challenge

South Yorkshire Police was an early adopter of proven technologies including Voice over IP, video conferencing and http-based systems specific to police practices. These applications run over a complex network infrastructure linked to two data centres.

As a result, South Yorkshire Police, one of the best technically supported forces in the country, has saved thousands of pounds in phone bills and site-to-site transport, and has enabled manpower resources to be focused almost entirely on the needs of the force and the public it serves.

But the organization needed a way to manage and maintain its VoIP system, overall application performance, and resolve the more elusive, complex network problems.

## Solution

Technology is not failsafe, especially as applications become more sophisticated and the need for jitter-free IP-based communications increases. To ensure the South Yorkshire Police network and its applications are available 24 hours-a-day, the IT team has deployed the highly effective, yet relatively low-cost, Observer® Platform.

The South Yorkshire Police Department's deployment of the Observer Platform consists of the Analyzer Suite, a large-scale capture GigaStor™, six multi-instance Probes and eight single-instance Probes. This set-up continually sniffs the network for faults and provides feedback and analysis highlighting areas where performance is impaired or where failures are likely to happen if left unaddressed.

South Yorkshire Police also uses the Observer Platform's retrospective network analysis technology to investigate incidents days, weeks or months later, providing down-to-the-second reports on traffic and application activities before, during and after the problem occurred.

This makes it ideal for monitoring Quality of Service (QoS) and key performance indicators.

South Yorkshire Police worked closely with specialist IT consultancy, Open Reality. With the team at Open Reality, they provisioned a robust system that could provide a near real-time view of traffic patterns, thorough packet-level information and assist in proactive and reactive monitoring.

Today the monitoring platform is relied on for 24/7 network assurance.

According to Adam Hill, Network Infrastructure Architect at South Yorkshire Police, "The feature-rich set of analysis tools provided by the Observer Platform ensures that the raw information we acquire is efficiently translated into actionable items. The main benefit that influenced our purchasing decision for the Observer Platform was the integration of all components within a single package."

## To Catch a Thief

The Observer Platform supports two main operational aspects for South Yorkshire Police. First, GigaStor is positioned to capture, analyse and conduct long-term trending on all traffic entering the main police data centre via 8 Gb links. This provides the ability to navigate to the exact moment a problem happened, and to see a detailed packet-level view of the occurrence. Second, the Probes are positioned at all 12 major sites to monitor WAN traffic to and from the site. Observer Probe technology can also manage all Windows-based infrastructure, such as file and print servers.

Probes are located at key points on the network—at the WAN link and data centre access points. Often the problems are localised so the Probes are sufficient. If there is an issue across multiple areas then the GigaStor appliance looks back at performance patterns to highlight flashpoints.

According to Hill, "The ability to store large amounts of rolling data and then to have the ability to review this days, weeks and even months later is invaluable and is the only way we can guarantee network health."



"Using VoIP as an example, we have been able to record and save calls made over the force's network and can later review these for troubleshooting purposes, for analysis or to verify quality of service. Without the GigaStor this would not be possible and we potentially could have faced serious telephony issues," Hill added.

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## Deployment

Following consultancy by Open Reality, the Observer Platform was installed by in-house network technicians. The same team continues to maintain rolling upgrades and to perform general administration. Most recently it added a GigaStor for retrospective analysis and extra multi-instance Probes for wide-spread monitoring.

According to Hill, "The system was simple to install."

## Policing Applications

South Yorkshire Police provides policing and protection to the community 24 hours a day. To support this, the organization needs every element of its operation to be functional at all times. As a result, the Observer Platform has proven to be invaluable. From the moment of installation it has delivered real operational benefits, which cannot be measured in monetary terms.

"I can't rate the application analysis tool enough," said Hill. "We have the ability to store massive amounts of data and then review this using time-based analysis without having to recreate problems. This greatly reduces the mean time to resolution and the number and cost of man hours it would require to manually do this. In fact, without the GigaStor some faults would remain unidentified."

## Managing Government and Internal Rollouts

In addition to monitoring existing behaviour, South Yorkshire Police is increasingly using the Observer Platform to plan new application deployments.

"The Observer Platform provides granular insight into the network – 24 hours-a-day," said Hill. "In addition to day-to-day monitoring and deep application analysis, it is also perfect for pre-planning the impact of new application roll-outs on network performance."

The South Yorkshire Police network team is responsible for two types of application rollouts – those that are mandated by the government and central policing initiatives (including Criminal Records Bureau (CBR) checks and the Street Crime Initiative), and those driven internally to enable improvements in performance and operational cost savings.

For example, the Observer Platform was instrumental in helping provision VoIP phones to almost all South Yorkshire Police personnel. This enabled the removal of all fixed line telephony links.

According to Hill, "Without the Observer Platform I would have struggled with the installation and tuning of VoIP. It saved a lot of time in fault finding and enabled me to greatly reduce our mean time to resolution. On a day-to-day basis it is perfect for controlling jitter and enables us to pro-actively monitor call quality."

## Conclusion

The Observer Platform has developed over the last six years and will continue to do so as the needs of South Yorkshire Police evolve.

"The Observer Platform has enabled South Yorkshire Police to run and manage a highly resilient 90-site network," said Hill. "I can't rate it highly enough."

## About South Yorkshire Police

South Yorkshire Police protects Barnsley, Doncaster, Rotherham and Sheffield. It employs over 5,500 staff including of more than 3,100 police officers, 245 special constables, 350 police community support officers (PCSOs) and support staff.

Working from 90 police stations, including 11 major sites and police headquarters in Sheffield, South Yorkshire Police personnel are connected to each other, to the national Criminal Justices Extranet (CJX) and to the general public via a complex wide area network.

Built, managed and maintained by the internal IT department, South Yorkshire Police is a technically advanced force which has embraced technology to make law enforcement more effective. This has also created easier two-way communication with the general public.