

# International Service Provider elevates network quality deploying TAMS Monitoring System

## Case Study: TAMS for monitoring International Traffic

### IN BRIEF

- **Goal:** to improve service quality, reduce troubleshooting time, improve *mean time to solve*, provide reporting about network performances without adding to NOC staff.
- **Solution:** Sunrise Telecom's TAMS Monitoring System
- **Results:** they can now easily and efficiently diagnose network problems in a multi-company environment to rapidly determine root cause, generate periodic reporting about KPIs and be alarmed about critical conditions almost in real-time.

A mobile operator headquartered in Egypt is rapidly expanding its business and is conveying telephone traffic directed to Europe and USA from its seven main markets located in the Middle East, Africa and Pakistan (the subsidiaries). The Belgium location acts as main switch between the subsidiaries and the interconnected operators (OLO, Other Licensed Operators) and has the responsibility of the quality of the entire International Network.

The rapid growth of the subscriber base in the recent years has increased the complexity of the interconnections between the subsidiaries and the OLO. Furthermore, the presence of satellite connections between the subsidiaries and the main switch is a potential source of problems for the voice quality, due to the use of voice compressors.

Like most service providers acting at international level, in order to grow market share, revenue and increase profitability, they needed to optimize the usage of their interconnection links, while reducing troubleshooting time and maximize the quality of service, all this without adding to its Network Operation Center staff.

To solve the problem, they turned to Sunrise Telecom and its TAMS (Traffic Analysis and Monitoring System). As a result, they are now able to easily perform troubleshooting to rapidly determine the root cause of decreasing quality of service for both the signalling and the audio traffic, significantly reducing the average problem identification time compared to the procedures in place before the deployment of the monitoring system.

Equally important, they have now a system in place that can keep the pace with the increasing growth of the Company's core business.

## Benefits

Objective	Benefits Achieved
Optimize the MTIS (Medium Time To Solve) for Trouble Tickets related to the connections between the subsidiaries or the OLO	By using TAMS' Protocol Analysis tools they were able to reduce consistently the time required for the trouble tickets management, without adding personnel to the existing NOC
Increase the number of connections to the OLO without adding to NOC's staff, in order to have a wider range of routing options	The troubleshooting capabilities of TAMS have increased the efficiency of the NOC staff that can now address problems on a continuously increasing number of connections without requiring further personnel.
Provide <i>early warning alarming</i> about the eventual decreasing of performance to specific destinations	The Real-time Traffic Alarms available in the TAMS system allow NOC personnel to be advised about critical conditions that can arise onto specific destinations, so corrective actions can be immediately taken.
Provide performance indicators about the OLO, to optimize the routing policies	The reports periodically generated through TAMS about indicators like ASR, ABR, NER grouped for the different destinations are now the main source of information to score the OLO and, therefore, to select the best routing policy with respect of the offered quality of service
Monitor the voice quality on the satellite connections with the subsidiaries	The reports periodically generated through TAMS about the Voice Quality immediately underline problems in the voice compressors' configuration.

## About the Mobile Operator

It was established in 1998 and has grown to become a major player in the telecommunication market in the world. Actually is considered among the largest and most diversified network operators in the Middle East, Africa and Pakistan. It is a leading mobile telecommunications company operating in seven emerging markets in the Middle East, Africa and South Asia having a population under license of 460 million in total population with an average penetration of mobile telephony rate across all markets of 11.5%. Customer base reached over 35 million as of March, 2006.

An aggressive policy of constant expansion through acquisitions and participations has led to a rapid growth, culminated with the acquisition of a main Mobile Operator in Europe during 2006. Its workforce counts nearly 15,000 employees.

## **The Challenge: To Improve Network Service Delivery and Troubleshooting Capabilities without Adding Staff**

The management of this network that provides communication services at international level is very challenging. First of all, this operator is today structured on multiple subsidiaries, each of them acting originally as a separate company. A main switch in Belgium collects all the traffic from/to the subsidiaries, and route it from/to the OLO.

To add complexities to the management, the networks are comprised of equipments from multiple vendors and across multiple technologies (SS#7 and VoIP).

In the past, before the subsidiaries had been unified under a single Company, troubleshooting was a far easier task. A problem occurring in a single market would remain isolated in that area of competence, and could be tracked and identified relatively easily. But troubleshooting became increasingly complex for the operator when the subsidiaries began to be connected together through the main switch in Belgium and a single NOC had been appointed as main competence center: in example, a call originated from a subsidiary cannot reach the final destination for multitude of possible reasons and the NOC in Belgium must be able to identify the root cause. Furthermore, due to the continuous growing in the subscribers' base, the number of interconnections started also to increase, worsening the troubleshooting issues.

Here is where TAMS came out: after a fast investigation, the operator identified the Sunrise Telecom solution as the only one capable of powerful, distributed troubleshooting, flexible reporting capabilities, real-time alarming and Voice Quality analysis. After a short trial, the operator was confident that the TAMS would be a perfect fit for its complex, multi-company environment.

Probes and Server were deployed at the central site in Belgium, collecting data onto a centralized database accessible through Web interface. Every week the NOC produces tenth of reports used to optimize the routing policies. Each time a trouble ticket is received, NOC can easily locate the cause of the problem accessing the protocol analysis feature. The performance indicators for each OLO are constantly monitored to raise real-time alarms in case of degrading under configurable thresholds.

After the first deployment in 2004, the system has been constantly expanded with further probes in the subsidiaries sites and additional features as well. Due to the growth in the amount of daily traffic to manage, also the Server has been recently upgraded and today the system is managing about 8.000.000 of calls per day. The NOC itself has also added custom reporting through the use of 3<sup>rd</sup>-party solutions like Business Objects, thank to the open standards TAMS is based upon.