

# SUNRISE TELECOM® TAMS

The Scalable Solution for 24/7 Monitoring  
of Next-Generation Networks  
**Data Sheet**



**TAMS is a powerful, customized traffic analysis and monitoring system for multi-protocol environments.**

Sunrise Telecom's Traffic Analysis and Monitoring System (TAMS) is one of the fastest growing multi-protocol systems in the service provider market today. This explosive growth in worldwide sales is due to its unique ability to be used as a single, stand-alone analyzer for troubleshooting, and then seamlessly scale into a geographically dispersed, multi-probe system which correlates call detail information from a diverse mix of network topologies.

TAMS achieves all this in a multi-user environment, allowing it to serve both as a local troubleshooting tool and as an advanced, multi-protocol, deep-memory probe for the greater system. All other vendors require the purchase of additional systems due to probe incompatibility in large system configurations.

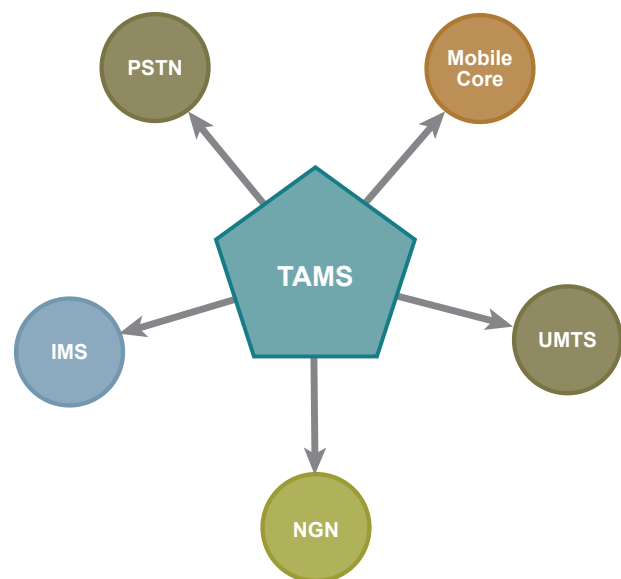
TAMS was also first-to-market with powerful correlation software enabling fast, drill-down viewing of CDRs (Call Detail Records) collected from a variety of network types. Now, in a single platform, customers are able to see a complete CDR, which can be analyzed to the frame level for isolating call performance problems and QoS. Faster visibility is a key reason why telecom and mobile operators are purchasing Sunrise Telecom's TAMS.

## FEATURES

- Supports all the main protocols currently deployed in fixed and mobile networks
- Uses Sunrise Telecom protocol analyzers for network data acquisition
- Open-platform based on Oracle® database/web interface
- Multi-protocol correlation
- Extensive reporting capabilities
- Flexible alarms generator

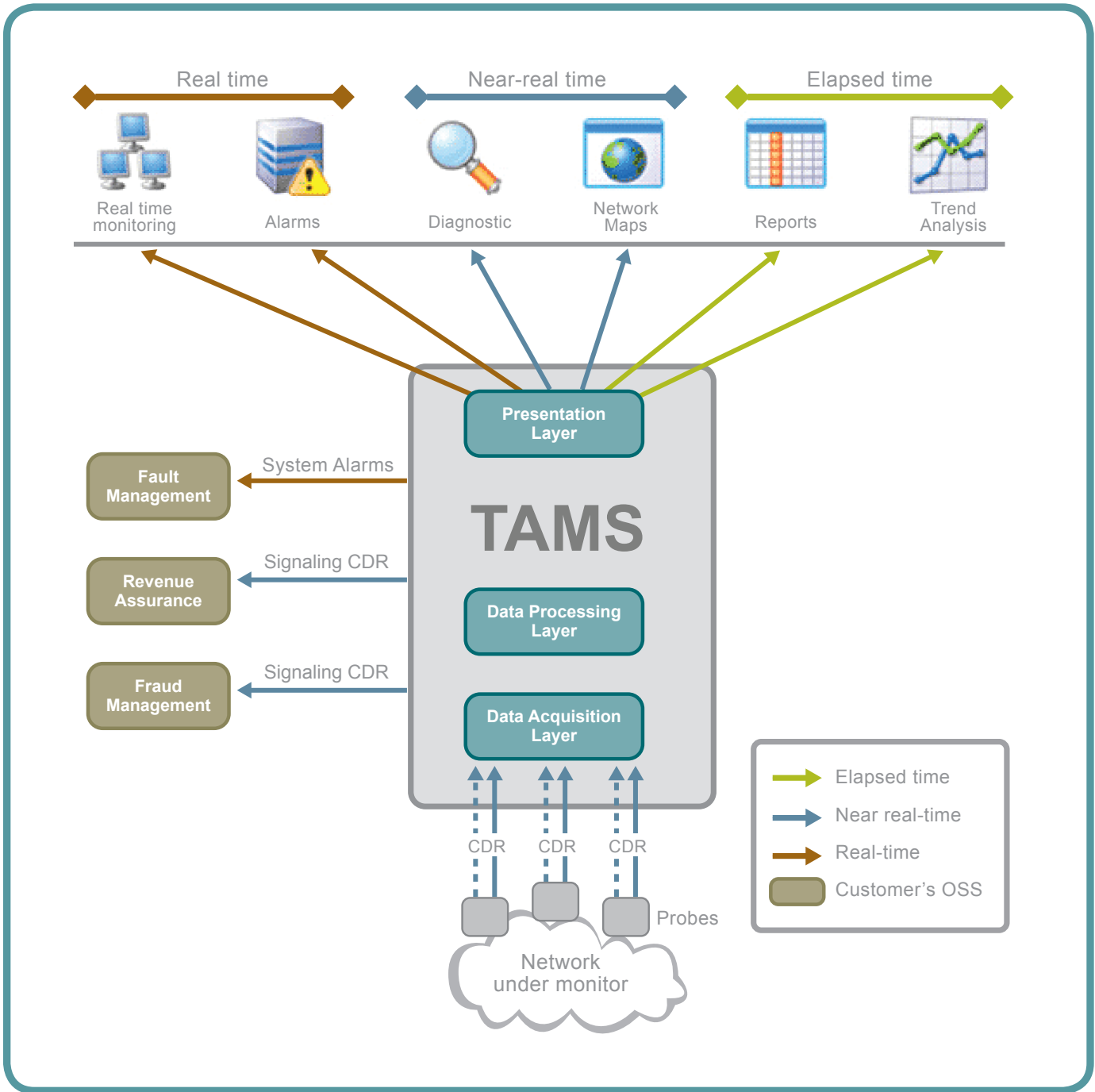
## BENEFITS

- Around-the-clock data collection
- Network-independent signaling and traffic monitoring
- End-to-end call troubleshooting
- Multi-level reporting for users with different needs
- Feeds data to other OSS systems



## FEATURES

Feature	Description
Historical Sessions Analysis with Drill-Down	TAMS is capable of correlating all CDRs, regardless of the adopted protocols, belonging to a specific call upon pre-configured correlation rules depending on network topology and routing rules. The user searches the specific call within the CDR repository. The system is capable of automatically showing all the correlated "legs."
Multi-Protocol Correlated Trace	Once a specific call has been located, the user can look at its protocol sequence through the CDR-to-Frame capability, in order to obtain a unified view of the entire call by means of ladder diagrams (regardless of the different technologies involved).
Traffic Monitoring	Traffic metrics computed by the monitoring system provide the operator with near real-time visibility into how well the network is performing. Proactive actions to control or prevent problems can then be taken based on the collected indicators. TAMS can aggregate these statistics for a particular source, destination, operator or IP address.
Traffic Alarms	TAMS can generate alarms based upon thresholds to intercept degradations of specific traffic indicators (i.e., ASR, Call Completion) grouped by configurable destinations (IP addresses, Point Codes, or Called/Calling Numbers).
Signaling Links Outage Detection	TAMS provides real-time visibility of the "health" of the signaling network, detecting failures and critical conditions affecting network availability. The database logs all the events related to the availability of the signaling links (i.e., in-service, out-of-service). Combinations of events can be defined to generate alarms, stored in the Alarm Log.
Real-Time Network Call Trace	Typically, the Network Under Monitor implements multiple signaling protocols, thus increasing the operational complexity of troubleshooting a call while it is going through the network. The real-time network call trace allows the tracing of a call while it is in progress. The user configures the parameters upon which the call must be traced (i.e., Called Number), and then waits for the signaling messages to appear when detected by the remote probes. This tool works in single as well as multi-protocol environments.
Voice Quality of Service (QoS) Scoring	Voice calls are analyzed to provide real-time QoS scoring (MOS and R-Factor according to ITU G.107) of live subscribers' audio traffic. All QoS data, as well as Packet Loss, Jitter and Duplications are stored in the CDRs for successive reporting or alarming purposes.
Real-time Transport Protocol (RTP) Analysis	TAMS provides an extensive set of RTP measurements, such as Jitter, Packet Loss and Duplications. The indicators can be obtained on specific routes such as Origination/Destination IP Addresses or Called/Calling Numbers.
Reports Scheduler	Reports can be automatically generated daily, weekly or monthly.
Off-line Analysis	TAMS allows off-line protocol analysis, including searching and filtering months of data to perform troubleshooting for problems which have already occurred.



**TAMS is the ultimate network monitoring solution.**

## EXTENSIVE PROTOCOL SUPPORT

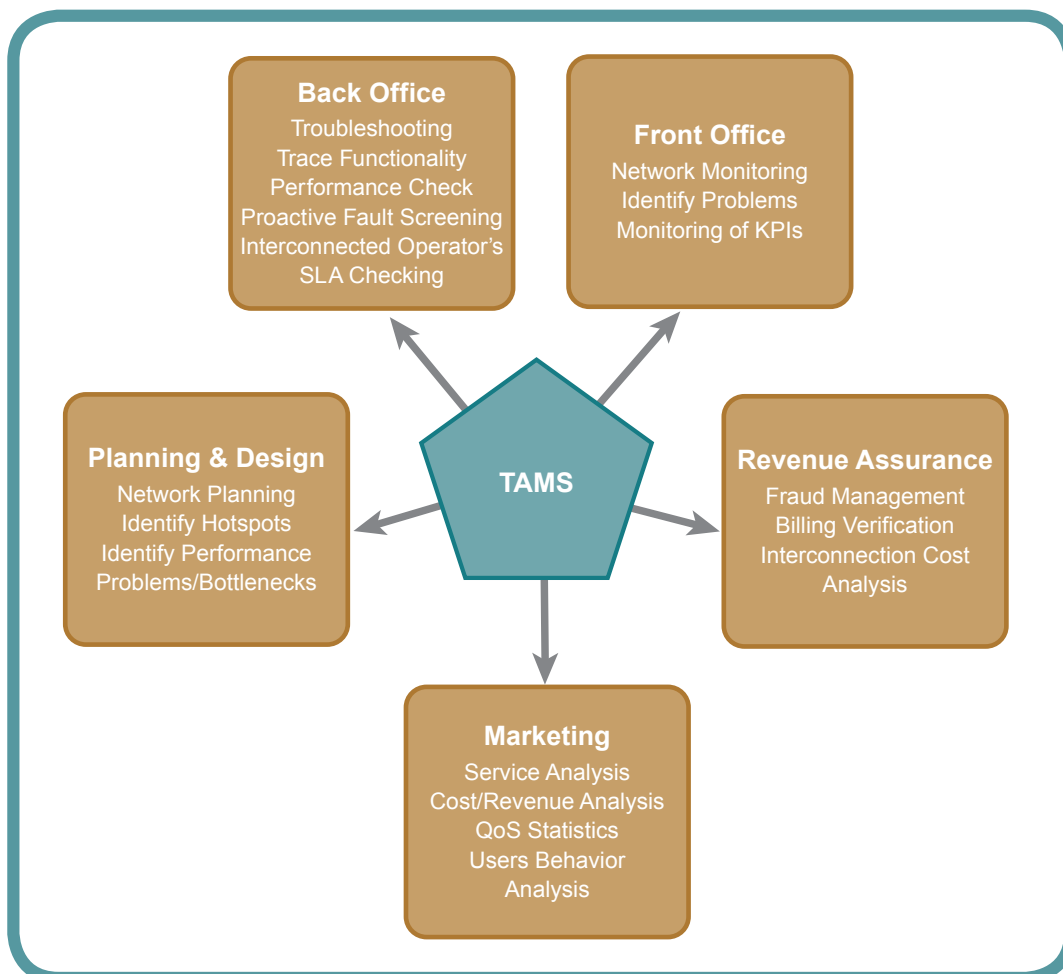
- ISUP
- CAP / INAP / AIN
- MAP
- BICC
- SS7 Protocols over IP (SIGTRAN)
- H.323
- SIP / SIP-T
- MGCP
- MEGACO / H.248
- RTP and RTCP
- ISDN over IP (IUA)
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## THOUSANDS OF APPLICATIONS

The powerful TAMS targets a variety of applications:

- Call Detail Record (CDR) warehousing
- End-to-end call troubleshooting
- Reporting at different user levels
- Proactive monitoring of sessions for each service and customer
- Diagnosis of the root cause of complex network problems
- Service Level Agreements (SLAs) verification
- Early warning of critical conditions through real-time alarms
- Integration into pre-existing Operation Support Systems (OSS)
- Data feeding to other OSS applications

*An investment in TAMS pays off by solving real problems.*



## SUNRISE TELECOM'S SYSTEM EXPERIENCE

The following table describes real-world applications and why our customers choose TAMS for their traffic analysis and monitoring needs.

Application	Tasks Performed	Reasons to Choose TAMS
<b>Monitoring wireless core networks:</b> <ul style="list-style-type: none"> <li>ISUP, MAP, INAP, CAMEL, SMS, GSM-Abis, GSM-A, UMTS</li> <li>About 3000 SS7 Links To Monitor</li> </ul>	<ul style="list-style-type: none"> <li>Troubleshooting tools for new services</li> <li>Network usage and error reporting</li> </ul>	<ul style="list-style-type: none"> <li>Best price/performance ratio</li> <li>Protocol correlation</li> <li>Customized report generation</li> <li>Performance (over 600 millions of transactions per day)</li> </ul>
<b>Monitoring NGN networks:</b> <ul style="list-style-type: none"> <li>ISUP, INAP, SIP, SIP-T, MGCP, MEGACO, SIGTRAN</li> <li>320 SS7 links to monitor plus IP connections</li> </ul>	<ul style="list-style-type: none"> <li>Main network monitoring system</li> <li>Troubleshooting tools for VoIP-PSTN inter-working</li> <li>Network usage and error reporting</li> <li>Real-time alarms</li> </ul>	<ul style="list-style-type: none"> <li>Extensive protocol coverage for PSTN and VoIP</li> <li>Protocol correlation</li> <li>Customized report generation</li> </ul>
<b>Monitoring international SS7 connections</b>	<ul style="list-style-type: none"> <li>Troubleshooting</li> <li>KPI reporting</li> <li>Audio quality analysis</li> <li>Interconnection links scoring</li> </ul>	<ul style="list-style-type: none"> <li>Troubleshooting</li> <li>KPI reporting</li> <li>Audio quality analysis</li> <li>Interconnection links scoring</li> </ul>
<b>Monitoring UMTS networks</b>	<ul style="list-style-type: none"> <li>Collect and forward remote probe data into a third-party monitoring system developed by the customer</li> </ul>	<ul style="list-style-type: none"> <li>Flexibility of Sunrise Telecom probes</li> <li>Multi-protocol capabilities in one box</li> <li>Open interfaces for data export to external network monitoring system</li> </ul>
<b>Monitoring inter-carrier SS7 traffic</b>	<ul style="list-style-type: none"> <li>Monitor Tandem switches</li> <li>Minutes of usage reporting and voice trunk utilization</li> </ul>	<ul style="list-style-type: none"> <li>Correlation of the calls transiting the Tandem switches</li> <li>Customized switching statistics</li> <li>Customized, end-to-end call minutes of usage reporting</li> <li>Performance (over 120 million CDRs per day)</li> </ul>
<b>Monitoring UMTS traffic</b>	<ul style="list-style-type: none"> <li>Monitor subscriber activities</li> <li>Provide disconnection reporting and troubleshooting tools</li> <li>Find protocols errors</li> </ul>	<ul style="list-style-type: none"> <li>Protocol correlation</li> <li>Customized report generation</li> <li>Hardware expandability</li> </ul>
<b>Monitoring intelligent network transactions (AIN over SS7 and SIGTRAN)</b>	<ul style="list-style-type: none"> <li>Troubleshooting tool for AIN transactions</li> <li>Correlation of transactions from multiple sites</li> </ul>	<ul style="list-style-type: none"> <li>Coverage of both SS7 and SIGTRAN</li> <li>Protocol correlation</li> <li>Best price/performance ratio</li> </ul>

## REMOTE PROBES FOR TAMS

TAMS relies on acquisition devices distributed over the Network Under Monitor, that generate CDR and protocol-level statistics. Raw data is then collected by the TAMS Data Collection Server (DCS), and dispatched to the different applications implemented over the Oracle® database.

TAMS can be deployed with the following Sunrise Telecom equipment:

- 3GMaster® 1000, 3000, 4000, 6000
- NeTracker® 1000, 3000, 4000, 6000

## CONTACT US

Each TAMS solution is a unique, customized system consisting of carefully optioned components which have been engineered for your specific needs. It usually consists of several remote probes from the Sunrise Telecom 3GMaster and NeTracker platforms, and one or more Data Collection Servers (DCS) that collect and analyze the data.

When potential customers call us for a quotation, one of our highly-experienced sales engineers works closely to understand their exact requirements. Using this information, a detailed proposal is submitted outlining the system components, how it solves the test need, the implementation plan, and the cost breakdown.

Regarding the equipment required, the proposal will also include:

- The number of remote probes required, and the specific models (3GMaster or NeTracker, 1000, 3000, 4000, or 6000)
- The required protocol packages for each probe
- The number of required DCS units and options including the number and size of disk drives, memory and I/O devices

To learn more about a tailored TAMS solution, contact your Sunrise Sales Representative or email [info@sunrisetelecom.com](mailto:info@sunrisetelecom.com).

For more information or a directory of sales offices: [info@sunrisetelecom.com](mailto:info@sunrisetelecom.com) | [www.sunrisetelecom.com](http://www.sunrisetelecom.com)