



Aries

TETRA and P25 network performance monitoring



Key features

- ▶ autonomous monitoring of TETRA and P25 network performance
- ▶ sends SMS or email to service engineers when network faults detected
- ▶ all results presented in real-time on secure web pages accessible from any browser
- ▶ built-in powerful analysis functions for investigation of network faults and problems
- ▶ low-cost, small, robust probes can be fitted in any vehicle or in a secure wall-box for fixed monitoring
- ▶ compatible with Sepura and Motorola TETRA and Tait P25 radio terminals,

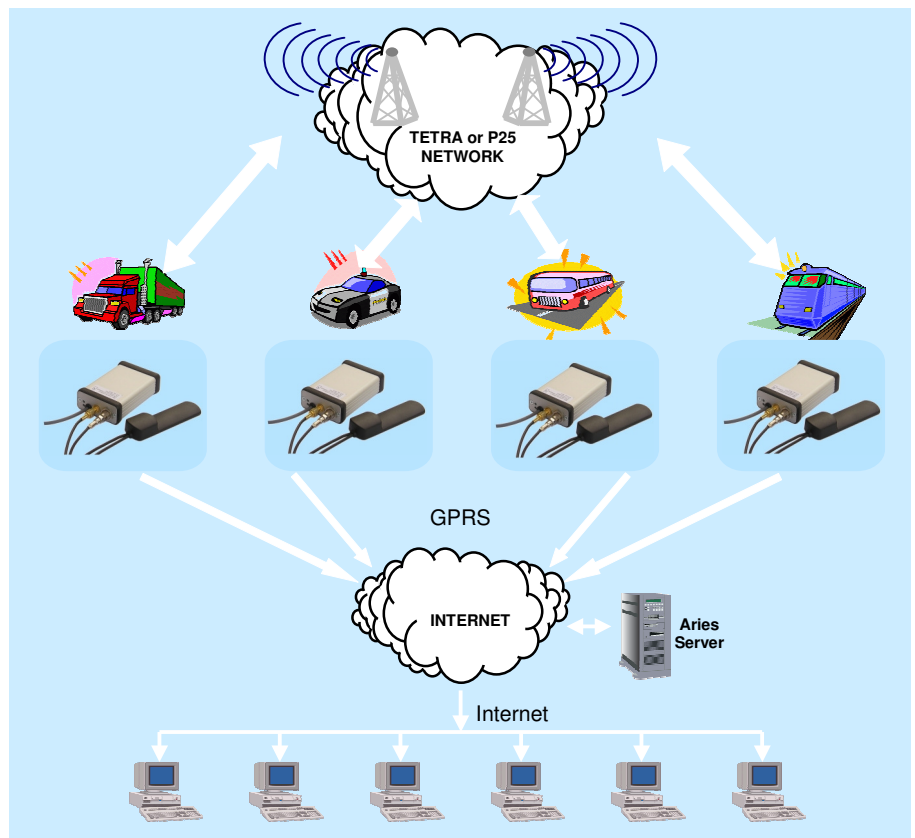
What is Aries?

Aries is an autonomous TETRA and P25 radio network monitoring tool that provides real-time performance statistics. It consists of many small probes that connect to the back of existing radio terminals as well as software that runs on a web server. As the vehicles with the radios and probes travel across the network, data is sent from the probes back to a central web server so that a picture of network performance builds up. Results may be viewed in real-time as maps, graphs, tables and warnings using a secure password-protected web site available on any Internet connected PC using a standard browser.

Aries provides first-line radio network monitoring of faults and problems with the facility to send warning SMS to service engineers when key metrics are exceeded. Problems can then be investigated further with the detailed technical data and powerful analysis functionality.

Aries provides a picture of the network performance that is not available from the standard network call logging as it takes into account all of the failed calls and poor coverage areas and it provides a true and independent measure of grade-of-service as perceived by the user

Aries monitoring probes are ideal for fitting in any vehicle that regularly travels across the service area such as public transport - once installed they can be forgotten about. In addition Aries probes may be used for fixed monitoring of individual base sites.



How does Aries work?

Aries probes are deployed in vehicles across the radio network service area ensuring that each base site is monitored at least once a day and preferably much more frequently for critical base sites. Each probe records the basic site parameters such as RSSI and Site LAC typically every 60 seconds and initiates a test call typically every 3-5 minutes to avoid generating excessive traffic.

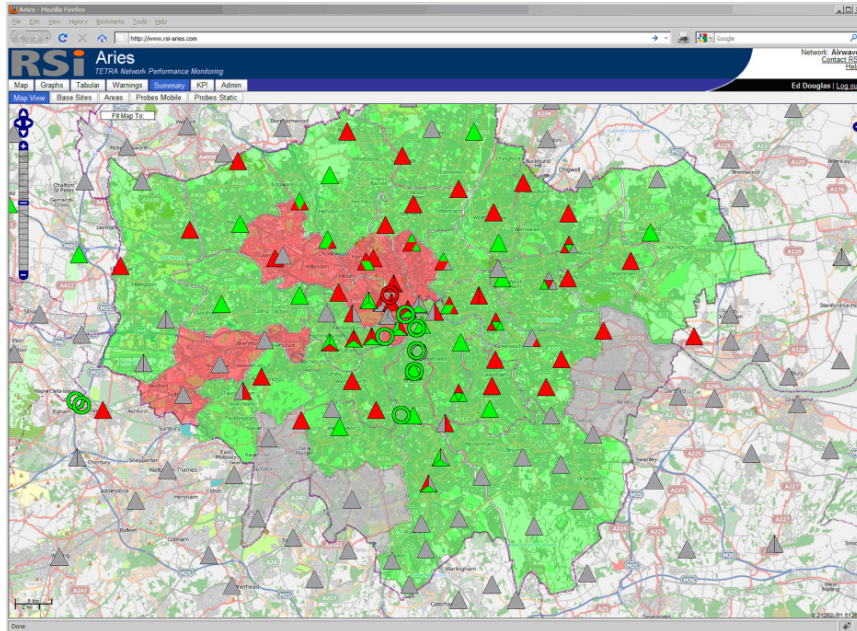
Results are sent back immediately from the probe to the central server using GPRS packet data. If the GPRS service is not available then up to 6 days of data is stored in the probe until it can be sent back.

All of the probe parameters are configured by the system administrator and updated over-the-air from the central server. All over-the-air data both to and from the probes is encrypted for the highest level of security and a separate Talk Group is assigned for Aries so that the test calls do not disturb or interfere with users.

The Aries central server software runs on almost any Web server with support for PHP and MySQL database. Users may run the application on their existing server or on dedicated server hardware supplied by RSI or indeed on RSI's own server if desired.

The server application handles the incoming GPRS data packets, putting the data into the central database.

Users log onto the server web page and view the results using a standard web browser with access being strictly password controlled. The server application generates fully interactive web pages with an intuitive interface producing maps, graphs, tables and automatic warnings of historical data or real-time data as it is received.



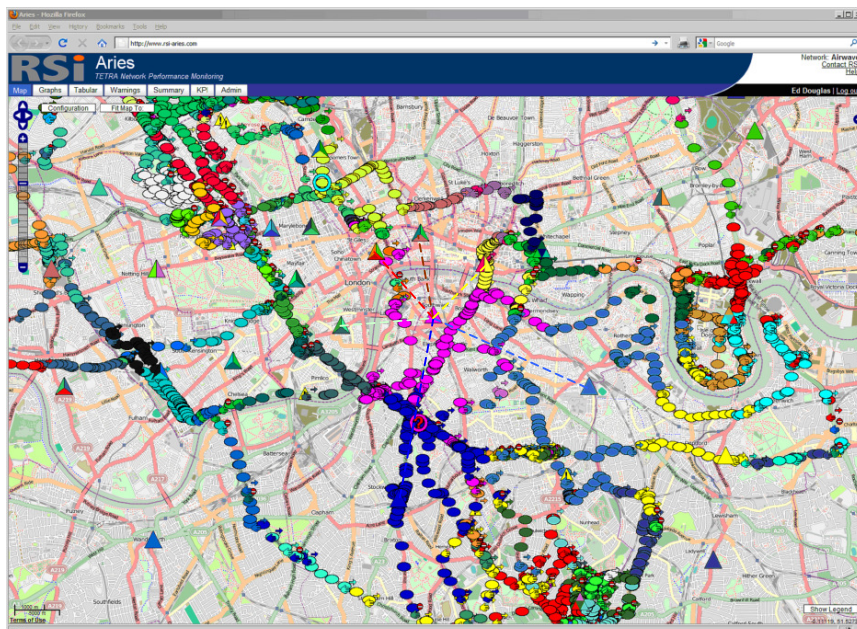
What information does Aries provide?

Aries produces maps, graphs, tables and automatic warnings with all parameters being configurable. An intuitive user-interface makes the system easy-to-use without losing the power of advanced analysis features. Analysis is carried out on live data as it is received from the probes, e.g. showing the last 12 hours, or on historical data, e.g. showing last month performance compared to this month. Thresholds may be set for any parameter that trigger an alarm if exceeded and send an SMS or email to the service engineer. Key Performance Indicators may be defined and monitored.

◀ This map shows the Pass/Fail summary display. Base sites, areas and probes are tested against a set of performance criteria and coloured red or green to give an instantly recognisable, high level Pass/Fail indication. Items that fail can be clicked on to give more information on the cause of the failure.



◀ This graph shows the minimum, average and maximum call setup times for each base site. The average is fairly constant across all sites however a small number of base sites are showing a very long maximum call setup time which is cause for concern. The next step is to analyse these sites in detail to determine if these are one-off events or regular problems at busy times perhaps indicating the site is becoming over-loaded.



◀ This map shows each probe measurement coloured by Base Site LAC together with call setup and fails and No Service events. A Google Earth type user interface is used with the map background selectable between satellite or normal maps. Cell boundaries are clearly visible and problem areas with too many handovers can be seen. Base site Neighbour Cells are clearly displayed on the map using lines.

Try Aries now

If you would like to try using Aries with some test data then go to www.rsi-uk.com and select 'Contact RSI' to request a username and password.

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