



Motorola's Intelligent Optimization Service Helps Ensure Excellent Communications

Providing mission critical communications for 2008 TT (Tourist Trophy) Race in the Isle of Man

Customer Name

Isle of Man Department for Home Affairs

Industry Name

Public Safety

Product Name

- Intelligent Optimisation Service (IOS)
- Scout monitoring application
- Dimetra IP TETRA network
- MTH800 handportables (with GPS enabled)

Solution Features

- Performance benchmarking
- Performance optimisation

Benefits

- More cost effective than drive testing
- Accurate – based on real data from end users
- Quick to carry out and implement
- Improved network performance

Overview

The Isle of Man Department of Home Affairs (IOM DHA) is tasked with providing the communications network to ensure the safety of the islands 80,000 residents. As such it selected Motorola's TETRA network to provide a complete mission critical solution in 2004. The network is not only used by the traditional emergency services but also by 19 other agencies including road, forestry and electricity. The network is also used to provide critical communications during the Isle of Man's TT Race when the islands population swells by an additional 60,000 people. Indeed, the TETRA network has become so important that the famous motorcycle race would not be able to be insured without it!

Challenge

The Isle of Man (IOM) TETRA network has provided excellent service since its installation in 2004. For normal day to day operations it has proved to be extremely secure, reliable and effective. It has also provided all the communications for the world famous Isle of Man TT race. Race organisers, on course marshalls and even two special ambulance helicopters are all equipped with TETRA radios. Indeed, the IOM was the first user to deploy TETRA on helicopters.

When the TETRA network was first installed in 2004 a comprehensive coverage survey was undertaken to verify the coverage provided. In 2008 the need was to review the coverage to ensure continued excellent service, not just for normal operations but to ensure 'always on' communications along the whole of the TT course. Additionally, there was a need was to define clear measures that could be taken to optimise the coverage in time for the 2008 TT races.

Solution

To benchmark and optimise its coverage the IOM chose Motorola's Intelligent Optimisation Service (IOS). Unlike traditional drive testing approaches, this service collects real live data from the network to build an accurate picture of the performance from the end users point of view. Motorola's IOS service is fully proven and has been used extensively by cellular networks to cost effectively benchmark and optimise networks for several years. Motorola is now using this expertise coupled with its knowledge of TETRA and the mission critical market to offer this service to its customers.

For the Isle of Man the monitoring of the network was conducted continuously to provide a cumulative picture of network performance rather than a one-off snapshot. Overall, over 4,000 data points were collected. Each data point was then combined with the location of each call, obtained from Motorola's radio's GPS capabilities, to build an accurate baseline of the network. The results were then verified against the original drive test undertaken in 2004 and the IOM's subsequent experiences to ensure the accuracy of the new methodology.

An additional aspect of the service provided by Motorola was to walk test a specific part of the course where RF conditions were known to be difficult. This was done using Motorola's Scout monitoring application solution and enabled a highly detailed assessment to be made of the particular area. It also provided a further verification of the accuracy of the IOS methodology as well as a good example of how Motorola is able to customise its approach to meet specific customer requirements.

Based on this benchmarking, Motorola delivered a detailed report that specified the coverage on the Isle of Man based on the end user data. In addition to providing detailed survey information, the report also included a series of recommendations of how the coverage could be improved in the future. These included network configuration changes, an antenna upgrade and also a recommendation to install a new site.



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“Motorola’s IOS service delivered focused recommendations for performance improvement. I was impressed by both the speed with which the results were obtained and the accuracy of the data.”

**Robert Williamson, Technical Director,
Isle of Man, Department of Home Affairs, Communications Division**



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With Motorola’s support the first two of these recommendations have already been implemented to ensure excellent coverage at the 2008 TT races and even better communications for the island’s emergency services. Going forward, the IOM DHA is looking at using the IOS service on an annual basis to ensure the continued excellence of the service that they provide.

Benefits

Motorola’s Intelligent Optimisation Service provided the IOM with a number of benefits. It provided a quick and highly cost effective benchmark of the coverage available on the island compared to traditional drive testing. As it is based on continuous monitoring and actual end user calls it also provides a more accurate picture of network performance.

For an innovative user like the IOM it provided the information required to respond to any issues reported by the end user. It also enabled them to proactively optimise the performance of the network, a key part of the service offered.

“Our experiences with IOS have given me great confidence in the product,” says Robert Williamson (Technical Director, Isle of Man Department of Home Affairs, Communications Division). “It has already provided excellent value for money and I would definitely recommend it to other TETRA users”

Summary

Motorola’s Intelligent Optimisation Solution provides a cost effective solution to benchmark and improve the performance of mission critical networks.

In the Isle of Man, it proved a fast and accurate method of benchmarking the island’s coverage and pinpointed the adjustments required to optimize network performance for both the islands mission critical users and for the 2008 TT races.



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