



## **Location Network Performance Management You can't manage what you don't measure!**

According to the National Emergency Number Association (NENA) statistics in 2005, more than three-quarters of the US population now resides in areas where wireless 9-1-1 service includes delivery of a caller's call back number and their location as calculated by the location technology deployed by each individual wireless operator. That location information, however, can be affected, and the accuracy degraded, by a number of different issues within a wireless operator's location network. Normal network issues such as ensuring provisioning of new cell sites, re-homing activities and topology challenge such as urban canyons can turn what appears to be a life saving latitude and longitude into a needle in a haystack frustration for public safety. Much like a voice or data network the location network of a wireless operator must be monitored to ensure the overall quality of the data being delivered while proactively alerting the technical network team to potential issues that need resolution.

Both the public safety and wireless operator communities care about the quality of location information sent and received over an operator's location network. This quality can be defined, for example, by such key performance indices as accuracy (as compared to a GPS ground truth), yield (the number of high accuracy location fixes provided), and latency (how long did it take to deliver a high accuracy location fix). In the States, understanding the accuracy of the network falls under an FCC guideline called OET-71 and while it does not necessarily require wireless operators to test and report on the accuracy of their networks, many operators are proactively reviewing OET-71 report results and taking steps to ensure the quality of their location network.

Balancing the desire for a high quality location network with the costs of in-field data collection, analysis and reporting can be a daunting task for a wireless operator. Many are choosing to comply with the FCC OET-71 guideline by utilizing automated test solutions such as TechnoCom's LocationAssurance Manager (LAM), a performance management and reporting platform specifically designed for wireless location networks to measure, analyze and report on key performance indices (KPI(s)) of a wireless location network. TechnoCom's LAM platform uses autonomous test devices installed in the wireless operators technician trucks to generate both E-911 and commercial location voice and data transactions into the network. This data is then collected, collated and presented in both spatial and tabular format for uses such as compliance reporting, ad-hoc queries and service level assurance analysis. Through this automation a wireless operator has an end-to-end location performance management system to identify trouble spots and report the quality of service (QoS) experienced by the end subscriber.

Wireless operators in the US want to improve their location quality of service and with advanced location accuracy testing platforms like LocationAssurance Manager. PSAPS are getting more accurate location information enabling emergency response to better locate a person in need while at the same time the wireless operator receives information about their commercial location based services system. The overall costs to achieve both are kept under control.

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