

Mobile Data Terminal Modifications

Geofencing with the Tait MDT

A major Middle Eastern rail company purchased an Automatic Vehicle Location (AVL) system complete with Tait T630 Mobile Data Terminals (MDTs). The company required a Geofence (geographical boundary) application to notify the dispatcher when the train approaches or leaves the station (or other area of interest).

While SmartTRAC (the base AVL application) has a Geofence application, the rail company wanted the geofencing to be performed in the MDT to prevent SmartTRAC constantly "asking" the MDT for its location and then deciding if a geofence has been breached - a waste of valuable radio time.

The customer wanted to utilise the geofence capability of the T630 MDT, which can be programmed to alert when the boundary is entered or exited.

Two latitude and longitude points for each geofence area are programmed into the MDT, which derives a rectangular boundary based on these points as the geofence.

Modifications

Tait Custom Integration needed to modify the MDT to make the geofence alert compatible with SmartTRAC - the AVL application did not recognise the format of a geofence alert sent from the MDT.

The modified MDT may have applications for any customer using the geofence capability of the T630 MDT with SmartTRAC.

However, depending on the application some further customisation may be required.



- The standard MDT was modified so that it does not send a specific "geofence" alert. Instead it sends a standard unsolicited position report when a geofence has been triggered.
- SmartTRAC has its own set of complex geofences, and if an incoming poll violates one of these, then SmartTRAC is able to generate an alarm.
- The response is sent via a traffic channel non-prescribed data (NPD) call for minimum system impact.