

# GEOOptimize

## Delivering Subscriber-centric, Location-aware automated optimization

Extreme non-uniformity of mobile networks, together with ever increasing complexity, means that manually optimizing the network to provide the best coverage and capacity whenever subscribers need it is no longer an option. Traditional approaches have typically focused on the cell with use cases analyzed in isolation making them hard to relate to the subscribers' experience.

Viavi's unique approach brings the power of subscriber-centric, geo-located intelligence to automated network performance optimization. Together with predictive decision making, GEOOptimize can analyze KPIs in parallel enabling the user to finely adjust the sensitivity of one service (e.g. VoLTE) against another service (e.g. 4G Data).

As well as improving coverage and capacity, GEOOptimize can be employed to reduce energy consumption at cell sites. With over 70% of a network's energy consumed in the RAN, this cannot only reduce carbon footprint but can also deliver significant cost savings.

ariesoGEO locates, stores, and analyzes data from mobile connection events, creating a store of location intelligence. GEOperformance transforms the intelligence delivering subscriber-centric performance engineering, identifying network areas of concern. GEOOptimize harnesses this intelligence to deliver automated network performance optimization.

GEOOptimize can co-exist with traditional SON methods, complementing their capability.

### Features

- Automated, simplified process
- Actuates results
- Subscriber-centric approach
- Location Intelligence with building-level accuracy
- Analyzes and correlates KPIs in parallel
- Predictive analytics with intelligent search
- Built on over a decade of experience in Optimization

### Benefits

- Directly maps to revenue and customer QoE
- Fine-tune decisions delivering improved coverage and capacity
- Targeted optimization of services
- Manages complexity for faster, more significant gains
- Proven business results on 3G and 4G networks



Figure 1: Subscriber-centric Optimization

# Delivering Business Value through Automated Optimization

GEOoptimize provides a modular solution for 3G and 4G networks, delivered as an add-on to ariosoGEO, leveraging the rich data that is collected and analyzed. This allows you to focus on the network areas and services that are most pressing. The modules include:

- Data
- Voice
- Energy
- Availability
- Capacity

The solution can distinguish and optimize for subscriber usage patterns, subscriber groups, device groups as well as roads and highways.

Here are two examples of these modules in action delivering business results:

## GEOoptimize Data

GEOoptimize Data has been shown to address the challenge of 4G data users camped on 3G while at the same time maintaining the 3G Voice service. Through a set of network adjustments on what was an already optimized network, GEOoptimize improved 4G coverage, traffic volumes also improved, and 4G quality went up and the 3G voice service was unaffected.

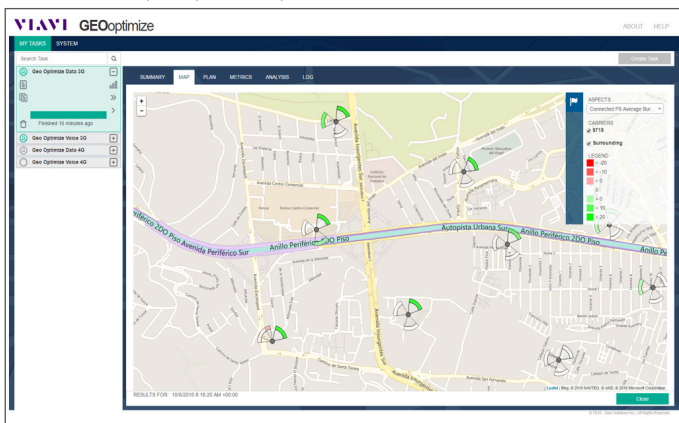


Figure 2: GEOoptimize Data

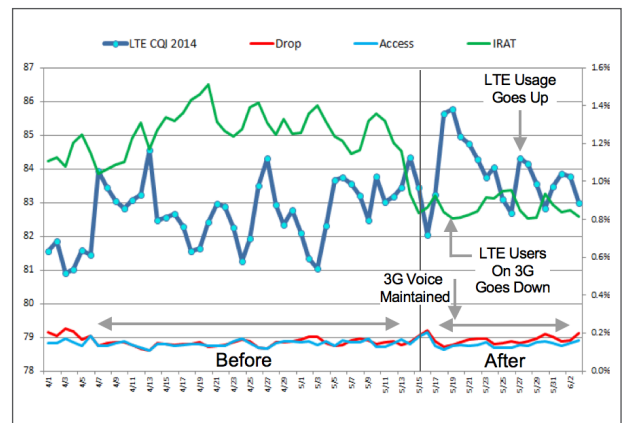


Figure 3: 4G usage improves

## GEOoptimize Voice

GEOoptimize Voice delivered significant improvements in VoLTE quality by maximizing call Retainability while maintaining Accessibility in a major city. This was achieved without impacting data services and allowed the operator to realize voice revenue improvements.

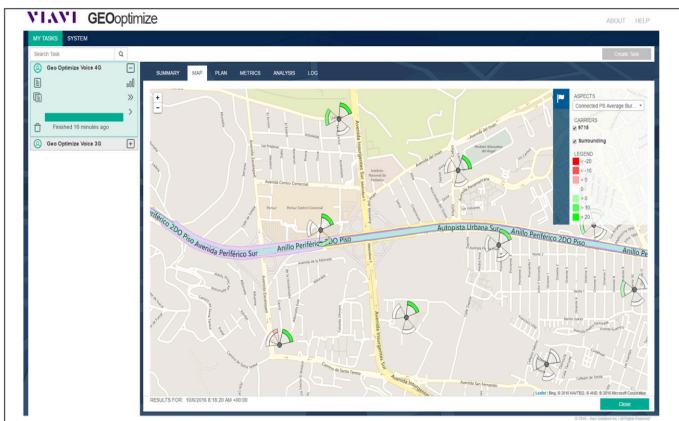


Figure 4: GEOoptimize Voice

	Baseline	After
Accessibility	99.90%	99.92%
Accessibility (VoLTE)	99.82%	99.82%
Retainability	99.44%	99.46%
Retainability (VoLTE)	97.48%	98.03%
Mean throughput	6.56	7.46

Optimization targeted at VoLTE retainability

Figure 5: VoLTE Retainability Improves

The modular approach of GEOoptimize, deployed as a service or as a solution, meets the complexity issues operators face today by delivering automated network performance optimization harnessing the power of geo-located subscriber-centric intelligence.



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