RF Signature Processing (RFSP)

Location Intelligent Networks

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RFSP is a network-based wireless location technology developed by Comtech that enables operators to precisely locate mobile phones entirely using network-measurements. Because RFSP does not require the active participation of the handset in the location determination process, operators can now offer precise location to network-based location-based applications – particularly lawful interception and commercial location-based applications.

The location is computed by building and maintaining an up-to-date High Definition RF (HDRF) Footprint Model of the network. The accuracy of the RFSP positioning method is directly related to the quality of the RF Footprint Model of the Operator's cellular coverage area. Comtech offers one of the industry's highest quality RF Footprint Model which is updated in near real-time by processing the layer 2/3 trace logs from the Operator's RAN using advanced machine learning techniques.

Comtech provides low operating costs and unlike traditional implementations of RFSP position

methods, Comtech's solution does not require frequent, recurring, and expensive drive testing. This reduces the operational cost of RFSP positioning as it is directly related to the time and effort required to maintain the quality of the RF Footprint Model while handling constant network changes and traffic variations.

Comtech's RFSP feature is built on a multi-purpose platform which takes a subscriber-centric approach, and together with service-focused unified workflows, delivers correlated geolocated app-aware insight. Examples of vertical applications enabled by the multi-purpose platform include: RAN Optimization, Site Planning, VIP Assurance and Location Monetization.

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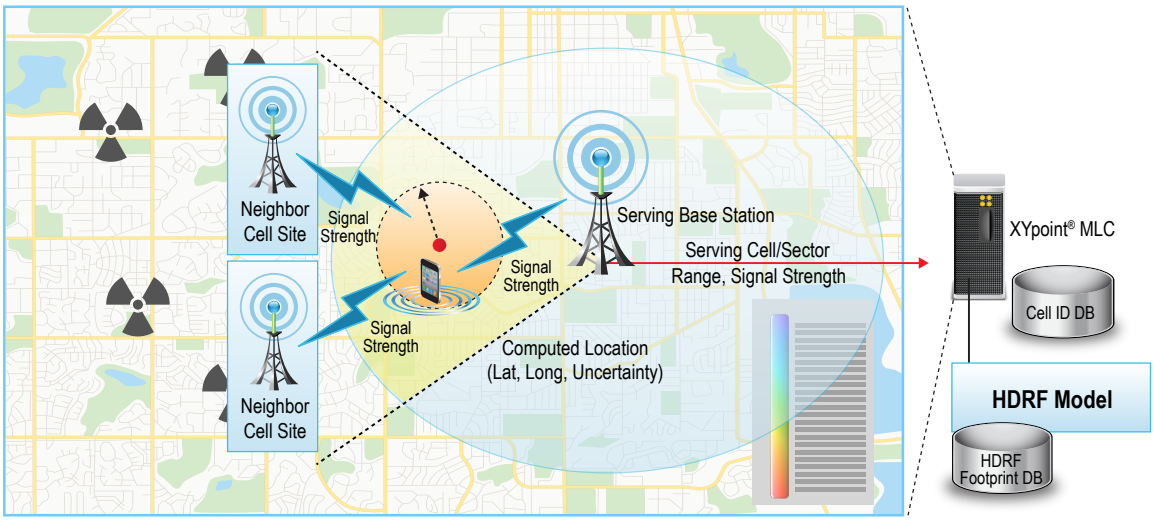
RF Signature Processing – Active Monitoring



How It Works

- Location-Based Services (LBS) Platforms build and maintain a HDRF Footprint of the entire network based on RAN logs
- A handset records both range and power level measurements of observed base stations
  - » Measurements (e.g., Timing Advance and Neighbor Cell Measurements) are available via normal operations (e.g., handover, power control, etc.); no location specific action required
  - » These can be obtained from the RAN without interaction with the User Equipment
- RFSP Location method leverages RF signature as input and uses RF Footprint Modeling to compute a location

Benefits

- Position determination based on new efficient model and machine learning
- No complex framework needed to monitor quality of RF Footprint Model
- Ability to locate smartphones and feature-phones
- No calibration drive required
- No traffic generated on operators RAN
- Industry leading location accuracy metrics

About Comtech

The Location Technologies group of Comtech Telecommunications Corp. is a leading provider of precise device location, mapping, public safety, and messaging solutions. Sold around the world to mobile network operators, government agencies, and Fortune 150 enterprises, our platforms allow you to locate, map, track, and message.

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