

Network Coverage Optimizer

Use Case

- With the advent of 5G and high speed network, one of most important giveaway to customers by any telecom is an assurance of a optimized network
- Data-driven insights from various subsystem from OSS help to monitor equipment & network, learn from historical information & anticipate optimization in network coverage for fallout co-ordinates candidates

Solution

- ML and Deep Learning algorithms can digest the data from Core N/W, N/W Performance System, N/W Planning and N/W inventory and develop an insight of issues or improvement in comparison to data reported N/W Monitoring and Customer / Service Operations teams
- E.g.: If a customer is geographically located at Dense Urban zone then he/she should receive a signal level & data speed of Dense Urban or Urban based upon the N/W technology as:
 - 5GNT (3400) : Dense Urban Signal Level → 69 to -101 dBm & Data Speed -- 30000 kbps
 - LTE (800/ 2600/ 1800) : Dense Urban Signal Level → -60 dbm to -70 dbm & Data Speed – 3000 Kbps
 - UMTS (900/2100) : Dense Urban Signal Level → -71dbm to -90 & Data Speed --1500 Kbps

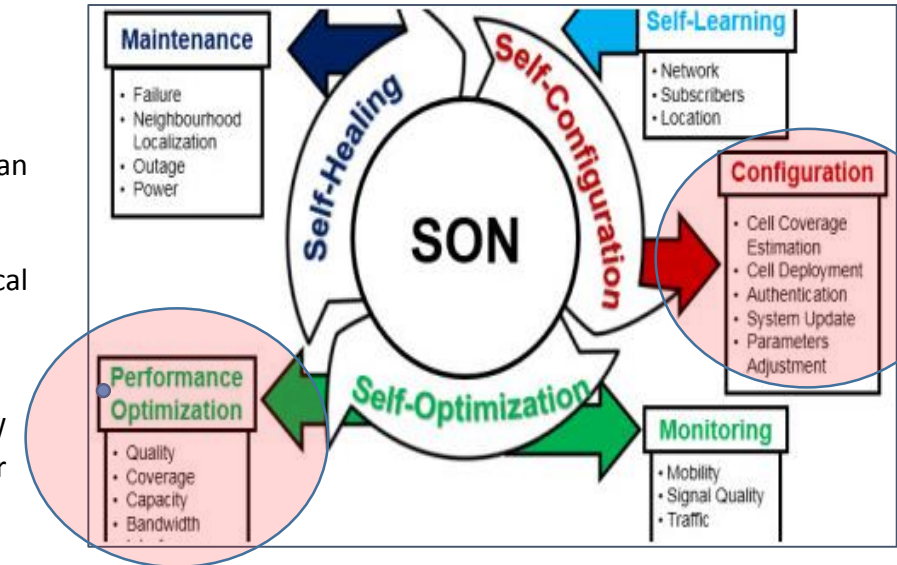
If the above assumption contradicts between the N/W Planning and Monitoring then ML Model backtracks into various OSS subsystem to identify the probable cause in configuration & data so as to provide an early eye to proactively optimize the network Coverage and OSS subsystems

Business Metrics (Net Promoter Score & Customer service effectiveness)

- Proactively fixing issues such as no / low coverage, unintentional marking of a live cell tower state etc. before they happen will contribute to increase Customer satisfaction on the operator.

Implementation Dependencies:

- Data sources from various OSS systems like Core N/W, N/W Performance System, N/W Planning and N/W inventory
- AIML SME & Telcom Solution Architect



Software:

- Jupyter notebook
- Spark
- AWS
- Python

Hardware:

(Training / Testing Data):

- High performance local instances with RAM > 32 GB
- AWS based instances for ML