ENI PoC #13: Intelligent Coverage Optimization of 5G Massive MIMO BS

Rapporteur: (China Telecom)
Xueqi Yuan, Yanfen Li

Co-Rapporteur:
Haining Wang (Intel), Tong Zhang (Intel), Ribo Sun (Intel), Kuo Liao (Intel), Wei Wen (Intel), Wei Li(Inspur), Bin Li (Inspur)

Short Description

This PoC will provide viable solutions and methodologies for the Coverage Optimization of 5G Massive MIMO BS(Base Station) through the use of a set of AI(Artificial Intelligence)/ML(Machine Learning) algorithms based on a set of data including MR data, BS information(e.g. Engineering parameters, antenna information, etc.), geographic information (e.g. electronic map),etc. Beam management policies will be based on general and specific AI models to help BSs achieve a better coverage efficiency and minimize interference at the same time.

The proposed PoC intends to deploy, test and validate the AI-based methodology framework as those proposed by the above mentioned ENI WIs. More specifically, this PoC plans to improve radio coverage and capacity by using a transferable set of policies.

✓ **PoC Project Goal: Data Analysis and Policy-Based Coverage Optimization. Demonstrate the use of AI based data analysis to enable policy-based coverage optimization for Massive MIMO BS.**

ENI PoC project #13: Intelligent Coverage Optimization of 5G Massive MIMO BS

PoC Goals and PoC member task

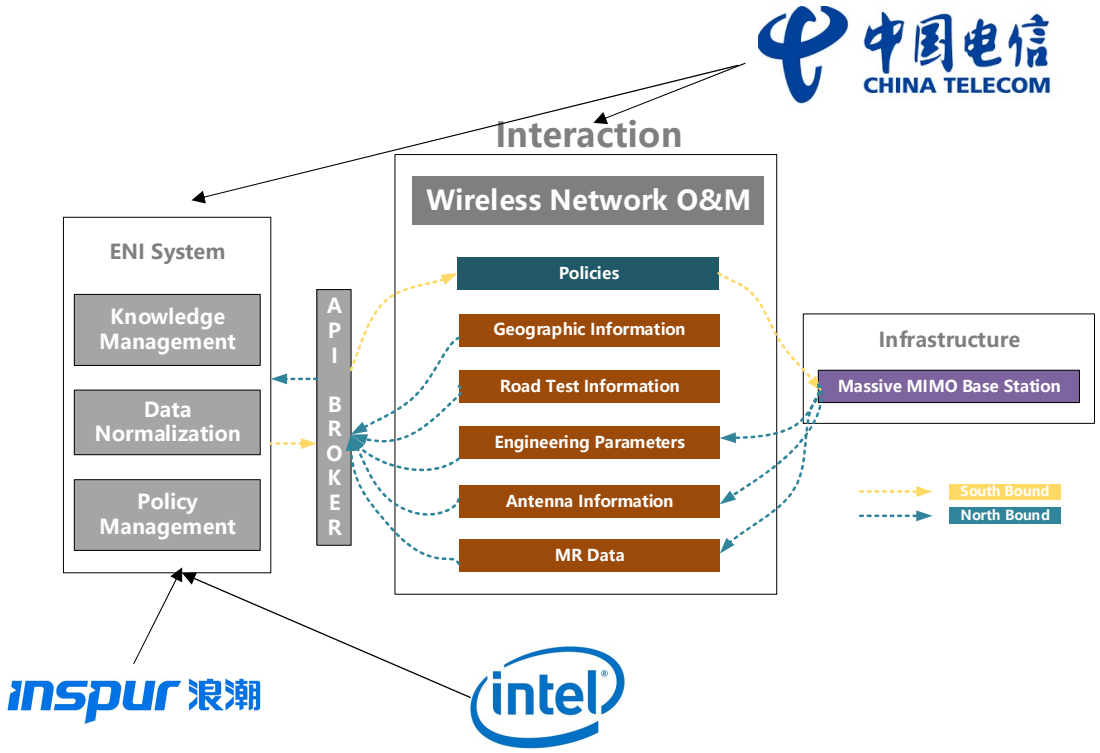
Host/Team Leader:

CHINA TELECOM

Team members:

intel

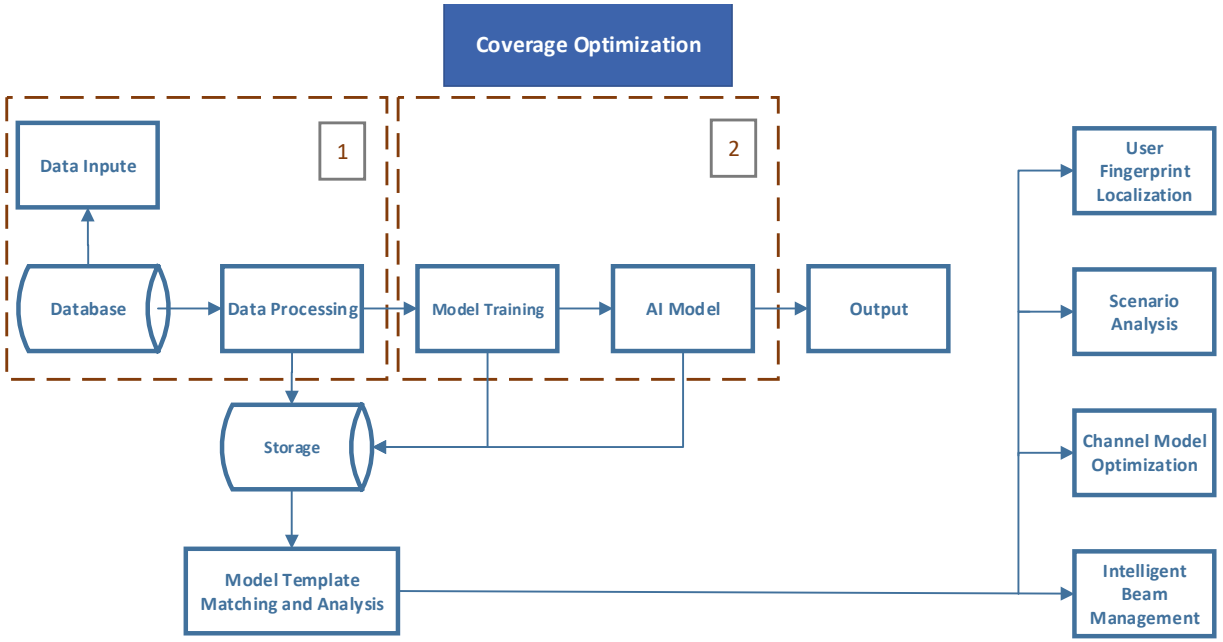
inspur 浪潮



✓ **PoC Project Goal: Data Analysis and Policy-Based Coverage Optimization.Demonstrate the use of AI based data analysis to enable policy-based coverage optimization for Massive MIMO BS.**

ENI PoC project #13: Intelligent Coverage Optimization of 5G Massive MIMO BS

PoC member task



- ✓ **China Telecom:**
  1. **Use case development and data collection for further test.**
  2. **PoC development and algorism design.**
- ✓ **Intel:**
  1. **Testbed setup and demo**
  2. **Relative standard establishment work.**
  3. **Implementation and optimization of AI algorithm?**
- ✓ **Inspur: Software development**

ENI PoC project #13: Intelligent Coverage Optimization of 5G Massive MIMO BS

Working Arrangement

Current

Target

PoC Milestone	Stages/Milestone description	Target Date	Additional Info
P.S	PoC project submission	10/2020	Presentation during #ENI Rapporteur Call#160
P.S	PoC user story	12/2020	
P.TP.1	PoC Test Plan 1	03/2021	Test plan based on the user story
P.TP.2	PoC Test Plan 2	06/2021	Test of joint system and optimization
P.D1	PoC Demo 1	TBD	ETSI ENI#19 ?
P.D2	PoC Demo 2	TBD	
P.R	PoC Report	09/2021	PoC-Project-End Feedback
P.E	PoC Project End	12/2021	Presented to ISG ENI for information

Thanks!