

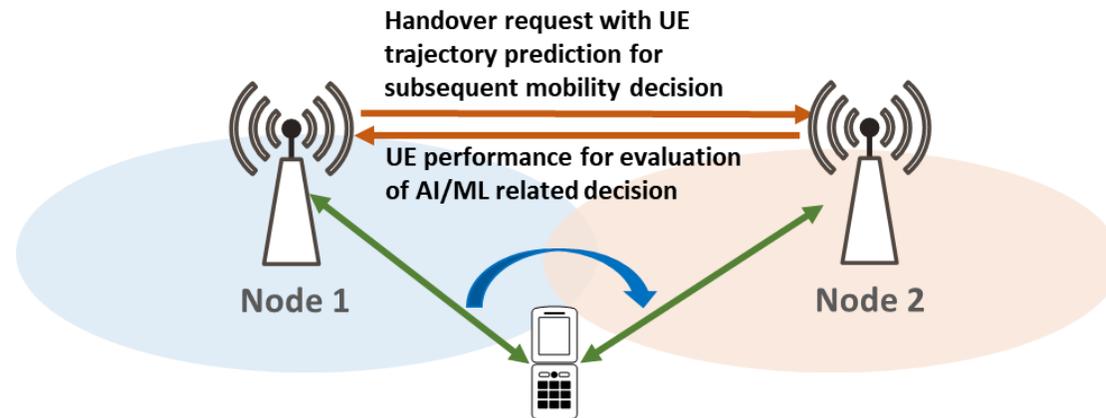
AI/ML for NG-RAN in Rel-19 – new use cases

Background and Motivation

R18 work item:

Rel-18 WI specifies the standard impacts for prioritized use cases: network energy saving, load balancing, mobility optimization.

- Limited achievement on mobility optimization in Rel-18.



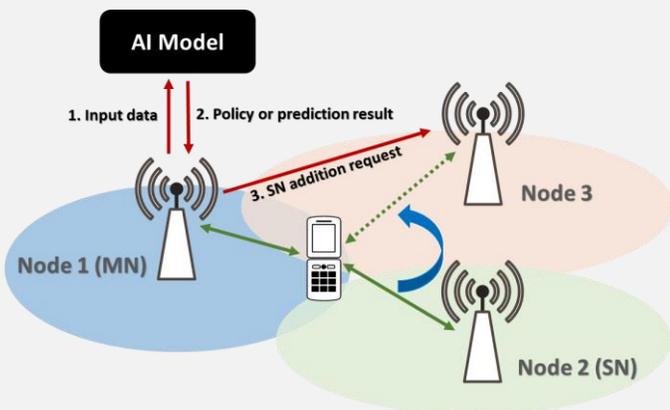
It is necessary to cover more use cases as agreed in RAN#94-e.

Potential new use cases

The potential new use cases include mobility enhancement, URLLC, slicing and QoE.

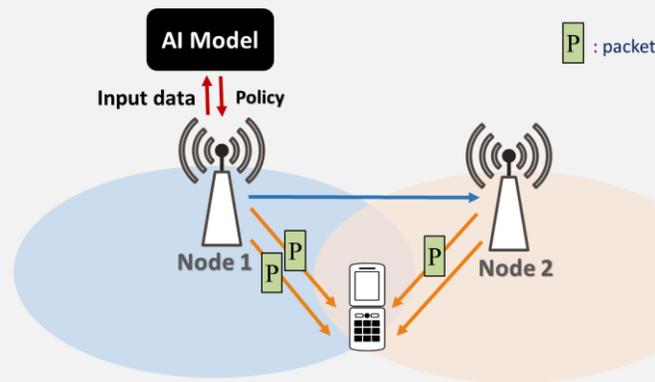
Mobility enhancement

- Multi-dimensionality HO brings high complexity and heavy overhead.
 - Important parameter prediction: e.g. traffic, QoS performance, to assist HO policy setting
 - HO decision prediction: HO decision for CHO, DAPS, LTM and DC cases to improve robustness



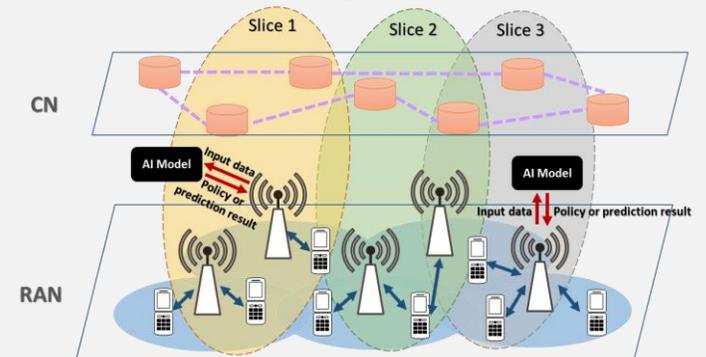
URLLC

- Non-prospective policy and network variations can not secure the performance in perfect level.
 - Resource allocation: AI/ML enabled policy with high resiliency to network variations
 - PDCP duplication: dynamic path selection to meet QoS requirements with minimum resource



Slicing, QoE

- Slicing: network fluctuation and delayed reconfiguration may deteriorate the performance.
 - Resource allocation: proper remapping policy to improve efficiency and satisfy QoS of UEs
- QoE: relationship between QoE parameters and network related parameters is implicit.
 - QoE prediction: varying-trend prediction of QoE for maintaining user experience



Proposed Objectives

The detailed objective of the study item, if proceeded, would be:

Study the standard impacts for new use cases, e.g. mobility enhancement, URLLC, slicing, QoE (RAN3, RAN2)

- Identify the use cases and corresponding benefits of AI/ML for NG-RAN
- Study network functionality, procedures and interface impact to support the agreed use cases enabled by AI/ML

Note: Coordination with other working groups when needed.