

ECO-RAN

Economic and Ecologic O-RAN

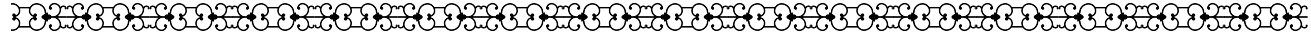
Multi-Cell Mobility Management in an End-to-End 5G O-RAN Network

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Demo Identifiers



Integration of Multi-Cell Mobility Management in an End-to-End 5G O-RAN Network

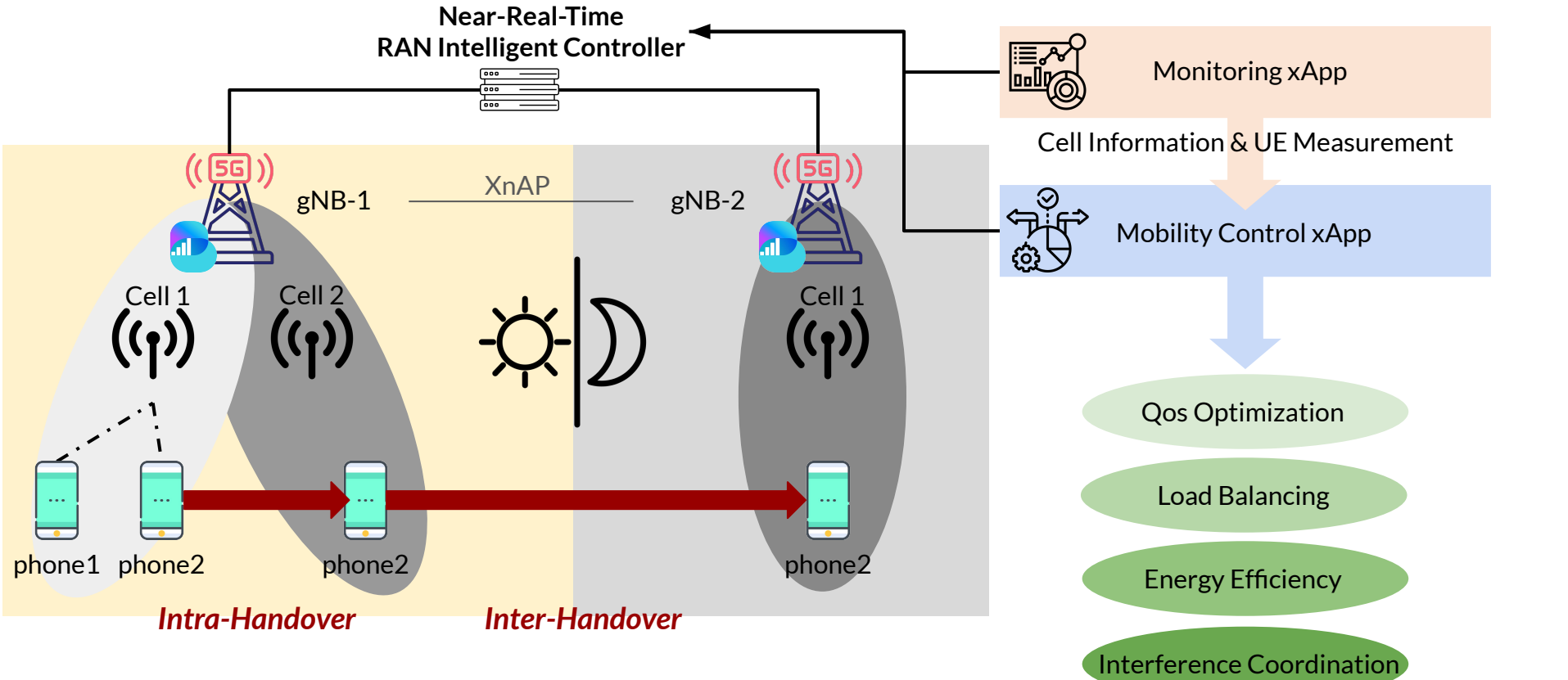
- ★ **Load Balancing:** Efficiently distributes the network load among cells for optimal performance
- ★ **Energy Efficiency:** Actively manages energy consumption across the network infrastructure
- ★ **Interference Coordination :** Proactively addresses interference issues and optimizes resource allocation to prevent conflicts
- ★ **QoS Optimization:** Utilizes adaptive resource allocation and predictive analytics to maintain consistent QoS
- ★ **Dynamic Network Control:** Enables real-time adjustments to network based on changing conditions via O-RAN RC and KPM
- ★ **Seamless Handovers:** Ensures smooth transitions during handovers with minimal impact on service quality

Scenarios

- ★ **Macrocell Scenario** ⇒ Demonstrate energy efficiency through inter-handover management
- ★ **Microcell Scenario** ⇒ Demonstrate load balancing through intra-handover management



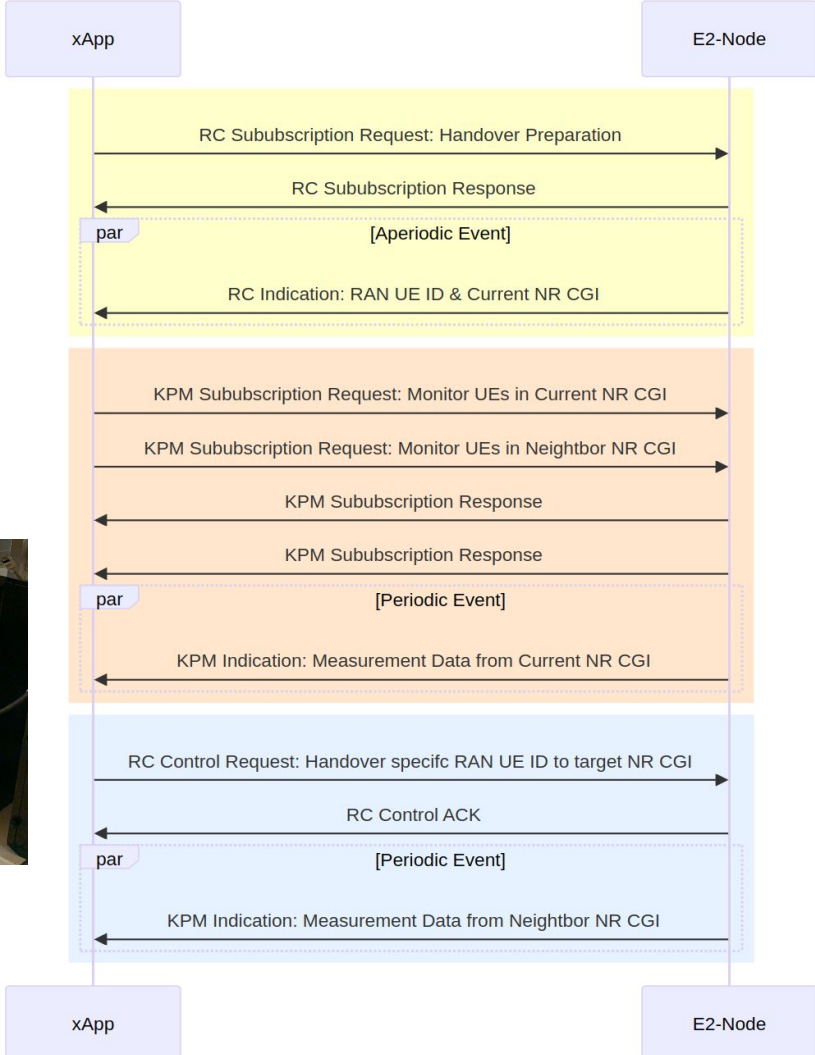
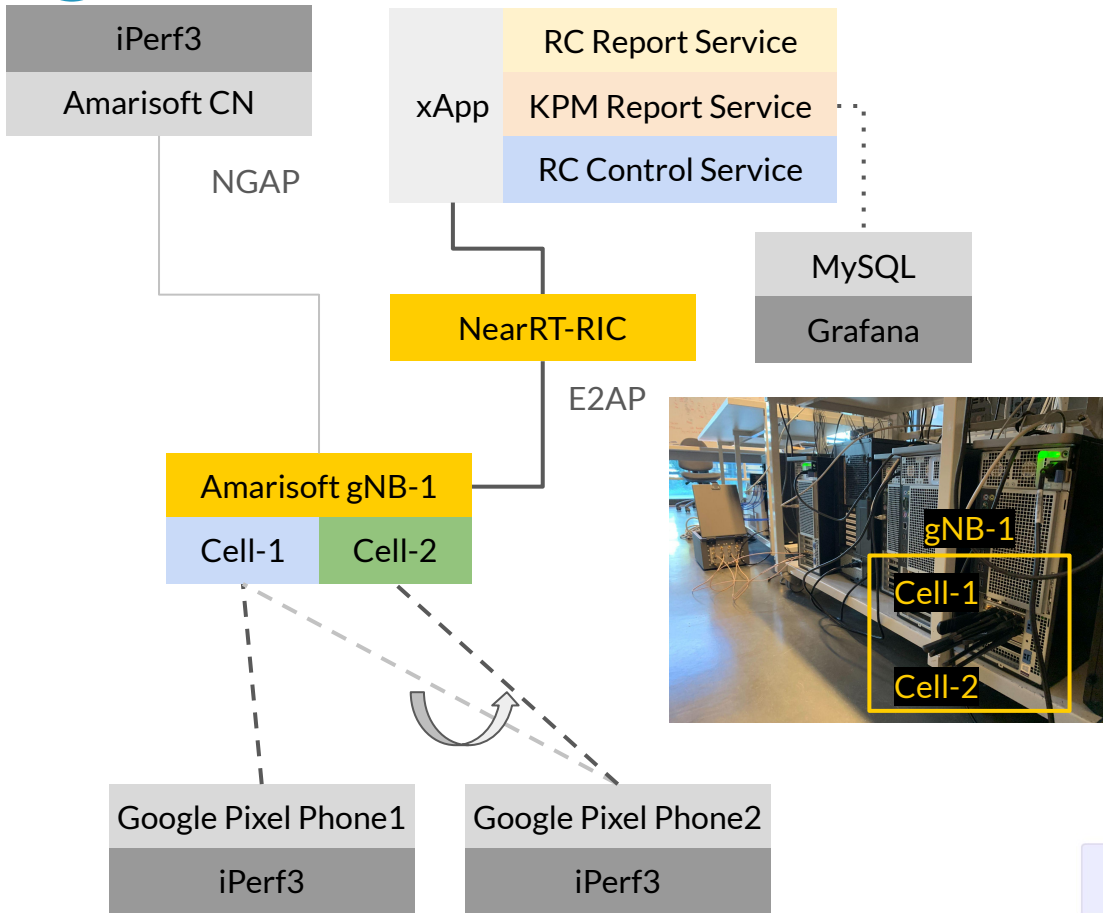
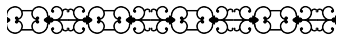
Overall Architecture



Environment: Open RAN DevOps

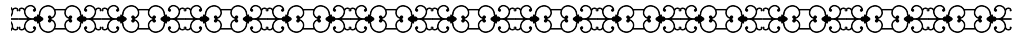


Demo - Intra-Handover





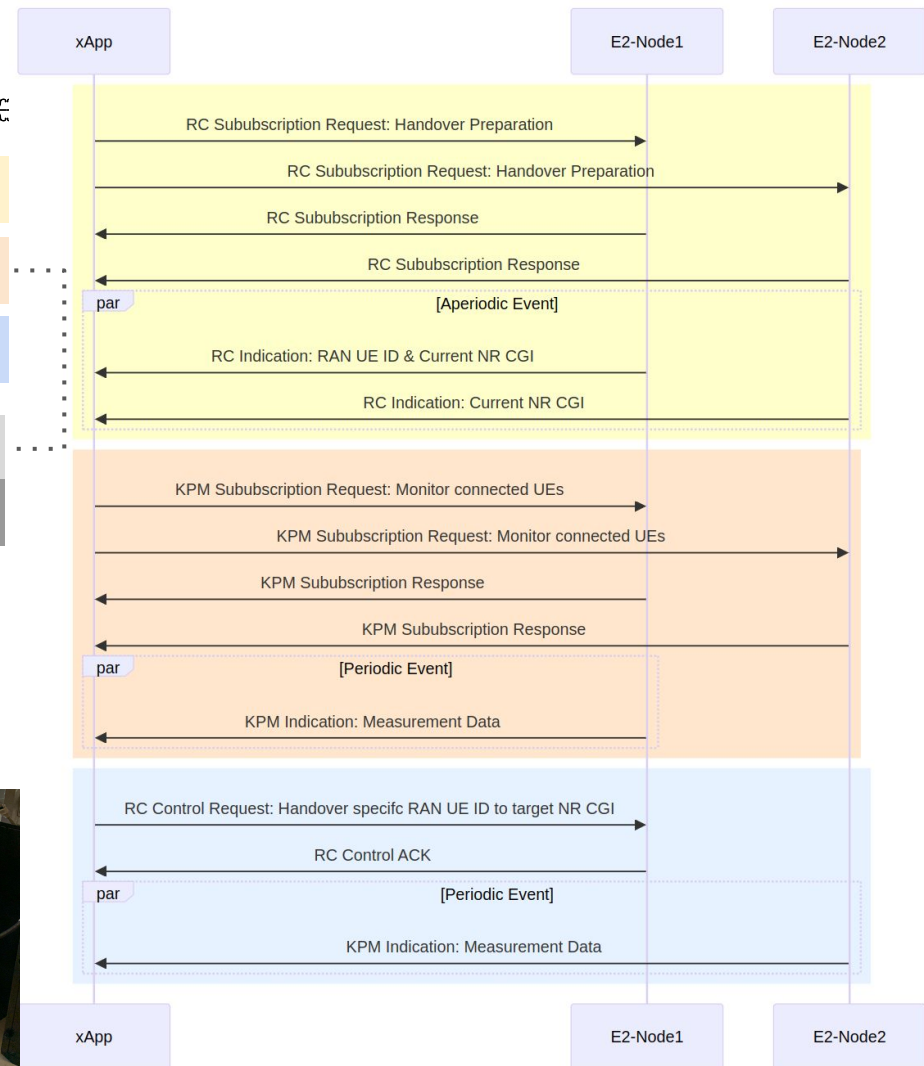
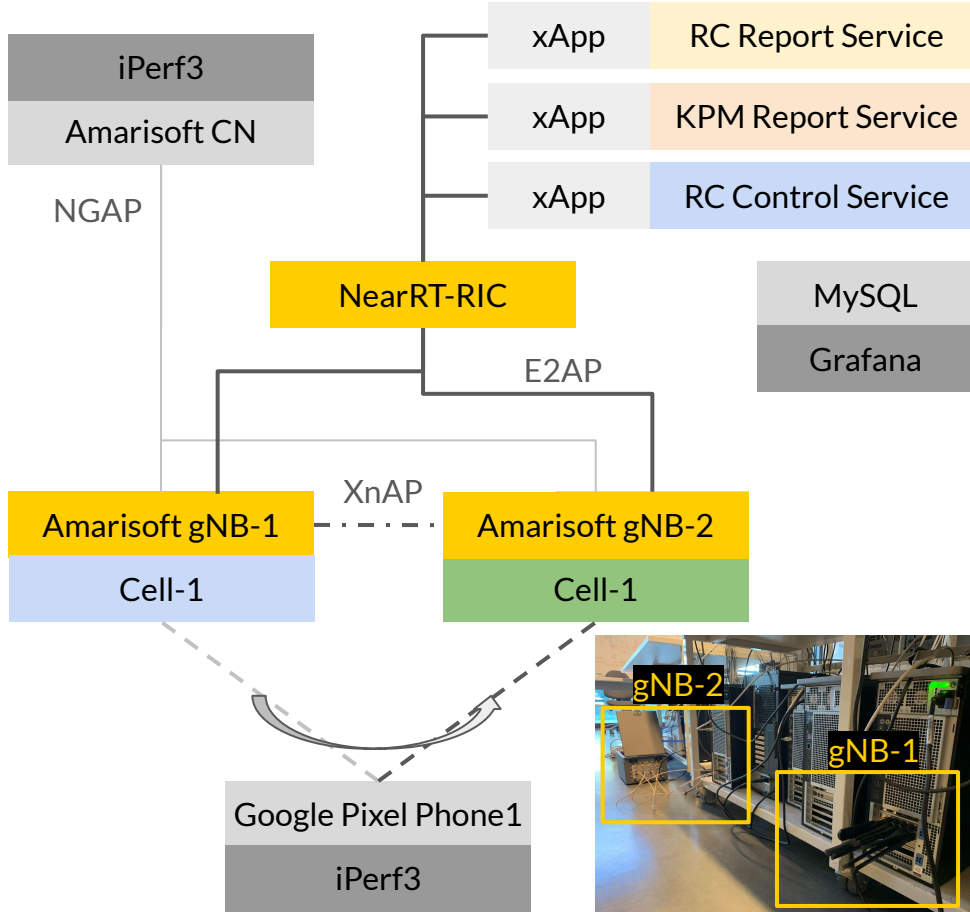
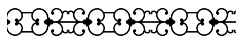
Demo - Intra-Handover



Video link: <https://youtu.be/LFpdnCySOJs>

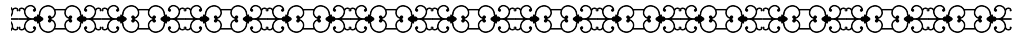


Demo - Inter-Handover





Demo - Inter-Handover



Video link: <https://youtu.be/ugZyeLk6xYQ>