5G COHERENT

Architecture and Wireless Abstractions

Kostas Pentikousis
(on behalf of the COHERENT consortium)

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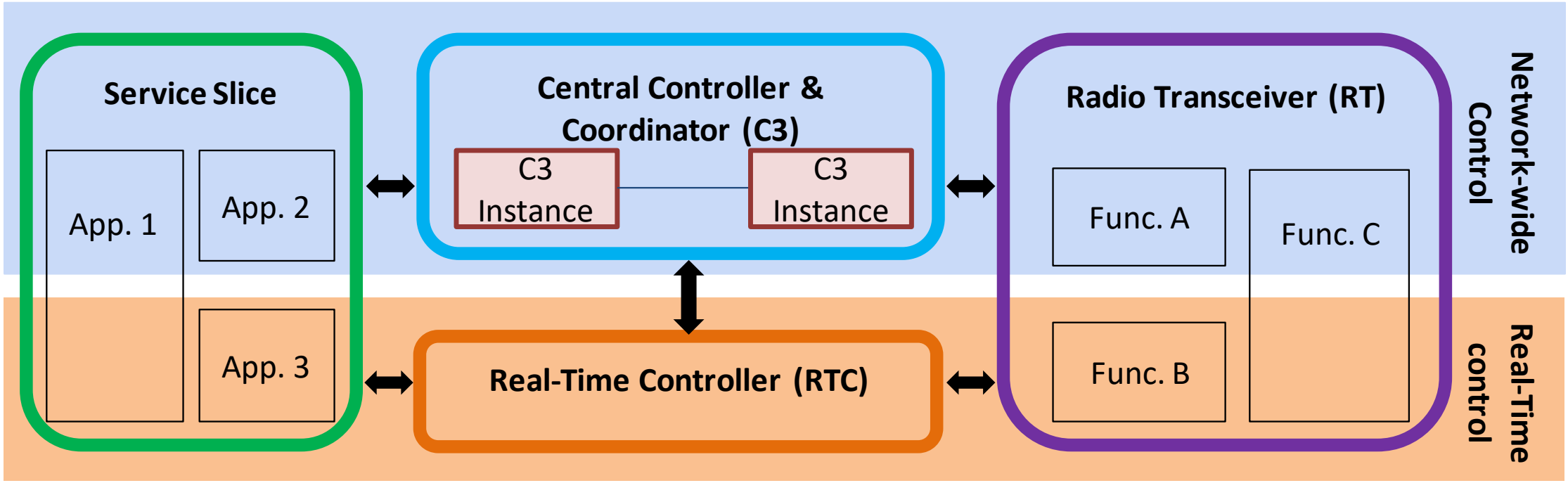
Project Overview

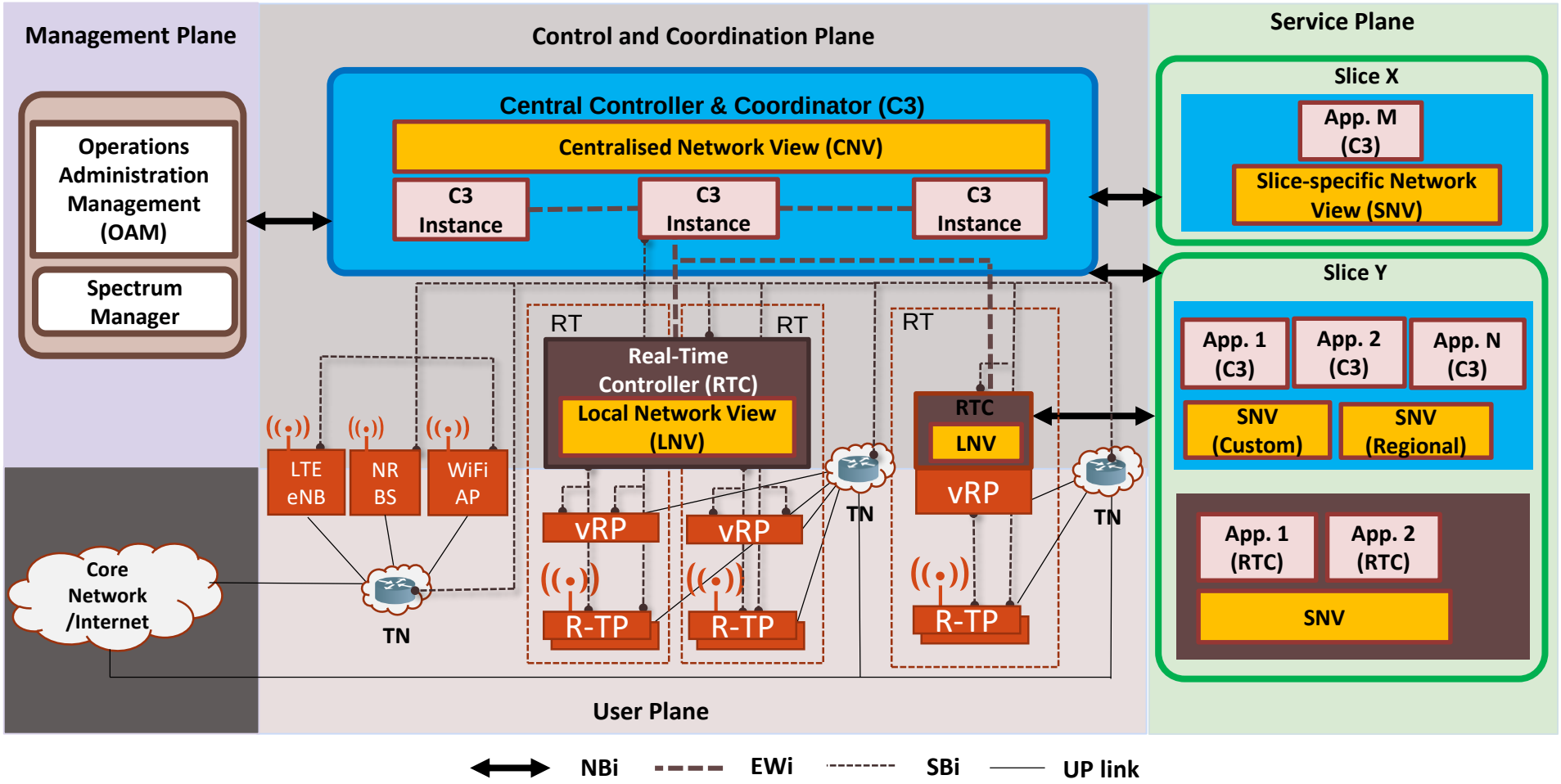
- 5G COHERENT aims to research, develop and showcase a unified programmable control framework for 5G heterogeneous radio access networks
- Flexible spectrum management combined with efficient network coordination
- Network graph and low layer abstraction for scalability and reduced control overhead
- Challenges addressed
  - A single architecture to support services of different nature (eMBB, MTC, URLLC services)
  - Different radios, spectrum access modes, frequency bands, and network technologies need to be harmonized under 5G architecture
  - E2E slicing
  - 5G Control and Coordination

Programmable Control through C3



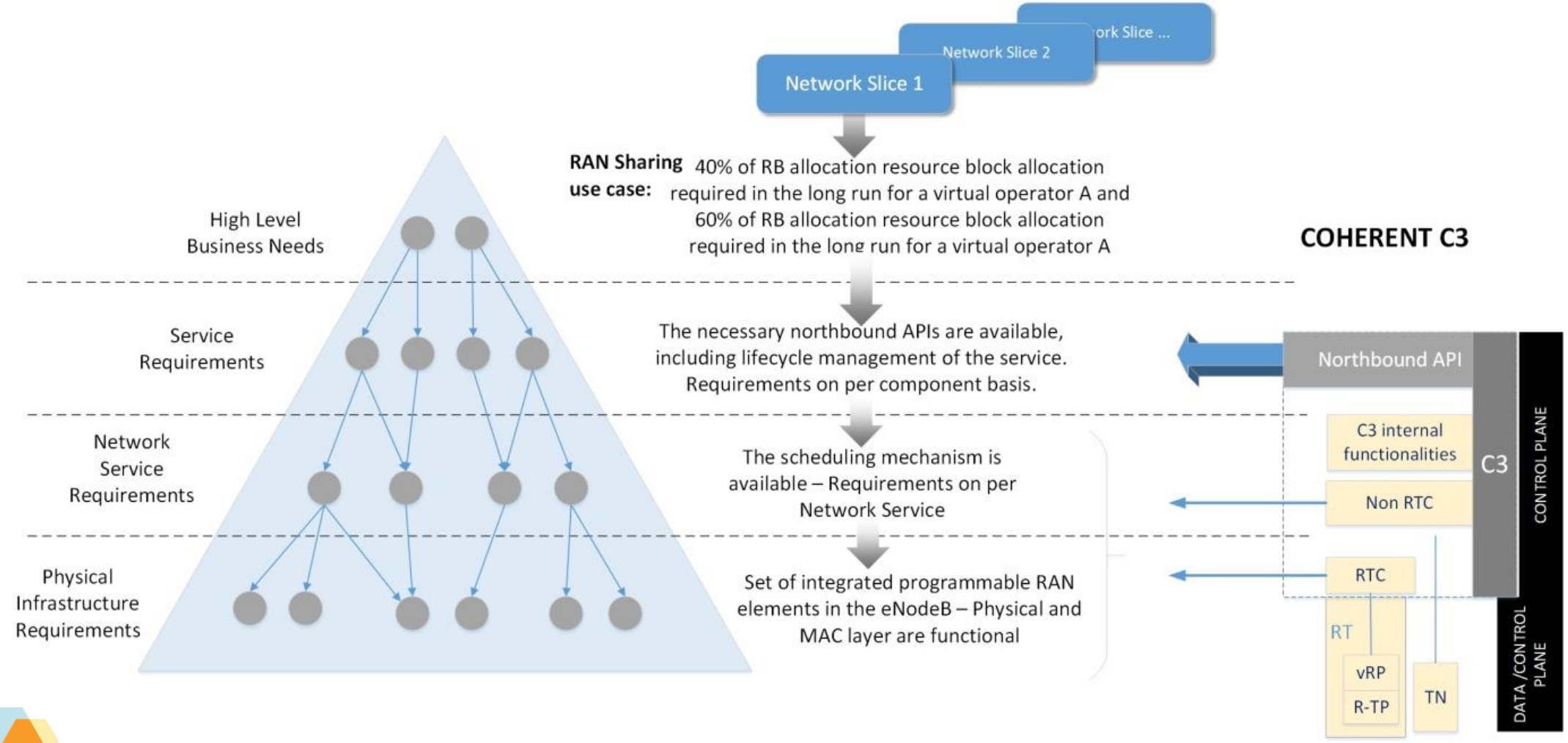
Source: COHERENT [System architecture and abstractions for mobile networks]

COHERENT Architecture



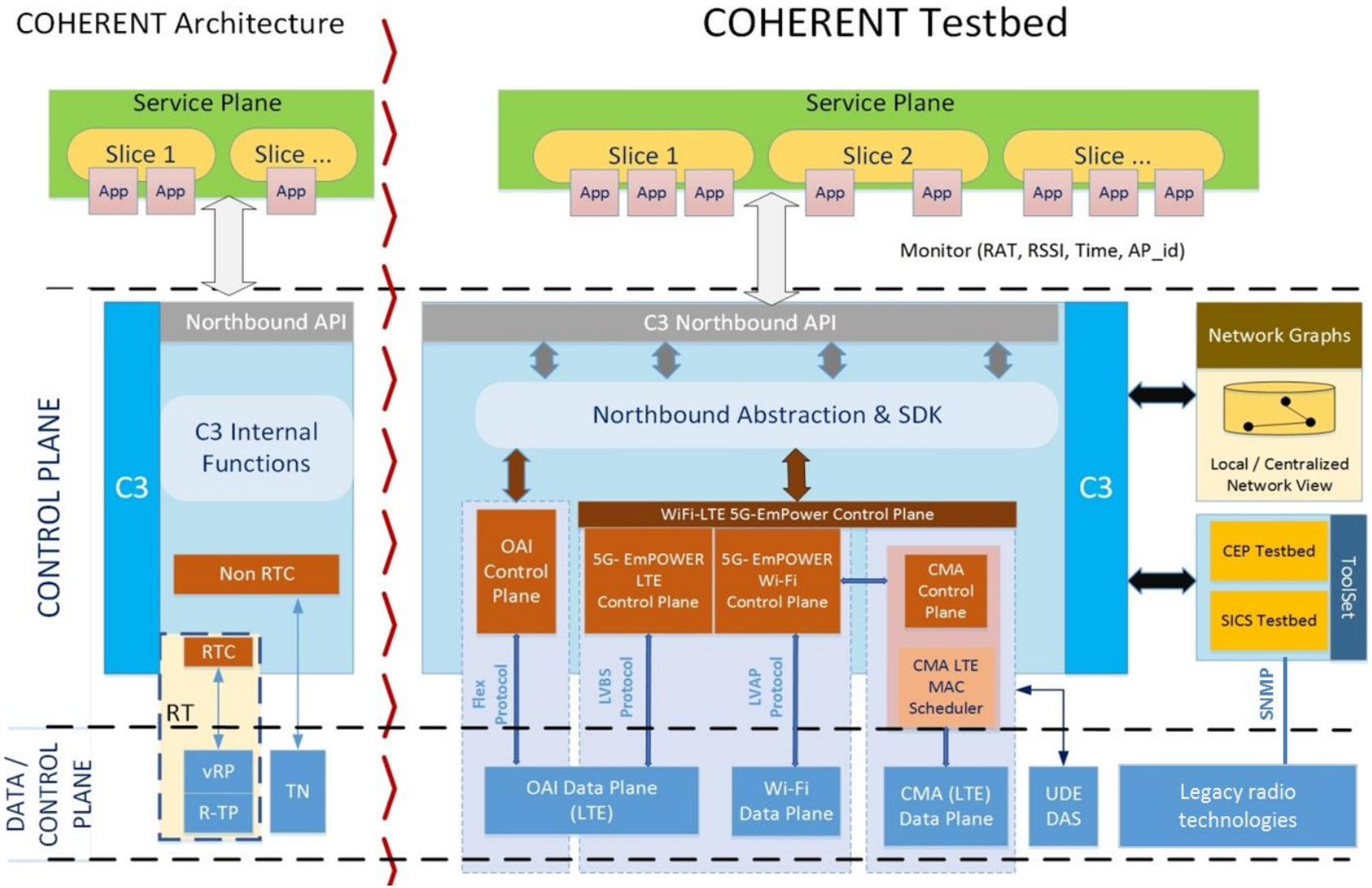
Source: COHERENT [System architecture and abstractions for mobile networks]

Requirements Pyramid



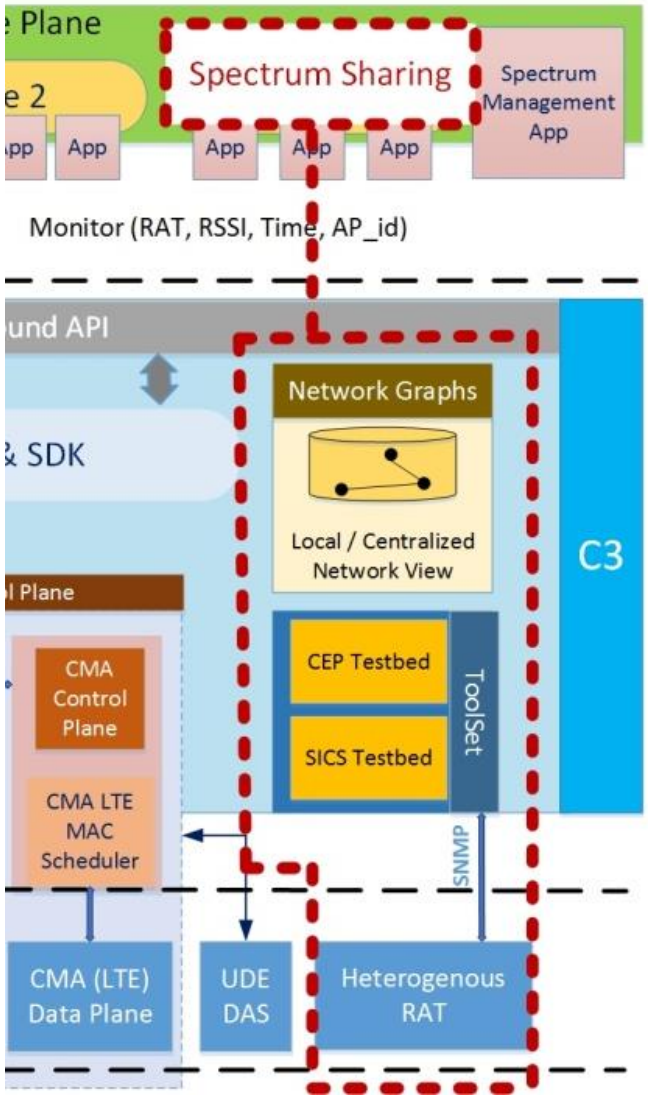
Source: COHERENT Draft report on technical validation

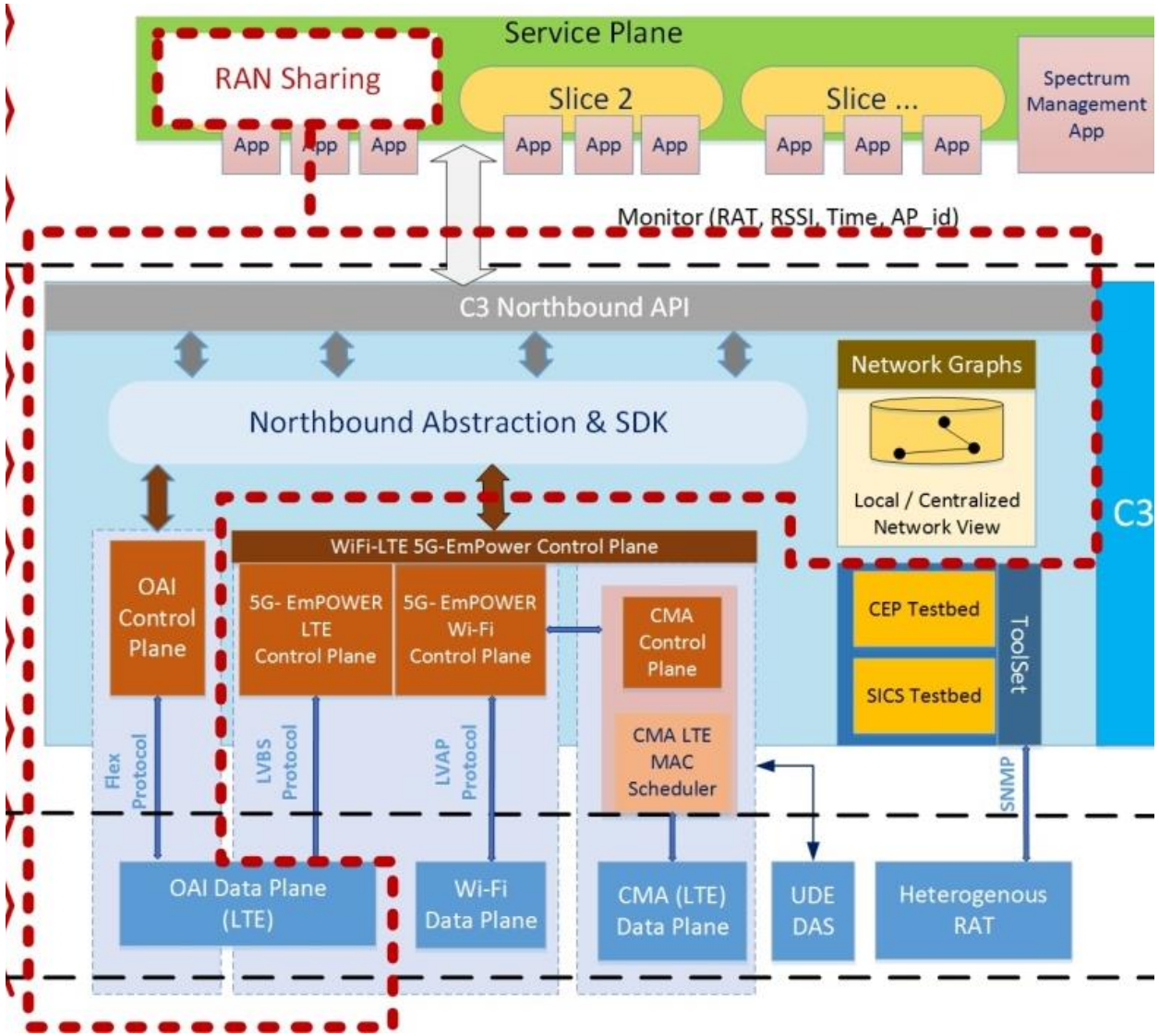
COHERENT Architecture and Testbed



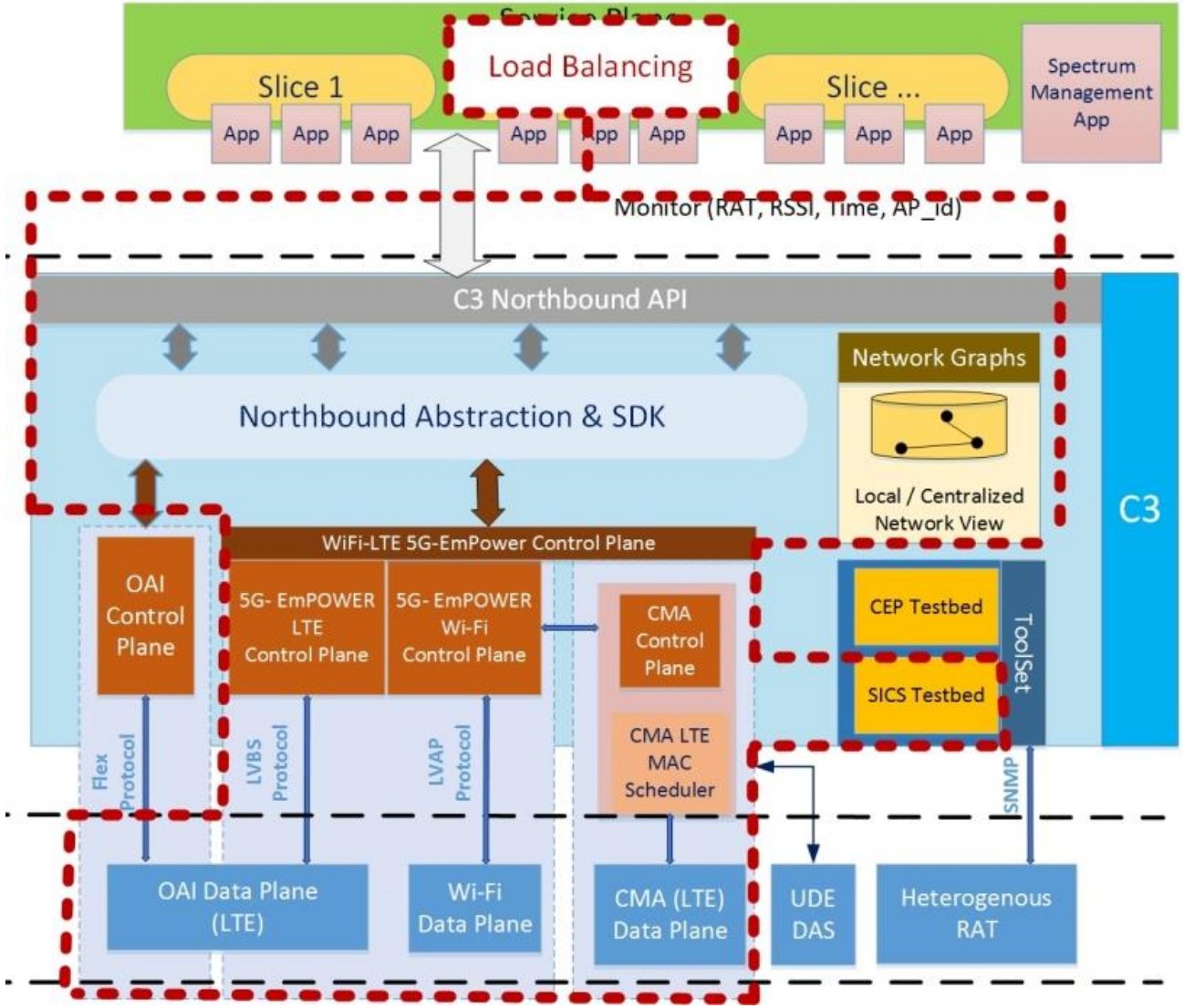
Source: COHERENT Draft report on technical validation

COHERENT in Practice (1/2)





COHERENT in Practice (2/2)



Open Source to Explore

http://www.openairinterface.org/

5G-EmPOWER

Mobile Network Operating System

http://empower.create-net.org/

https://github.com/travelping/ergw

Thank You!

VTT, Finland
(Coordinator)

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Finland

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France

OTE,
Greece

INEA,
Poland

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France

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www.ict-coherent.eu