

5G APIs

The Crucial Prerequisite for AI-Enhanced 6G Use Cases

OpenAirInterface Summer 2026 Workshop

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PHINE·TECH

Beyond The Edge

RAN, RIC and CN need to work together for end-to-end use cases.

- > **O-RAN**
Unlocks intelligence at the edge
- > **RIC and xApps**
Power various use cases
- > **Core Remains Siloed**
For end-to-end use cases
- > **Holistic solution**
Required to unlock the value



Unlocking the Core

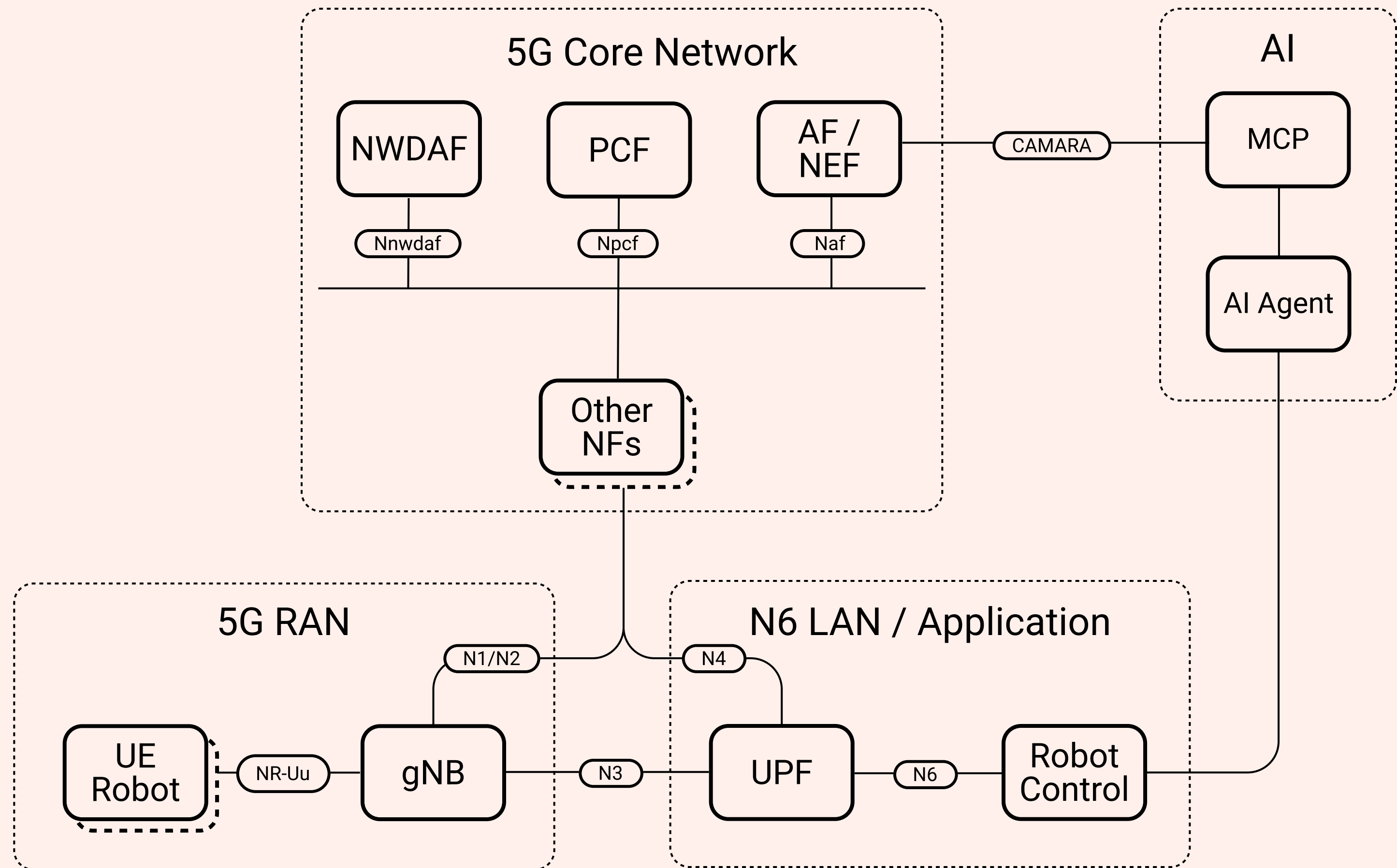
Programmable Core Network APIs are foundational for next-generation, AI-orchestrated intelligence.



- > **Intelligence Silos**
Between 3GPP NFs and AI agents
- > **AI Blind Spots**
(Physical) AI agents operate over-the-top
- > **Programmable APIs**
Robust APIs are a crucial prerequisite.
- > **Solution**
Bridging CAMARA / 3GPP and AI agents

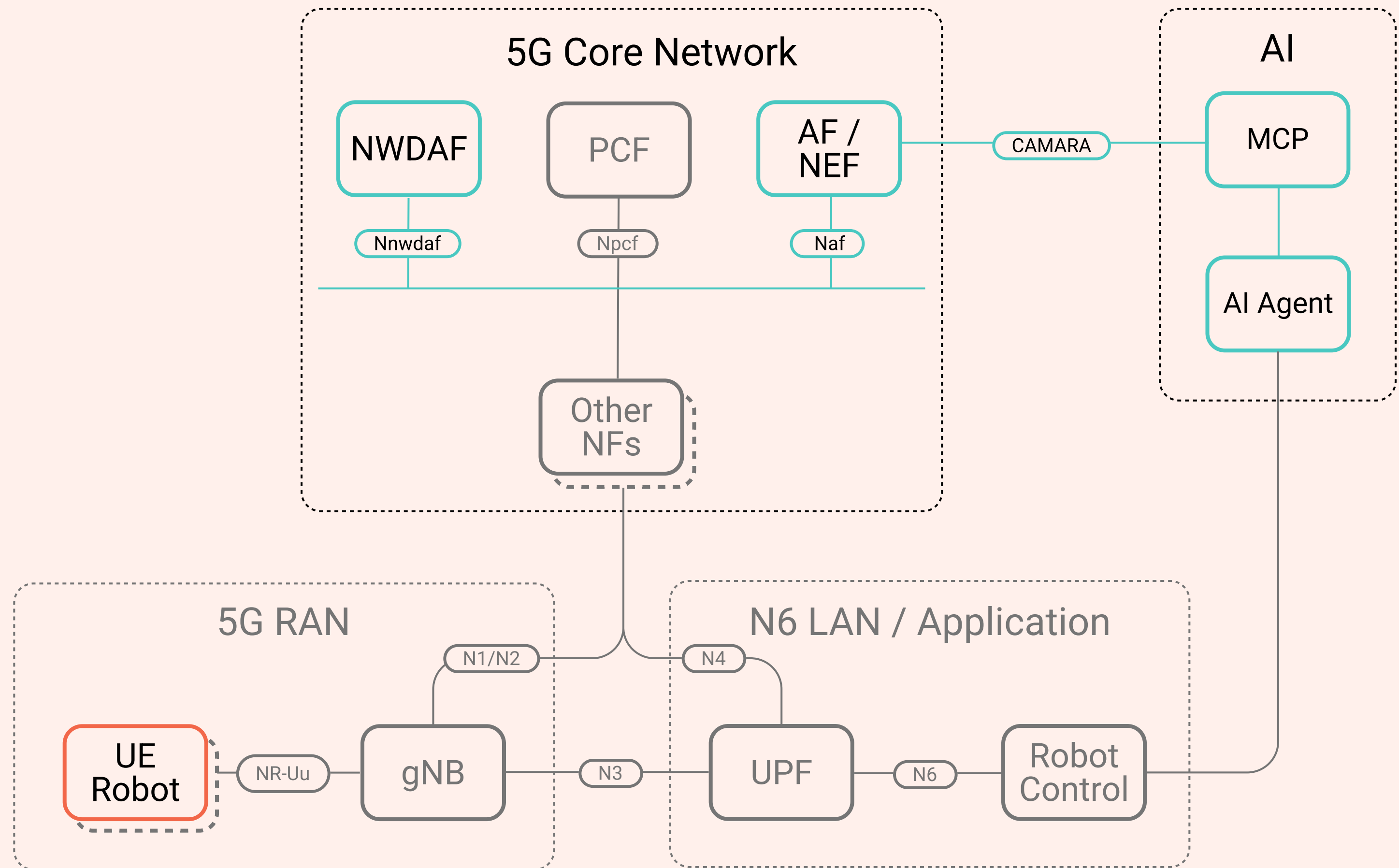
Architecture

- > **Fleet Operations**
Robot Fleet connected to 5G
- > **Network Analytics**
NWDAF telemetry predictions
- > **Intelligence Layer**
Communicates via CAMARA
- > **Agent uses MCP**
Model Context Protocol



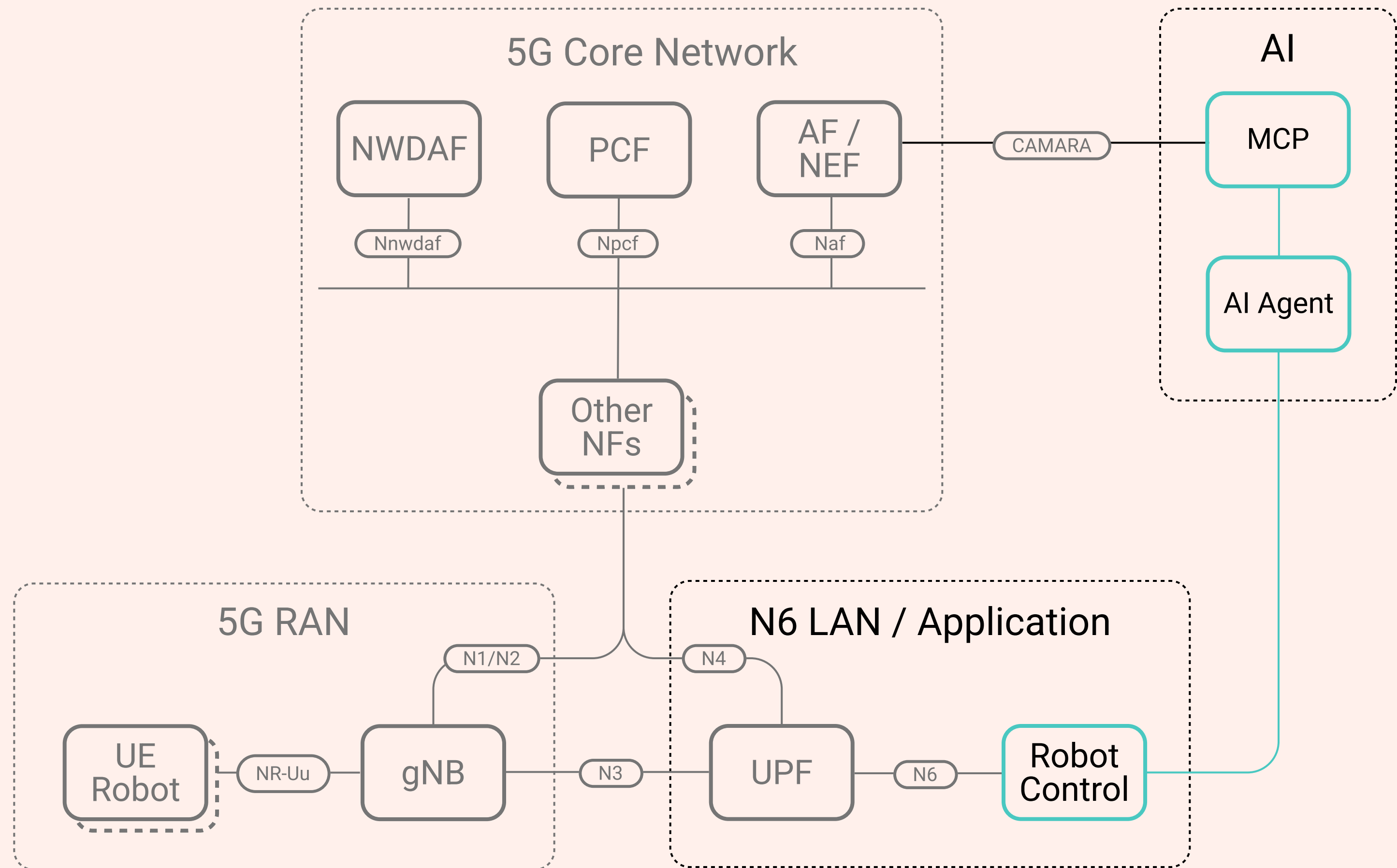
Network Analytics

- > **Congestion**
NWDAF detects a congestion
- > **3GPP Notification**
NWDAF notifies AF/NEF
- > **CAMARA Notification**
Connectivity Insights
- > **Alert Delivery**
MCP translates network event



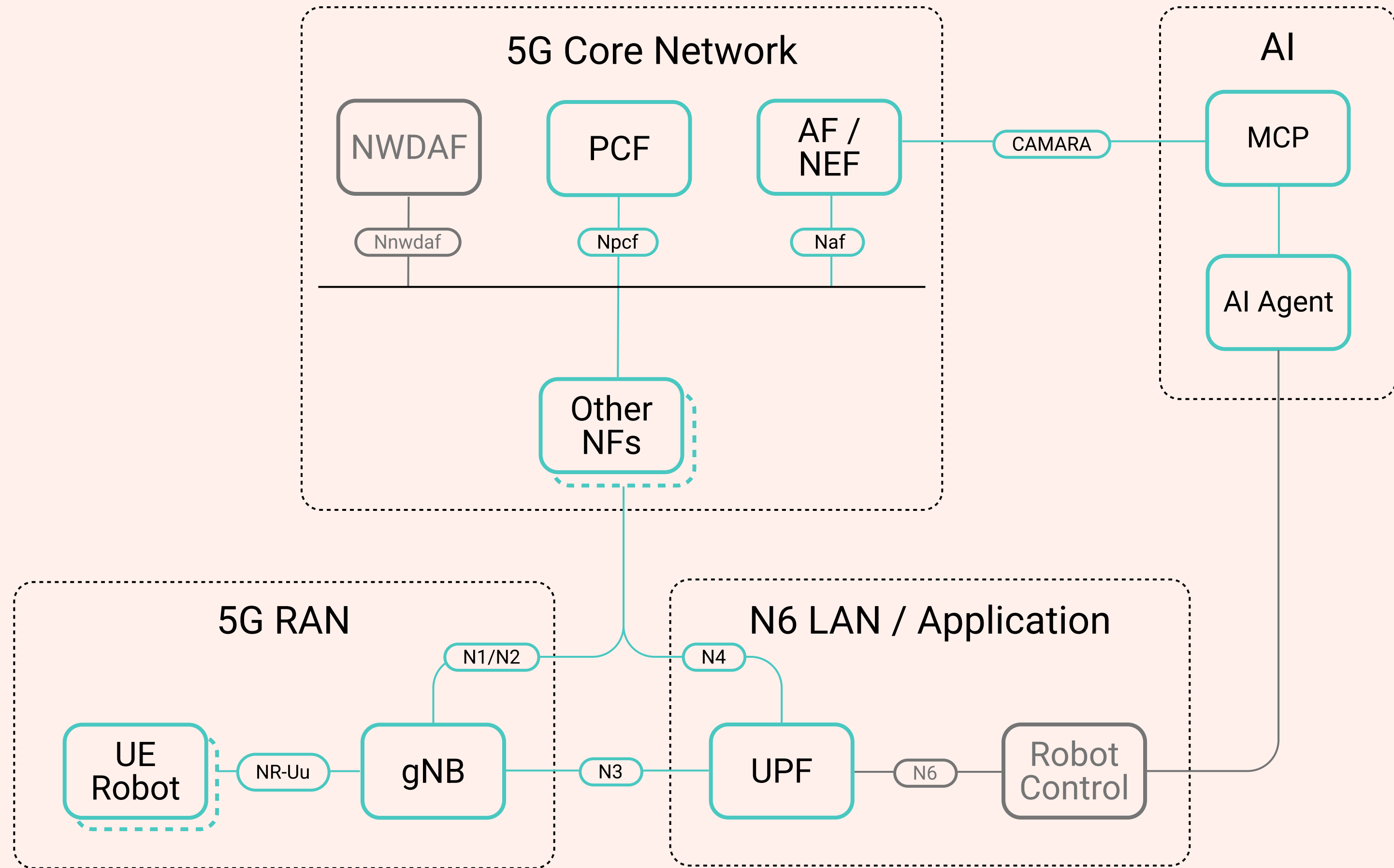
Application Level

- > **Context**
Of robotic application
- > **Decision-making**
Outside of 5G/6G network
- > **MCP as bridge**
CAMARA APIs are “tools”
- > **Tool Discovery**
Agent selects CAMARA QoD



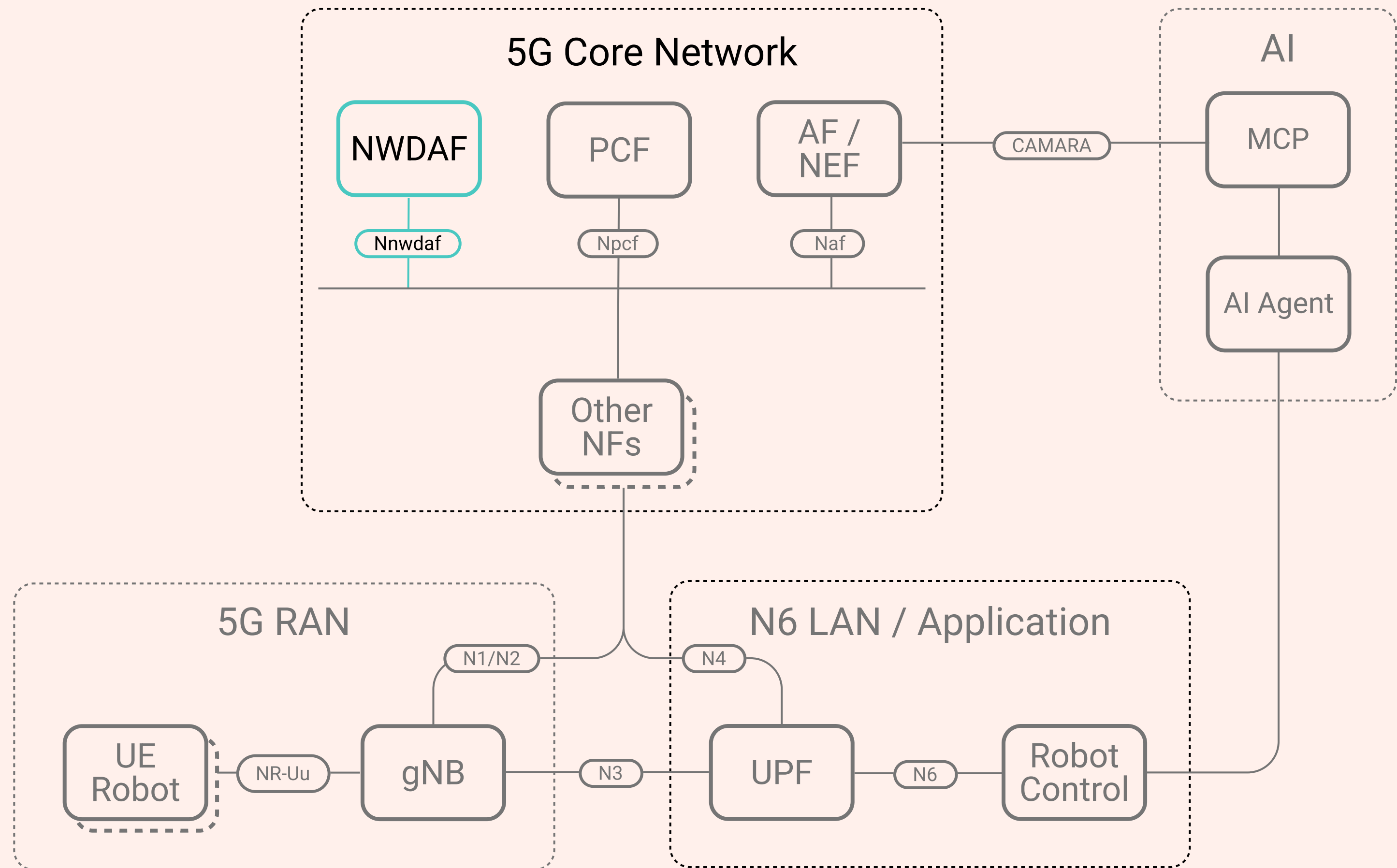
Decision

- > **QoD API**
Utilized by AI agent
- > **Re-Prioritization**
Of robot communication
- > **AF / PCF**
Install QoS in the 5G network
- > **UPF and gNB**
Enforce QoS in the 5G network



Monitoring

- **QoD API**
Notifies AI agent of success
- **NWDAF**
Continuously monitors
- **Congestion avoided**
Through QoS prioritization
- **Zero-Touch**
Fully closed-loop execution

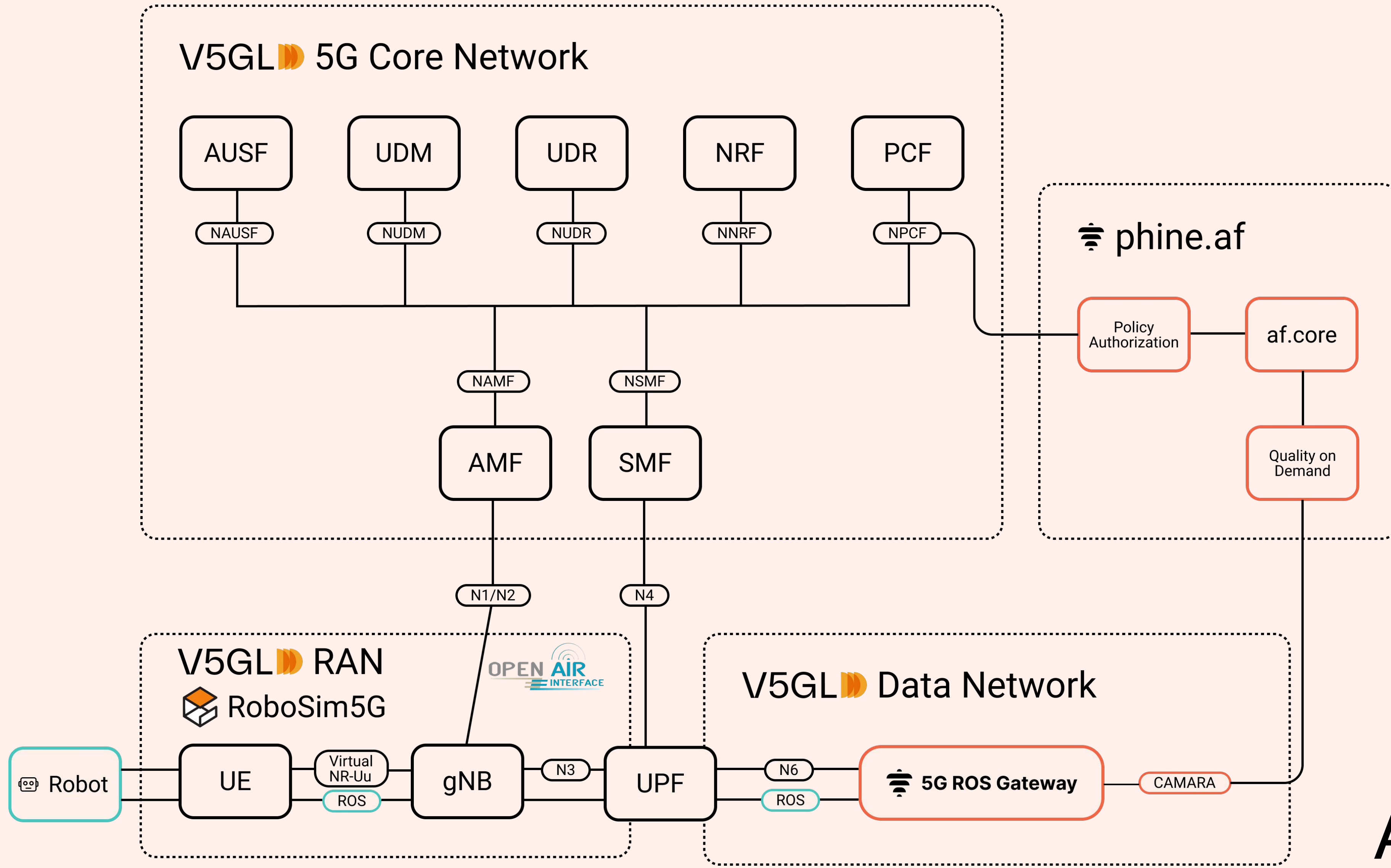


Tomorrow's Demo

Robotics, QoD and 5G in action.

- > **QoD**
Utilize CAMARA QoD API
- > **phine.af**
phine.tech's CAMARA-N5 AF Gateway
- > **5G-ROS-Gateway**
"Speaks Data Distribution Service"
- > **E2E Translation**
ROS/DDS - CAMARA - 5G APIs - NAS

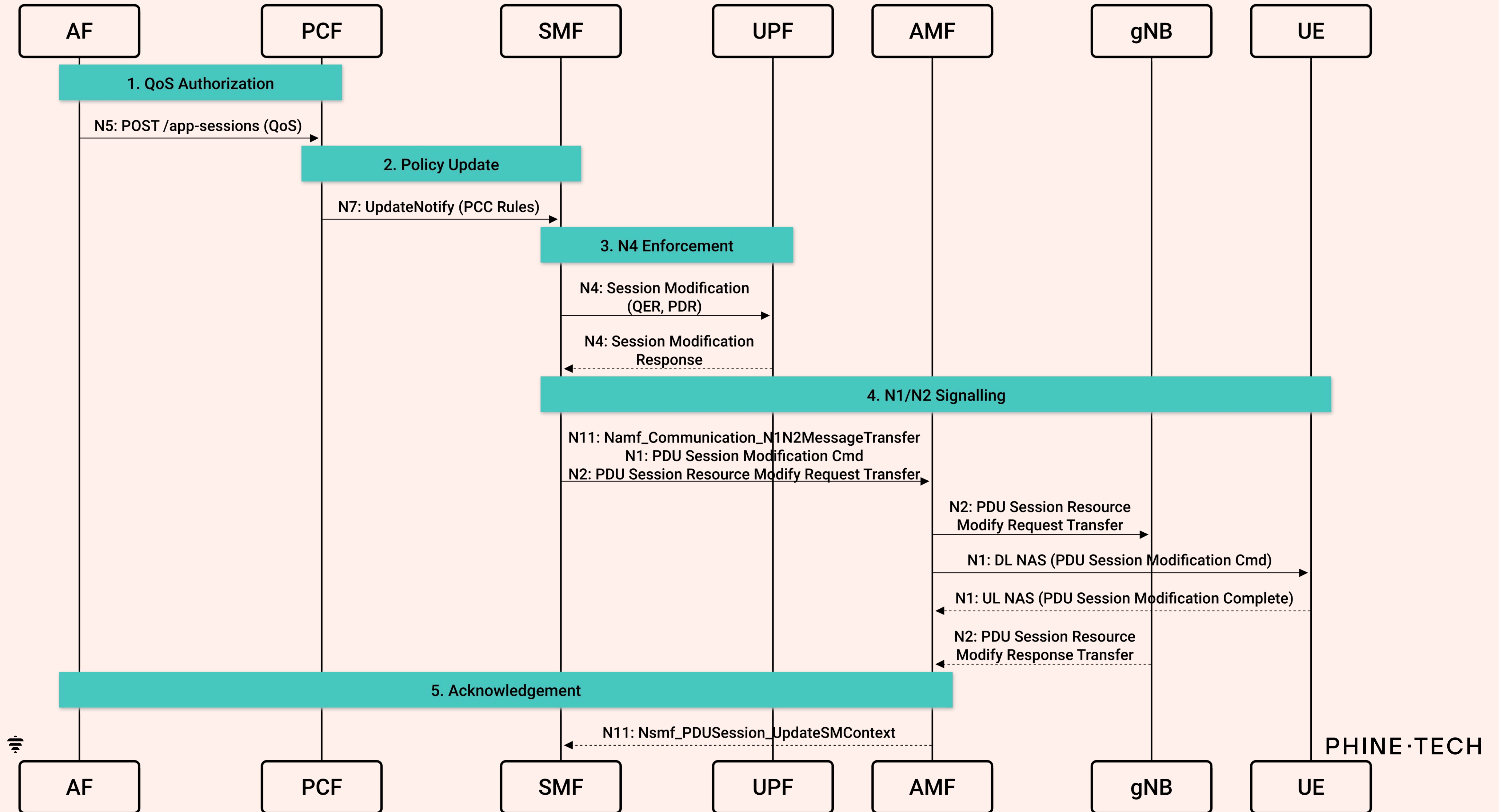




DEMO ARCHITECTURE

End-to-end Architecture





phine.af

- **Modular architecture**
Split between southbound (N5), “core”, and northbound adapters
- **Northbound support**
CAMARA QoD, gRPC, HTTP/REST, custom (e.g. ROS)
- **Roadmap Items**
CAMARA Device Location, Traffic Influence over N5, N33 interface
- **Availability**
Will be open-sourced over the summer

Core Network Evolution

- **End-to-end N5 procedures support in OAI pending**
PCF has N5 support, SMF N7, but some pieces still missing
- **OAI UPF is used in the demo**
PFCP Session Modification is supported
- **N5 (Policy Authorization) is planned**
Together with the OAI team, we will implement procedures on SMF, PCF, AMF, (UPF)
- **Timeline**
First version available in September 2026

THANK YOU

Join the **Future** of 6G Use Cases



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