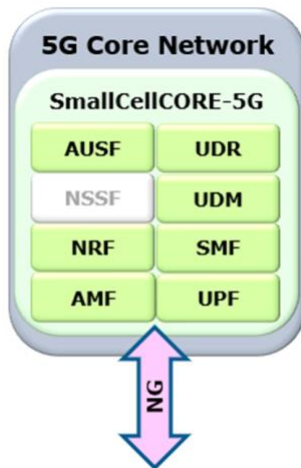


SmallCellCORE-5G

5G core (5GC) for small cells and private networks



SmallCellCORE-5G provides a 5G Core (5GC) for 5G small cells and private networks. SmallCellCORE-5G joins CommAgility's existing 5G stack, PHY and reference chain software, to create an integrated solution with the company's hardware platforms.

With SmallCellCORE-5G, developers can now build their 5G network with a complete set of hardware and software from CommAgility – already tested and integrated. Development is quicker and easier, and risk is reduced by working with a proven solution, backed up by CommAgility's expert, global support.

Key Features

- Available pre-integrated with CommAgility 5G protocol stack and PHY
- 3GPP Release 15 compliant
- Flexible architecture

A 5G Core provides the core network functions in a 5G system, following the standards defined by 3GPP. The 5G Core links the gNodeB to the operator's main network, and provides the data transport, authentication and control functions required. This is similar to how an Evolved Packet Core (EPC) is used within an LTE system.

Integrated software components

In addition to SmallCellCORE-5G, CommAgility's portfolio for 5G New Radio (NR) software development includes pre-ported and validated PHY and Stack, as well as a reference chain. This portfolio of 5G NR software makes it simpler and quicker to develop 5G small cells and private networks.

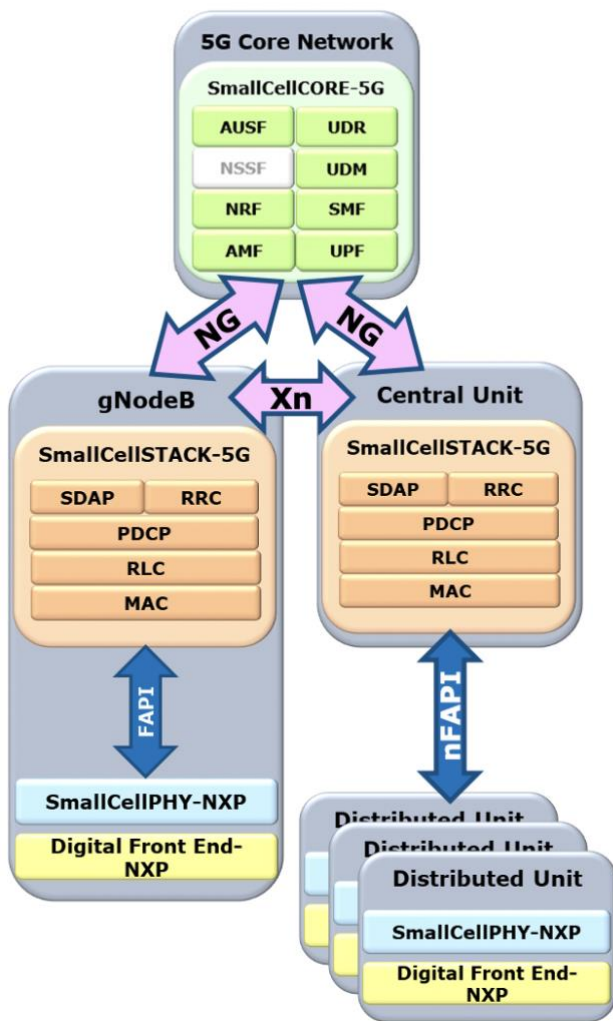
5G hardware platforms

CommAgility also offers a range of hardware platforms for 5G projects, including reference platforms and high-performance ARM/DSP-based processing/RF cards.

New products being developed are based around the Layerscape® Access LA12XX Programmable Baseband Processors from NXP® Semiconductors. CommAgility is now implementing its 5G NR software on the NXP processors, supporting sub-6GHz bands and mmWave frequencies.

Resulting Benefits

- Saves development time and cost, and reduces risk
- End products that work with all 3GPP compliant networks
- Simplifies integration with hardware accelerators and libraries



Feature summary

The standard product includes the following features:

- Supplied in binary format
- Supports multiple gNodeB and UE attachments
- Control and User Plane Separation (CUPS)
- User Plane Function (UPF)
- Session Management Function (SMF)
- Access and Mobility Management Function (AMF)
- Authenticate Server Function (AUSF)
- Policy Control Function (PCF) and QoS
- Unified Data Management (UDM)
- Unified Data Repository (UDR)
- Packet Forwarding Control Protocol (PFCP)
- Next Generation Application Protocol (NGAP)
- Non-Access Stratum (NAS)
- Authentication
- Support of IPTV application service
- Operation, Administration and Management (OAM)
- Orchestration
- UP Uplink Classifier (ULCL)
- Partial Network Repository Function (NRF)

Optimized software

SmallCellCORE-5G is based on free5GC, which is open-source software for 5G, developed by NCTU (National Chiao Tung University) in Taiwan.

As standard, the 5G Core software runs on Intel x86 processors, using Linux. It can also be ported to the ARM cores in the Layerscape processors for closer integration with a gNodeB. The software has been optimized by CommAgility to maximize performance and efficiency.



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