

AGrandTech Limited

We're 5G vendor





About AGrandTech

Established in 2015, AGrandTech is a provider of full line mobile core network products for telecommunication operators and enterprises across the globe

Over 80% are R&D, and the core members are from Interwave in California, USA (NASDAQ: IWAV) with over 15 years experience of telecommunication industry

Provides reliable and affordable telecommunication networks for urban, rural, ultra-rural and remote areas

3GPP standard-compliant 5G, 4G, 3G and 2G core network products

More than 20 national and enterprise mobile networks

Customized services are provided to satisfy the requirements of service providers, system integrators, enterprises in industry

Self-assured networks



Complete network visibility with built-in monitoring, tracing, alerting, performance and management to know exactly how the network is performing.

CUPS



Separation of Control and User Plane for Efficient Management

Seamless Upgrade



Seamless technology upgrade from Any G to all G made easy with our Core

Edge Compute / MEC



Bring User Plane close to edge for low latency services, optimize content, localized high bandwidth applications

Minimum Opex



Helps with optimization of the satellite network, which is key to keeping Operational expenditure at a minimum

Micro services Architecture



Low TCO, Best Performance & High Availability

Efficiency



Allows operators to react quickly and efficiently to problems in the field

Network Slicing



Utilization of Single Physical Infrastructure to create Multiple Logical Networks, reducing the time-to-market and operational costs

Modular



Pick & choose a 3GPP Compliant NE module to integrate with other Open NE's

Scalable Footprint



Flexible to accommodate new customer requirement due to their compact size and space optimization



5GC

- AMF/AUSF/NSSF/NRF
- PCF/SMF/UDM/UPF

4G EPC

- MME/HSS
- SGW/PGW

2G3G Core

- MSC/GMSC/HLR
- SGSN/GGSN



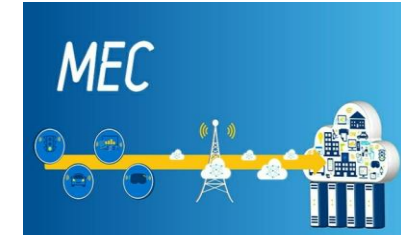
IMS

- VoNR
- VoLTE
- VoIP

Online Billing System – OCS

- Data/Call/SMS
- Tariff
- Packages

SMS Gateway



MEC Platform

- UPF integrated inside
- NFV management

Signaling Gateway

- SS7 STP
- DRA/DEA
- SEPP

Remote Cellular Solution (RCS)

BUSINESS APPLICATIONS



Industry 4.0
App



MNO and MVNO
network



Enterprise
private network



Hybrid network



Emergency
network

NETWORK FUNCTIONS AND FEATURES

- Converged 'All G'
- Flexible product portfolio and deployment
- Open Network Interfaces
- Distributed Architecture (CUPS)
- CSFB, VoIP, VoLTE, VoNR
- Flexible policy and charging control
- NFs are built in SBA and using microservice
- Dynamic scale-in/scale-out
- High scalability and availability
- High reliability, 1+1 active and standby disaster recovery
- Hot backup and smooth handover



Portfolio

5G SA

4G&5G Combo

2G/3G/4G

VoNR/VoLTE

Custom



NF

AMF

SMF

AUSF

MME

SGW

MSC/VLR

IMS

UDM

PCF

UPF

PGW

HSS

HLR

GSN

SMSC

OCS

NFVI

- Cloud and virtualized deployment
- Standard X86 and ARM dual platform



Open Stack



Cloud



VMWARE



Bare Metal

RADIO ACCESS NETWORK

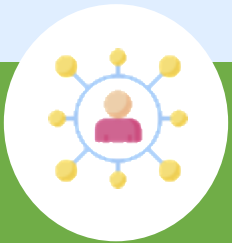
- Open RAN Interfaces
- MEC (Multi access edge computing)
- EDGE UPF

3GPP RAN

Distributed UPF

MEC

CONSUMER NETWORK



MNO & MVNO



Cost-effective turnkey solution
for mobile network operators



Tailor-made **Modular solution**
for MVNO's



Improved network capabilities
with **Higher efficiency**

PRIVATE ENTERPRISE



LTE/5G/MEC



Fully **Independent**
4G/5G network



Privacy and security of
data traffic



MEC for maximized profits
& low latency

HYBRID NETWORK



Shared Resources



Shared RAN/Control Plane
with Public Network



MEC and LBO is available
at Edge



Private network in enterprise,
public in operator network

FIXED WIRELESS



Mobile Broadband



Enables operators to deliver
ultra-high-speed broadband



Improved latency time and
bandwidth optimization



High scalability and availability
Enables business continuity

IOT NETWORKS



Industry 4.0



Automate manufacturing
with smart technology



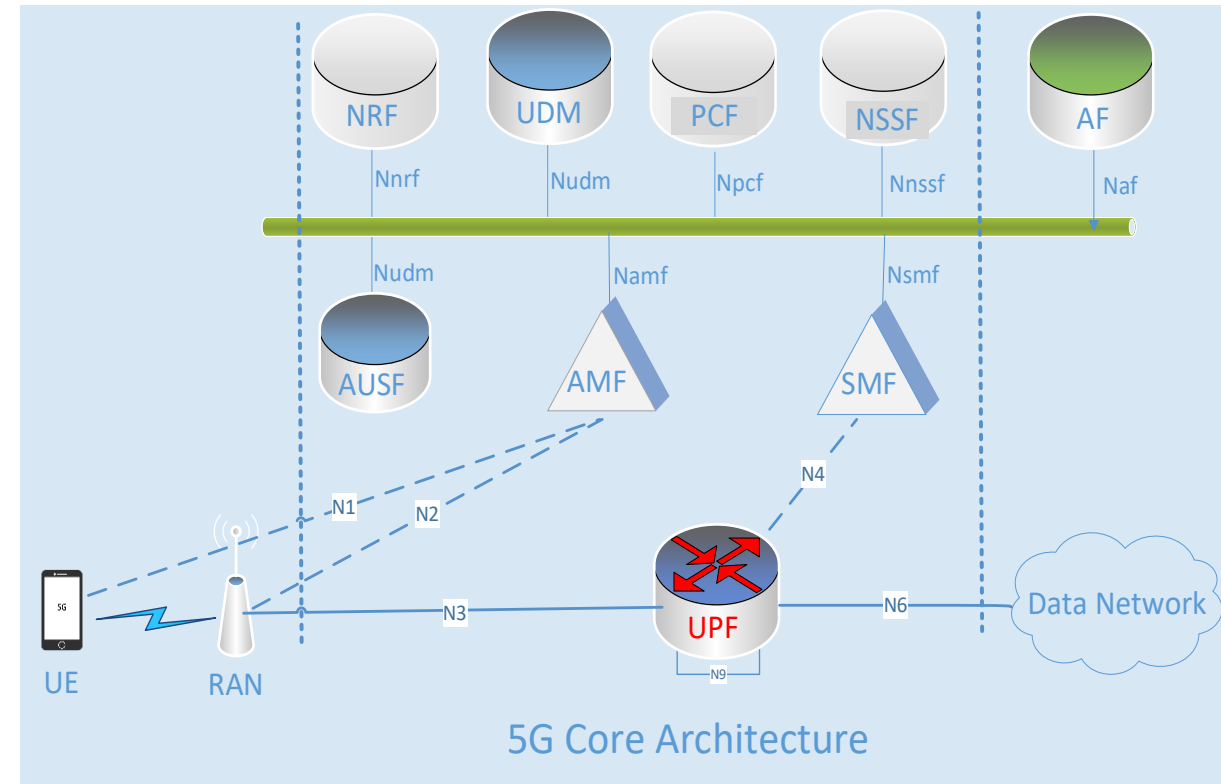
Gather & analyse data, **enabling**
efficient processes

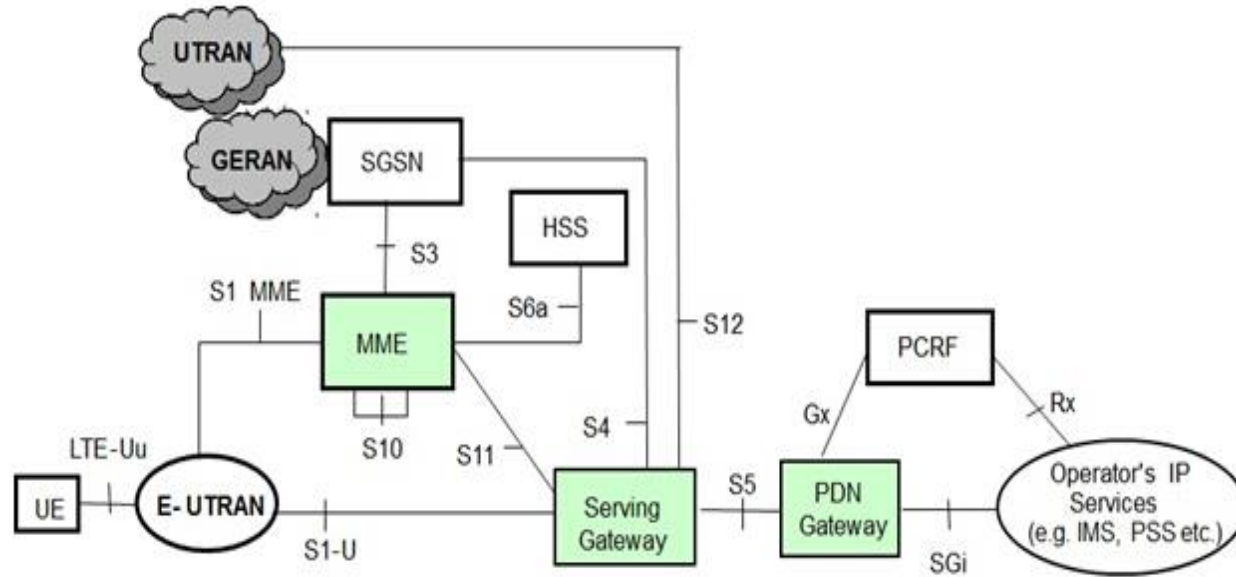


Produce **higher-quality goods**
at reduced costs.

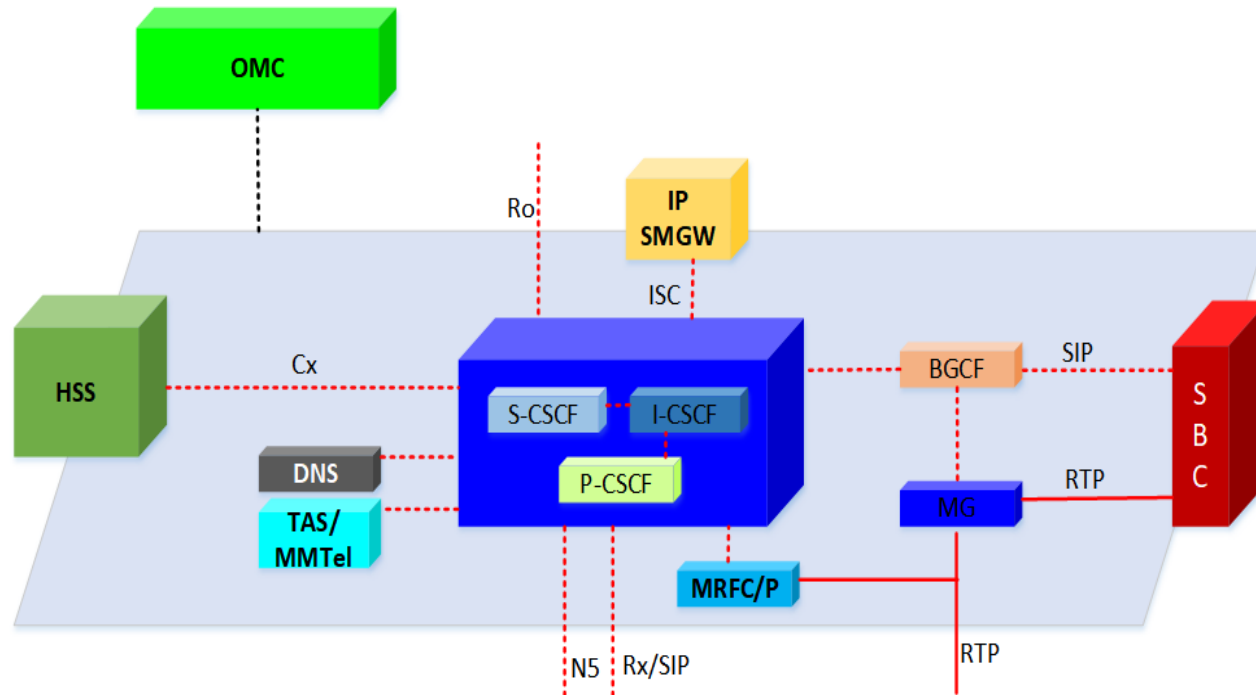
Highlights

- Virtualized deployment, support docker, kvm public cloud improve hardware resource utilization and flexibility
- Native Cloud deployment, no geographical restrictions
- Full-featured, standard 5G network function
- Follow 3GPP R15 phase1.2, support third-party RAN
- Support SA/NSA networking
- support multi UPF deployment
- capacity:100~1M subscribers





- Full 3GPP compliance
- Support interface
 - ◆ S1-C, S1-U, S6a, S11, S5/8, Gx, SGi
- CUPS architecture
- High availability
- Operation & management
 - ◆ configuration management
 - ◆ performance management
 - ◆ monitoring of UE, eNodeB
 - ◆ call logs for end users and IMSI tracking logs
- Network management
 - ◆ Single LiteCore EPC management (based on web page)
 - ◆ Multiple LiteCore EPC (OMC system based on SNMP protocol)



----- IMS Session Signalling

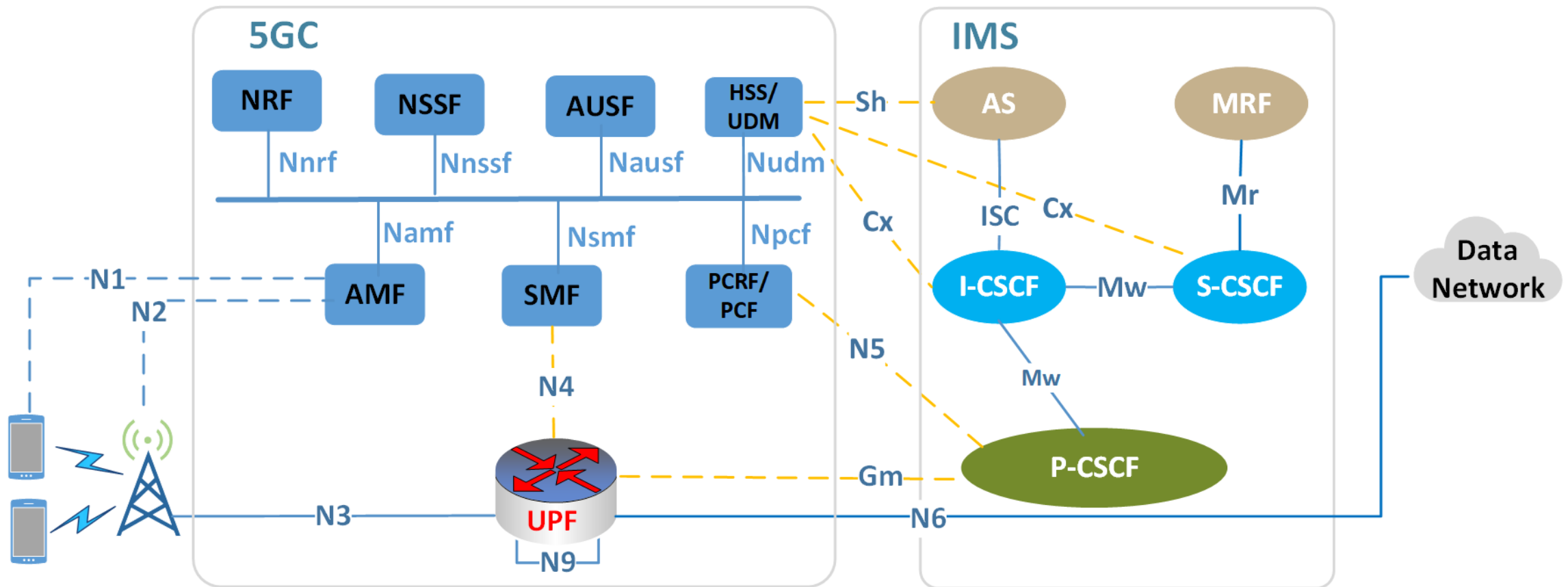
— IMS User Plane Data

----- IMS Management Signalling

- Compact and full-featured
- High compatibility, support standard interface
- Support VoNR, VoLTE and VoIP
- Support connects with PSTN
- Support Ro to billing system
- Support HSS authentication

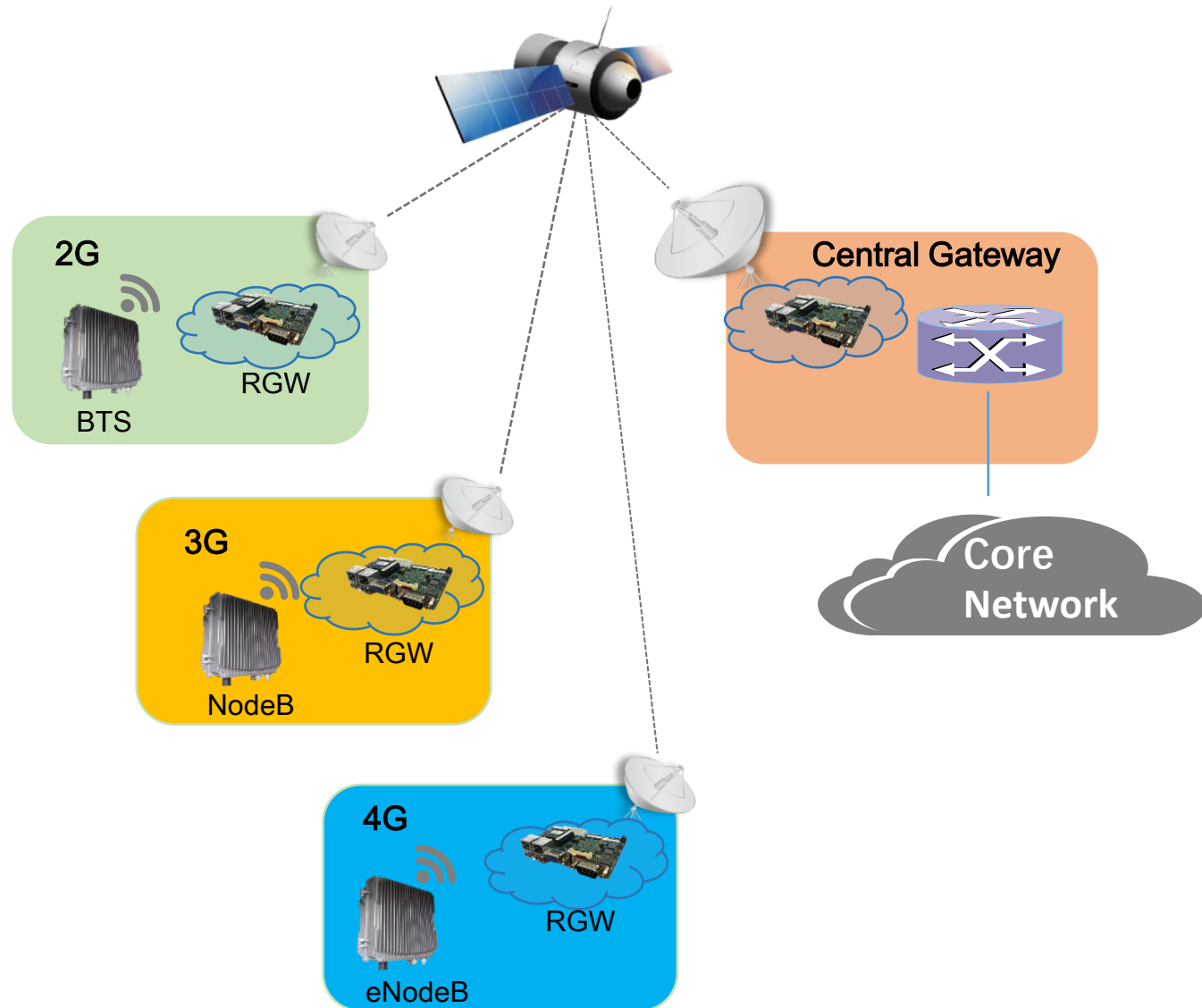
- Virtualized and containerized deployment
- Cloud-native architecture
- Full standard network functions and interfaces

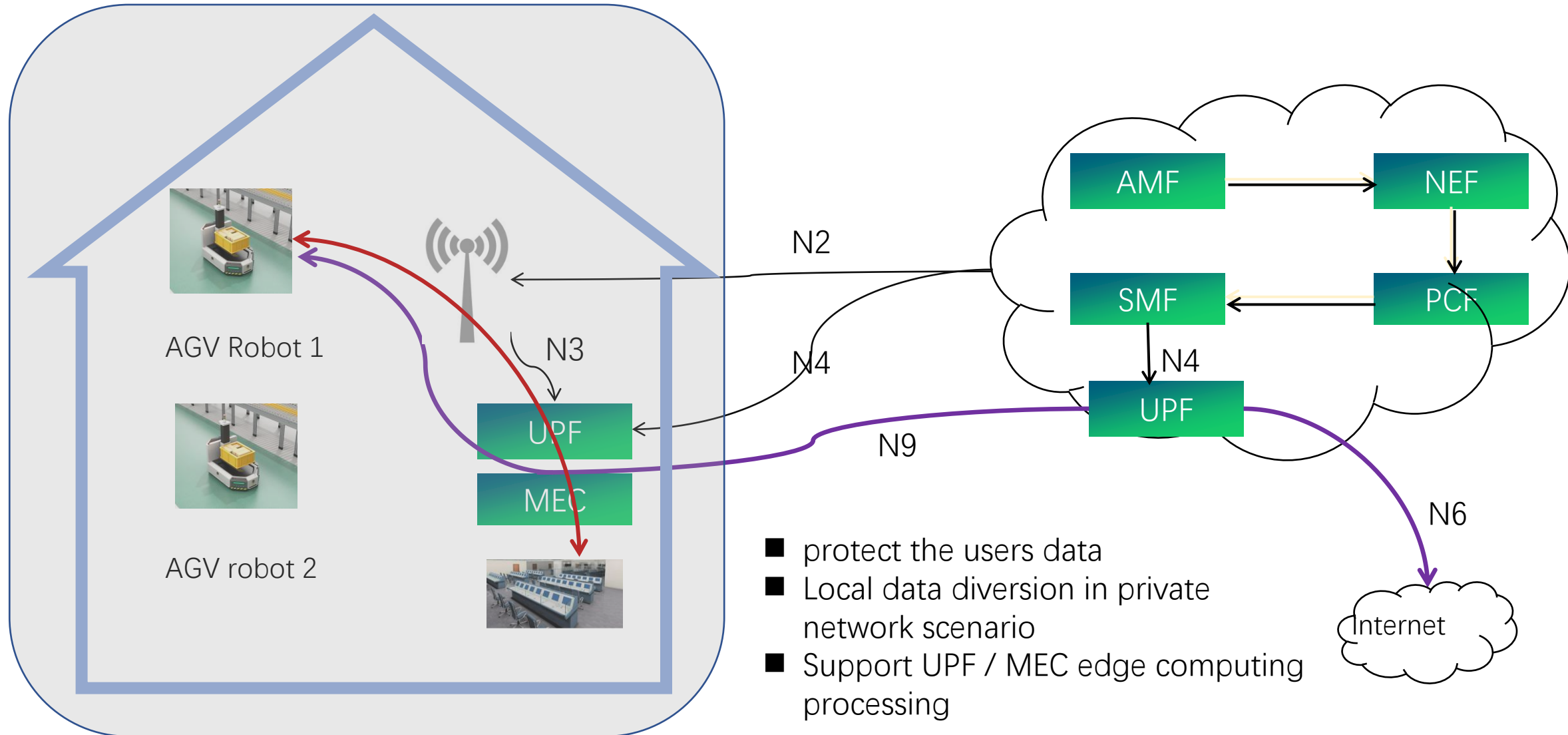
- Support VoNR
- Billing interface
- Up to million subscribers



Highlights

- Low Power Consumption
- Complete 2G/3G/4G RAN
- Standard interfaces to CN
- Satellite Backhaul Optimization High performance of optimization
- Local switching of Voice Call
- Voice offload >50% at busy hours, data offload 20%~95%
- Easier and economical way for those areas where satellite backhaul is the only possible communication connectivity
- Local breakout
- Emergency network







Customers



Partners



THANK YOU



A few of our **clients** and **offices** ...

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