IOWN INTEGRAL

Network service platform in the 6G/IOWN era

Providing high-speed, low-power network services regardless of the device or location

#Customer Experience Value Creation

NTT R&D FORUM 2024

遠隔運転
remote drive

LLM

バーチャルライブ
virtual live

サイバー空間 cyber space

インクルーシブコア inclusive core

E2Eの最適なデータ流通
optimal E2E data flow

E2Eサービス制御
E2E service control

サイバー空間
cyber space

データ流通
data flow

物理空間
physical space

サービス状態
service state

E2Eサービス制御
E2E service control

ユーザ状態
user state

多様なハードを利用
combine hetero-
geneous hardware

障害監視/対策
fault monitor
/handle

物理空間 physical space

///Technical Issue

- The overhead due to duplication in the data flow and processing between terminal, network and the cloud.
- Economy and availability.

///Research Goal

By linking communications and computing, we improve performance per watt of power, economy, and availability.

---Technology

- Network analyzes the status of terminal and the cloud, and optimizes data flow and processing.
- High-granularity fault detection by proxy and gateway collaboration.
- Mobile core built on public cloud.

---Novelty

- Consolidates network functions into a single smart NIC, tripling power efficiency and improving capacity and quality.
- Accelerates fault detection by simultaneously monitoring physical resources and traffic.
- Allows existing on-premises environment to be migrated to the cloud without modification.
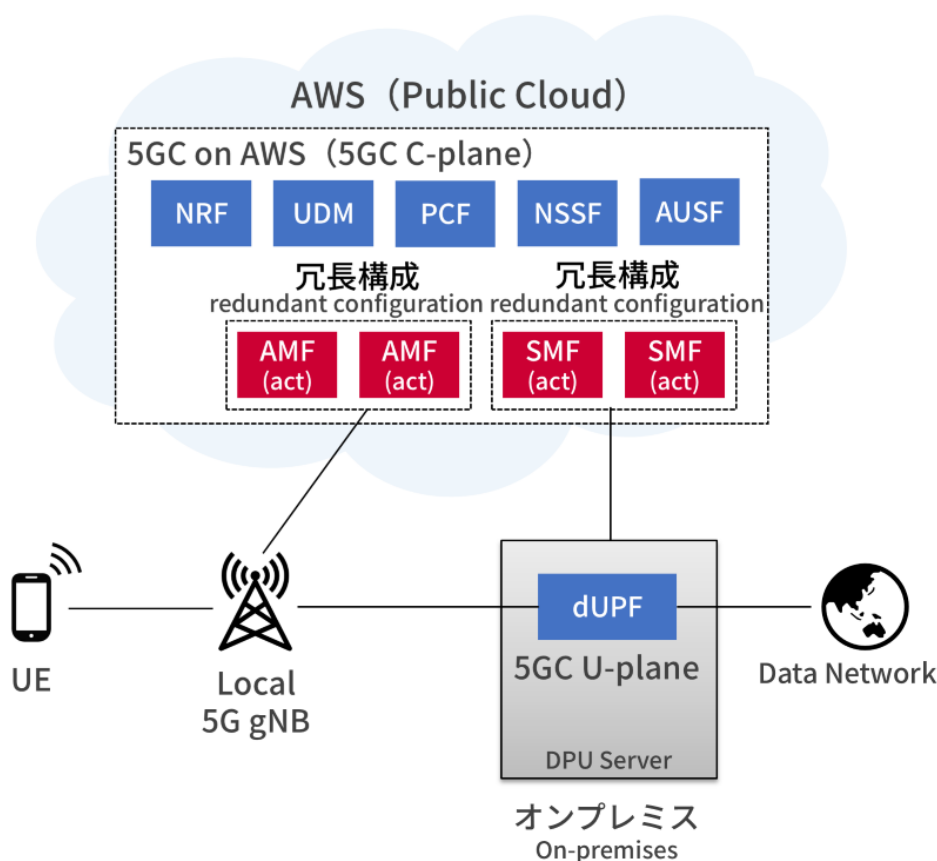
---Applicable Business

In the information and communications industry, it is possible to provide advanced services such as automatic driving and remote control in a flexible, quick, low-power, low-cost (Technology established: 2025/4Q, Service provision scheduled: 2026/4Q).

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AWS（Public Cloud）

5GC on AWS（5GC C-plane）

NRF　UDM　PCF　NSSF　AUSF

冗長構成　冗長構成
redundant configuration　redundant configuration

AMF (act)　AMF (act)　SMF (act)　SMF (act)

UE

Local 5G gNB

dUPF
5GC U-plane
DPU Server

オンプレミス
On-premises

Data Network

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