Bharat 5G Standalone Solution

सी-डॉट C-DOT

C-DOT's Standalone (SA) 5G Solution, a 'Made in India' solution that acts as an enabler for nextgen 5G applications and services.

C-DOT's 5G-SA Solution can deliver 5G data, voice, MCX services to its customer. The solution can meet organization/campus deployment needs and can also be used for industry deployments.

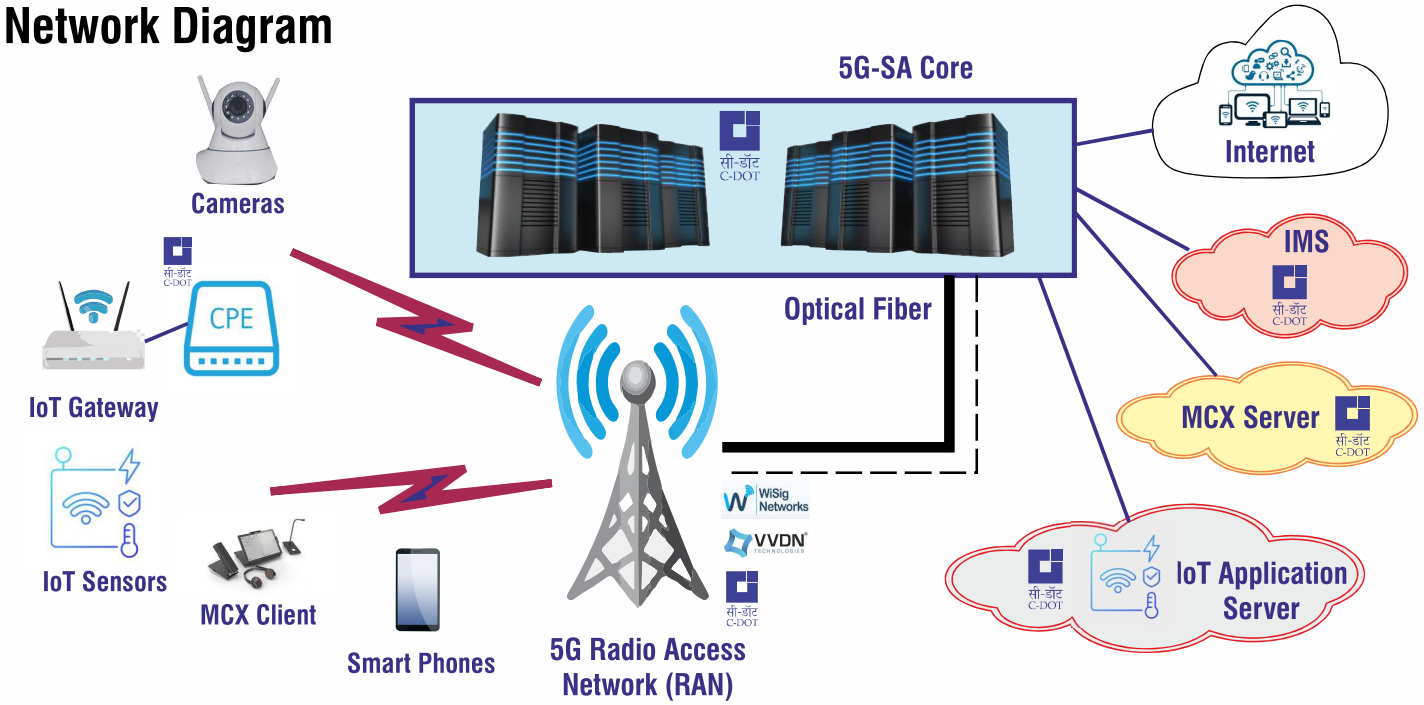
5G-SA Core Features

- 3GPP release 16 compliant
- Uses Service-Based Architecture
- Control and User Plane Separation
- High performance User Plane
- Data/ VoNR/ MCX services
- Support for MEC
- Network Slicing
- Web based dashboard for subscriber provisioning and configuration
- Can run on premise or in any cloud environment - public, private or hybrid
- Successfully integrated with gNodeBs of multiple vendors

Network Function Supported

- AMF - Access and Mobility Function
- SMF - Session Management Function
- UPF - User Plane Function
- AUSF - Authentication Server Function
- UDM - Unified Data Management
- NRF - Network Repository Function
- PCF - Policy Control Function
- UDR - Unified Data Repository
- NSSF - Network Slice Selection Function
- BSF - Binding Support Function

Network Diagram



5G RAN Features*

- 3GPP Release 16
- Band N78
- 2TR, 4TR, 8TR (32TR also supported in CU-DU)
- Carrier Aggregation : 2CC
- SCS: 30kHz
- BW: upto 200MHz
- 40W / 46 dBm per channel
- IP65
- ORAN compliant 7.2x category A/B split
- VoNR, ViNR, emergency calls

**Delivered through a collaborative project along with C-DOT's partners.*

The RAN solution is integrated with C-DOT's Fronthaul Solution (based on Active WDM PON technology)

Specific Use Cases for Rural Areas

- Healthcare - Telemedicine, Wearable devices
- Agriculture - Precision farming, Crop monitoring using drones, Smart livestock mangement
- Education - Smart classrooms, Skill training

Public Safety Networks using Mission Critical Services (MCX)

- MCPTT
- MCVIDEO
- MCDATA

Use Cases and Applications

- Enhanced mobile broadband (eMBB) - Augmented Reality / Virtual Reality, video calling, virtual meetings, UHD video streaming, fixed wireless broadband access in dense areas.
- Massive machine type communications (mMTC) - Wearables, healthcare monitoring, vehicle-to-infrastructure smart home, smart cities, industrial automation.
- Ultra Reliable Low latency communications (uRLLC) - Industrial robotics, remote surgery, vehicle-to-pedestrian, vehicle-to-vehicle.

Specific Use Cases for Urban Areas

- Manufacturing - Remote industrial robotics, automation
- Energy and Utilities - Grid monitoring and control
- Transportation - Connectivity in high speed vehicles
- Public Safety - Surveillance (Smart cities), Infrastructure management and maintenance
- Media / Entertainment - Augmented Reality / Virtual Reality, UHD video streaming, Immersive event experience, Cloud gaming
- Automotive - Fleet management
- Retail - Immersive shopping experience

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