5G Standalone (SA) Core Network

A cloud-native and container-based standalone (SA) 5G core network allowing reliable and secure connectivity to network services and high performance UPF with ground-breaking throughput.

Keywords:
- 5G, 5G Core, Multi-access Edge Computing, MEC, Smart City, Virtualisation, Containerised Deployment
- Network Slicing, Service Based Architecture, Cloud-Native, 3GPP Release 15 & 16 Compliant

Problems addressed

- Reliable, secure, ultra-low latency, high throughput, higher deployment agility and flexibility are just a few features offered by a 5G Core
- With a 5G Core, the mobile communication experience can be greatly enhanced, with better end user experience, quicker service to market time, simplified network operations and improved network capabilities
- Vertical and enterprise markets can benefit from lower costs and more flexible deployments, with options of end-to-end network slicing, edge computing, scaling and upgrades

ASTRI's 5G Standalone (SA) Core, defined in the 3GPP standards and compliant with Releases 15 and 16, is cloud-native and container based, allowing for reliable and secure connectivity to network services. The ASTRI 5G Core delivers large capacity with a high degree of flexibility and programmability, enabling it to support diversified and demanding services such as with different requirements in connectivity, computing resources, network bandwidth and latency, quality of service, network security, and policy.

Innovations

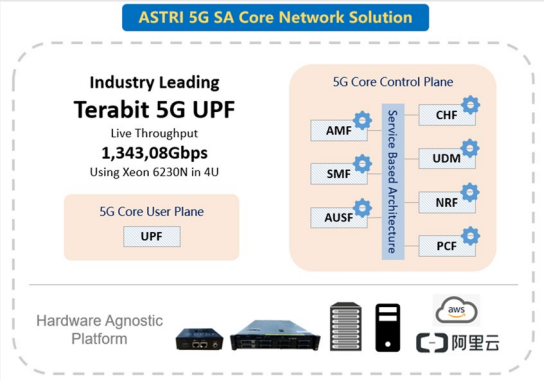
ASTRI's 5G SA Core is compliant with 3GPP Specifications. It has a high performance and is cloud native with centralised management. It also supports network slicing and auto-scaling. It has been verified on AWS and Alibaba Cloud, and is ready for use by enterprises and commercial markets.

- Service-Based Architecture (SBA) supporting Transport Layer Security (TLS) and Network Functions (NF) pools
- 1.34Tbps data throughput on a single Intel x86 server
- Local Traffic Breakout supporting edge computing uplink classifier/branching point and Local Area Data Network (LADN)
- Cloud-Native with microservice-based stateless NF with load balancing and clustering, supporting orchestrations, OAM, and auto-scaling

Key impact

- Top of the line in data throughput performance
- Supports features certified and aligned with industry requirements
- Flexible topologies to meet requirements of vertical markets
- Capable of auto-scaling for easy maintenance and to meet different needs
- Accelerating business innovation in vertical industries

Innovation snapshot



Project completed

- Ongoing

Applications

- Smart City Applications
- Enterprise Network
- Connected Vehicles
- Augmented Reality (AR), Virtual Reality (VR)
- Industrial Automation

Patent(s)

- US App. No. 17/228,067;
  CN App. No. 202180001114.6 and
  HK App. No. 62021040006.0

ASTRI Patent Search

Commercialisation opportunities

- IP licensing
- Technology co-development