

## Arcus 5G Core Datasheet



### Overview of Blue Arcus

Blue Arcus® is a global end-to-end mobile network software provider, delivering telecom solutions that are 3GPP compliant and built on an open and distributed architecture. With many live deployments across the Pacific, Asia, Middle East, and Africa, we have been helping MNOs enhance customer experience by providing cost-effective, fast, and reliable voice and data services. The SMART Compact network edge of the core makes it suitable for delivering high speed, secure and low-latency services.

Blue Arcus Technologies is the most reliable network partner and delivers telecom solutions targeting Urban, Rural and Remote communities with 3GPP-compliant interface capabilities. We offer 2G/3G/4G/5G solutions with high-speed connectivity, superior coverage, enhanced trusted security, performance, smooth integration, and cost-effective network services.

We use practical and application-based on-field expertise to create successful project schedules in implementation and management. Our future-proof telecommunication network software services enable people to be connected anytime & anywhere.

At Blue Arcus, we liberate our customers to manage and in turn leverage robust telecommunications networks. The optimal use of technology translates to churning the best potential of business ventures.

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# 1 Introduction

## a) What is 5G?

5G is the next generation of telecom networks, set to expand worldwide. It offers breakthrough speed improvements and a massive IoT ecosystem.

- Up to 10Gbps data rate
- 1-millisecond latency
- 1000x bandwidth per unit area
- Up to 100x connected devices per unit area
- 99.999% availability
- 100% coverage
- 90% reduction in network energy usage
- Up to 10-year battery life for low-power IoT devices

## b) Arcus 5G Core:

Arcus 5G Core is an exclusive converged architecture with 3GPP compliant interface capabilities and to function as a standalone/non-standalone system and scalability from less than 100 to 1M+ subscribers with data throughput up to 1+Tbps.

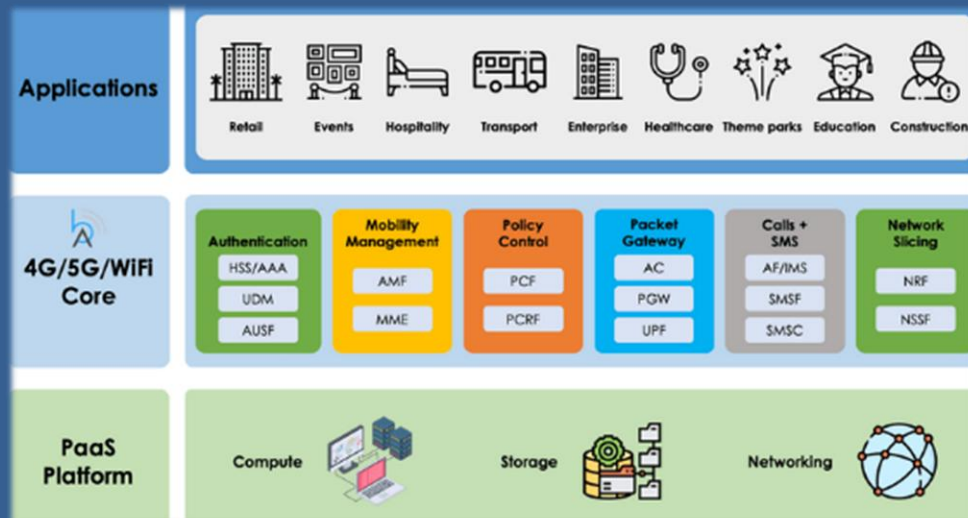
It is a software-based core network and deployable across any hardware platform, including the Core-in-a-Box / Virtualized / Containerized Platform, and easily distributed in nature to meet the necessary needs.



## 2 Key features and Technical Specifications:

### 2.1 Core as a service:

- a) Our core network functions as a service through automated deployment on PaaS platforms and access to required network functions. Ability to run, upgrade, and deploy anywhere in the network from core to edge and in public, hybrid or private clouds.

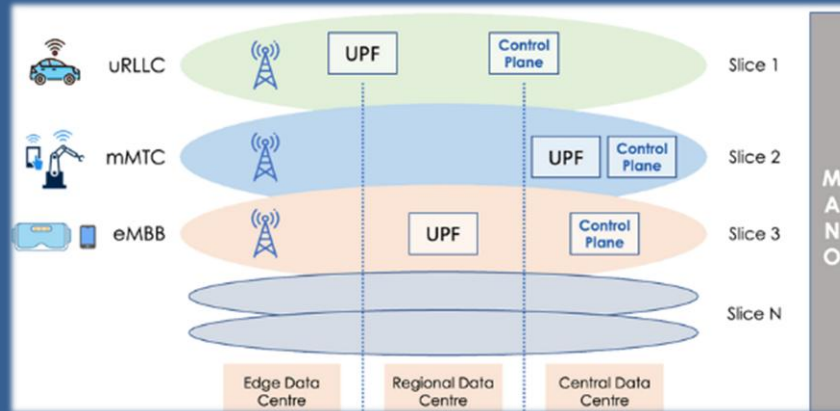


- b) Technology Benefits:

- **Reliable With High Performance:**  
Control Plane in the Cloud and User plane at the Edge; highly reliable control plane with high-performance user plane.
- **Modular:**  
Pick & choose a 3GPP Compliant NE module to integrate with other Open NE's.
- **Lower Costs:**  
Low TCO through shared resources on the cloud.
- **Reduced Time To Market:**  
Our Core network functions are ready to use, and businesses can use them within minimal time.
- **Scalability**  
Easy, scalable network functions to accommodate different needs.
- **Cost-Effective**  
Eliminates the upfront costs and the user to pay for purchase and installation.

## 2.2 Network Slicing:

- a) Our services have network capabilities as per applications, use cases, and needs. With network slicing, carriers can build multiple reliable, virtualized, and isolated logical networks on a general physical network to meet differentiated requirements of different customers for network capabilities such as massive access, deterministic latency, and ultra-high reliability.



- b) Technology Benefits:

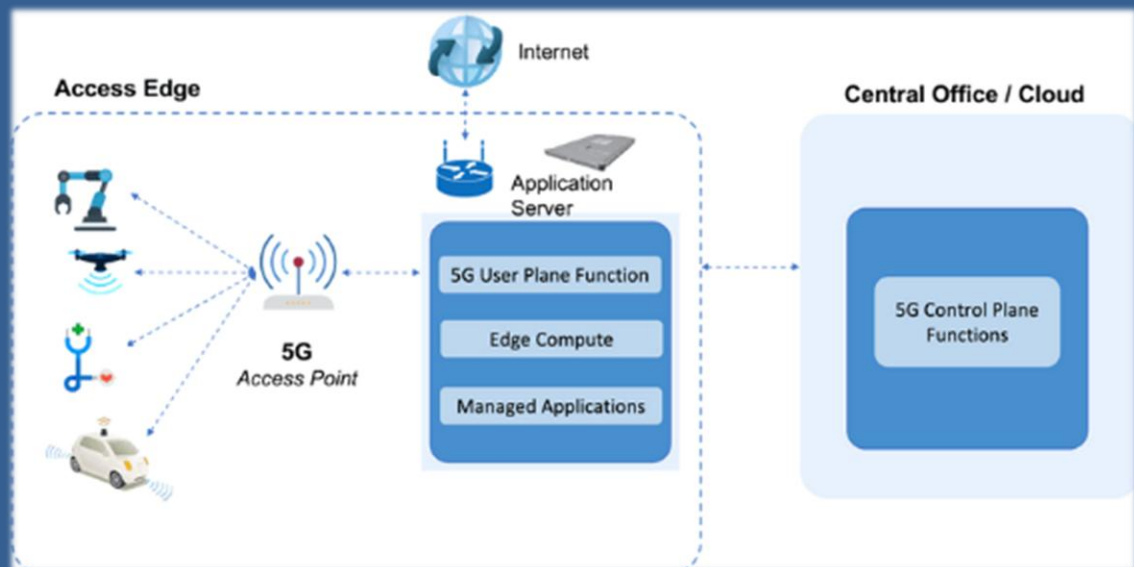
- **Quality Of Service:**  
Accommodate different QoS requirements such as data speed, latency, and security over a single physical network infrastructure.
- **Reduced OPEX:**  
OPEX is also reduced through the virtualization technologies used in network slicing.
- **Improved User Experience:**  
Superior user experience through slice management for services.
- **Reduced Time To Market:**  
Businesses can get their services to market at a much-reduced time.
- **Prioritized Access on-demand:**  
Access with improved coverage and quality for emergency services when needed.
- **Higher Resource Utilization:**  
The use of standard physical networks stimulates higher resource utilization.

## 2.3 Hybrid Cloud Deployment:

Hardware-agnostic network functions are available as VNFs & CNFs, Cloud-native network functions provide full automation of network deployment.

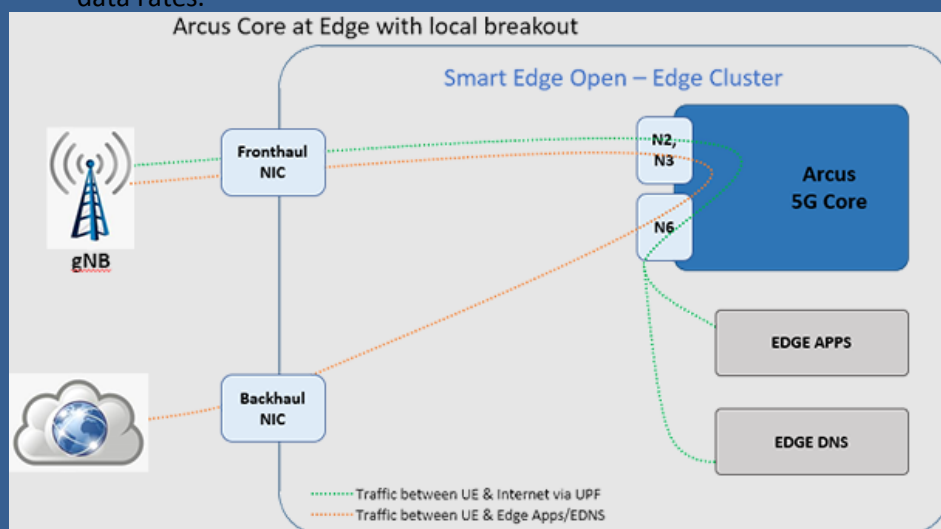
## 2.4 User Plane Deployments:

- a) UPF is deployed near the Radio Access Network (RAN) at the Edge location. Bring User Plane close to the edge for low latency services, optimize content, and localized high bandwidth applications. The implementation of packet acceleration technologies achieves the high performance of the user plane.

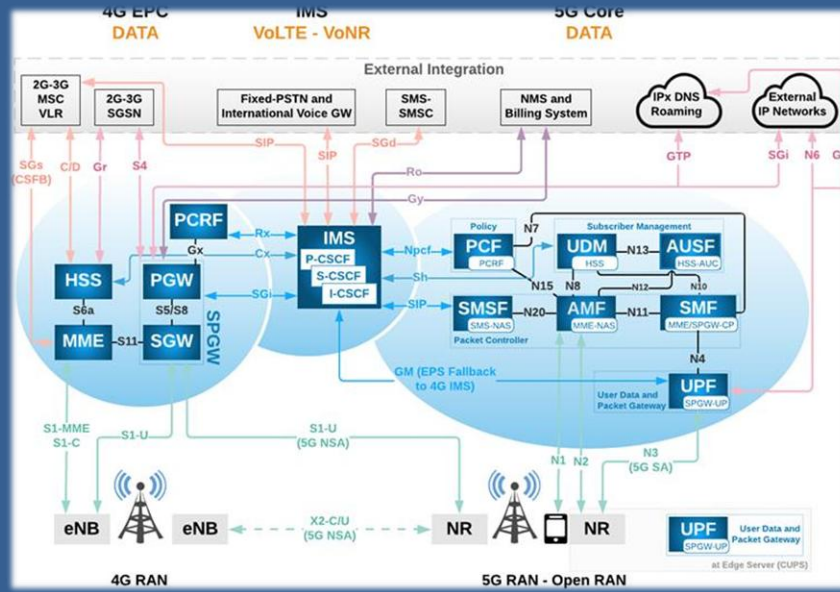


- b) Arcus Core – Edge deployment:

- Arcus core functions (Control & User plane) are deployed at Network Edge location to support access to edge applications as well as the internet. UPF routes the local traffic towards the Edge applications and the rest to the internet, ensuring mission critical traffic stays local and there is ultra-low latency along with support for high data rates.



- OpenNESS Building Blocks:



- Prerequisites:
  - OpenNESS 21.03.05.
  - Flavor – CERA Core User Plane was obtained through Intel Distribution of penNESS.
  - Storage: 200GB
  - CentOS 7.9
- Usage:
  - a) Repository
 

The Arcus Core is available in the edge apps repository. To obtain it, clone the repo: \$ git clone <https://github.com/open-ness/edgeapps>
  - b) Then, into the applications/arcuscore folder, there is a helm chart folder for installing it. Please upload the docker images received from Blue Arcus before you install the helm chart.
  - c) Install the Chart: helm install arcus5g. -n 5gcore
- Test Output:
 

NAME: arcus5g  
 LAST DEPLOYED:  
 NAMESPACE: 5gcore  
 STATUS: deployed  
 REVISION: 1  
 TEST SUITE: None  
 NOTES:  
 # SPDX-License-Identifier: Apache-2.0  
 # Copyright (c) 2021 Blue Arcus Technologies, Inc  
 5gcore was installed.  
 Your release is named arcus5g.

To learn more about the release, try:

```
$ helm status arcus5g -n 5gcore
```

- Configure Arcus 5G Core

Contact [sales@bluearcus.com](mailto:sales@bluearcus.com) for detailed instructions on configuring the arcus 5Gcore.

- Uninstall Chart

```
helm uninstall arcus5g -n 5gcore
```

## **2.5 IOT & Network Interfaces:**

Supports massive IoT and standard interfaces with 3rd party integration.