THE
NUCLEUS
OF TELECOMMUNICATIONS

5G
PRODUCTS

i2i 5G CORE NETWORK

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www.i2i-systems.com

i2i Systems
innovation to integration

About i2i Systems

i2i Systems is an international information technology company that specializes in developing innovative ideas and solutions. With its highly experienced team in the Telecommunications industry it offers a diverse variety of products in Telco OSS/BSS domains, as well as 5G network solutions.

i2i Systems delivers Next Generation Converged Revenue Management solutions enabling CSPs to unlock new business models, mitigate competition, reduce costs, and quickly monetize new use cases. This is being achieved through systems that are fully convergent, cloud-native, API-first, interoperable, low-code / no- code and modular. The offerings are highly scalable and support subscriber bases ranging from tens of thousands to tens of millions, harmoniously. i2i Systems improves its experience and skills by adapting new technologies and investing in research and development to provide best quality, efficient and visionary products to its customers. In accordance with its disruptive vision, i2i Systems further invests in 5G core-network, offering an end-to-end integrated cloud-based BSS and Network solution for optimizing and converging Service Providers IT and Network landscape thus increasing efficiency and enabling new revenue streams.

Customers - Telecom (CSP)

Partners

i2i 5G CORE NETWORK

A REVOLUTIONARY 5G CORE NETWORK THAT WORKS FOR YOU

i2i Systems is expanding the BSS/OSS product portfolio with the development of a 5G Core Network by combining 20+ years of experience in Telecom Industry and cutting edge technologies and frameworks.

Design Principles

i2i 5G Core is fully compliant with 3GPP specifications and industry standards, supporting SA (Standalone) mode and interworking with EPC. The technical architecture is based on the following contemporary design principles:

- Service Based Architecture (SBA)
- Cloud-native & Heterogeneous Deployment (VNF / CNF)
- Stateless Architecture & Seamless Scaling via MANO
- Control Plane User Plane Separation (CUPS)
- Unified Data Management
- Multi-Connectivity with minimized AN-CN dependencies
- Application Programming Interfaces & Exposure to 3rd Party Applications
- Shared infrastructure models allowing easy MVNO deployments

i2i 5G Core Features
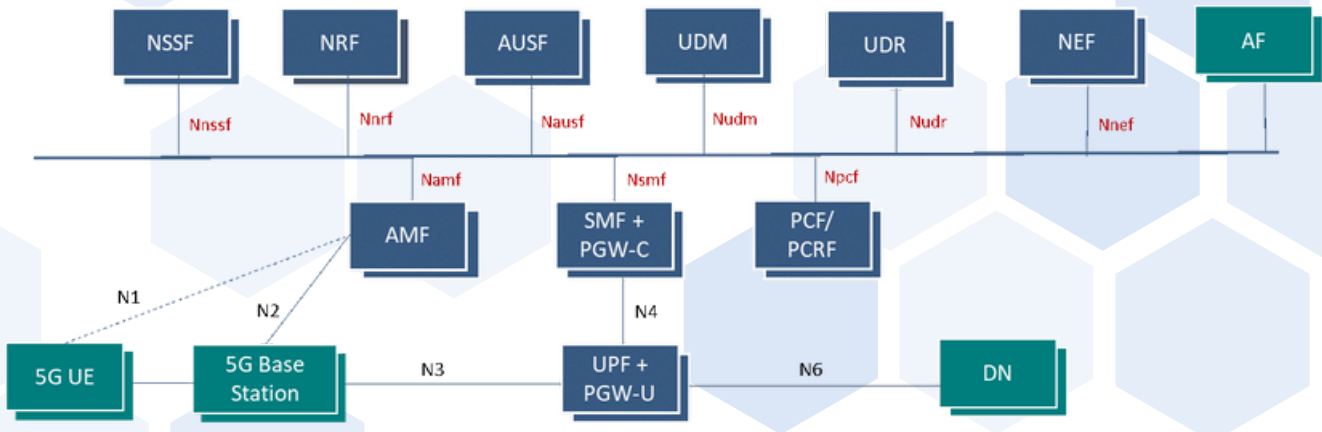
i2i 5G Core supports the following main features:

- Registration/Deregistration
- Registration with AMF Re-allocation
- Service Request
- PDU Session Establishment/Modification/Release
- Authentication/Authorization
- AM/SM Policy Control
- RAN and AMF Triggered AN Release
- NG Setup, NG Reset, NG Failure
- NAS Integrity Protection & Ciphering
- NRF Registration/Discovery
- Network Slicing
- Handover (Xn, N2)
- Home-routed Roaming
- Local Breakout Roaming
- Event Exposure
- OAuth 2.0
- Interworking with EPC
- Non-3GPP Access
- UE Reachability/Mobility
- IPv4/IPv6
- Lawful Interception
- Support for Charging
- Support for SMS
- Support for Location and Emergency Services
- EMS/NMS Integration

Technology & Performance

i2i 5G Core NFs (Network Functions) are deployed on a virtualized infrastructure, with a distributed, redundant, stateless and scalable architecture by enabling addition or removal of NF instances within an NF set. The NF set consists of individual and functionally self-sufficient NF instances that may be distributed to different locations. For scalability, new instances of NFs can easily be added to or removed from the NF set, as the NFs are "stateless" and store state information in a separate cluster.

In order to achieve ITU IMT-2020 performance objectives, in-memory databases and caching mechanisms along with asynchronous and non-blocking messaging are used by the components within and between the NFs. Control plane NFs use HTTP/2 which helps to reduce latency and increase performance and scalability and UPF uses DPDK library in order to bypass OS kernel networking routines to reduce latency in the user plane.

i2i 5G Core provides performance metrics, logs, alarms, and statistics by issuing periodic or on demand counters which can be used by the EMS (Element Management System) for KPI measurements and reporting purposes.

i2i Systems

Red Hat

Empowering the 5G Era: i2i Systems Drives Innovation and Efficiency with Red Hat OpenShift AI

i2i Systems' 5G Core Network provides increased productivity and operational efficiency through Red Hat OpenShift AI, which enables intelligent automation, real-time analytics, and adaptive resource management. AI is poised to accelerate the delivery of innovative new experiences while significantly improving business processes and resource utilization, empowering i2i Systems to thrive in the 5G era.

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⬤ Head Quarter Office

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