IPLOOK Networks

Build, expand and optimize networks with
End-to-End 4G/5G/6G Mobile Network Solution!

Company Profile

Founded in 2012, IPLOOK is an industry-leading end-to-end, cloud-based mobile network solution provider. IPLOOK services cover 50 countries or regions for more than 50 million users, and published over 275 software copyrights and patents in core network field.

IPLOOK's highly scalable virtualized 3G/4G/5G/6G core network software products can be deployed in the scenarios for Mobile Network Operators (**MNO**), Mobile Virtual Network Operators (**MVNO**), Wireless Internet Services Providers (**WISP**) and **Enterprises**.

Industry Ecosystem

About IPLOOK

IPLOOK Networks is a leading vendor of 4G/5G networking solutions, offering a complete line of products for **MNO**, **MVNO**, **service providers**, **enterprises and industrial markets**.

IPLOOK's self-developed core network products mainly include EPC and its network elements (MME/SGW/PGW/HSS/HLR/GGSN/PCRF), 5GC and its network elements (AMF/UPF/SMF/AUSF/UDM/PCF/NRF/NEF/NSSF), IMS core (VoLTE/VoNR/MCX), STP/DRA, GTP-Router, MEC GW, NB-IoT, etc.

Based on the NFV technology, these products could be deployed on X86 COTS hardware or Cloud, enabling operators to build, expand and optimize their networks rapidly to fulfill the ever-changing connectivity needs while lowering CAPEX.
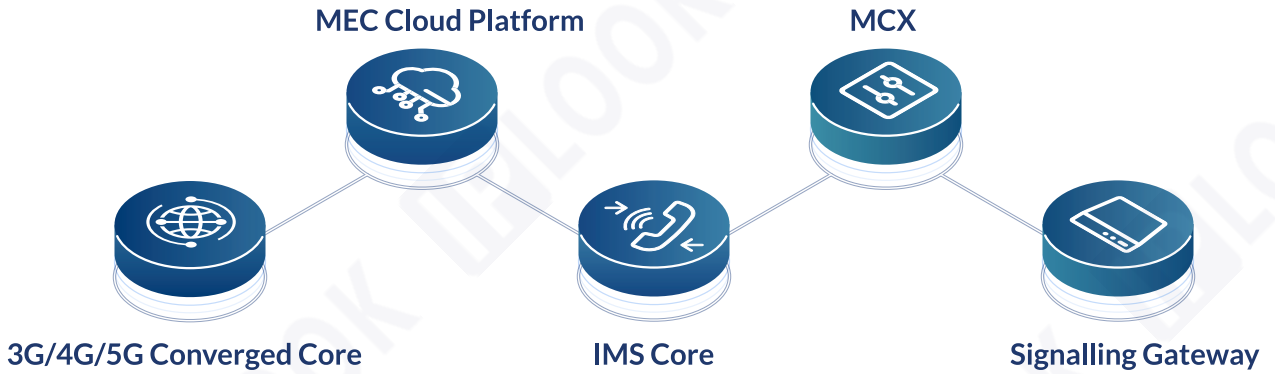
Global Layout

Beijing
Istanbul   Chengdu   Wuhan
Milan
Dakar
Nairobi
Nanjing
Guangzhou
Hong Kong
Phnom Penh

12+
Years Experience

50M+
Subscribers

50+
Countries

500+
Commercial Deployments

www.iplook.com   sales@iplook.com   @IPLOOK Networks   @IPLOOK Networks

Product Line

MEC Cloud Platform   MCX

3G/4G/5G Converged Core   IMS Core   Signalling Gateway

Why Choose IPLOOK?

- Full stack of 3G/4G/5G/6G/IMS core networks
- Easy and fast to deploy customized and flexible network
- Fully virtualized and carrier-grade EPC/5GC
- Scalable networks for all sized operators
- Worldwide commercial network deployments
- Save CAPEX & OPEX
- Robust integration with third-party systems
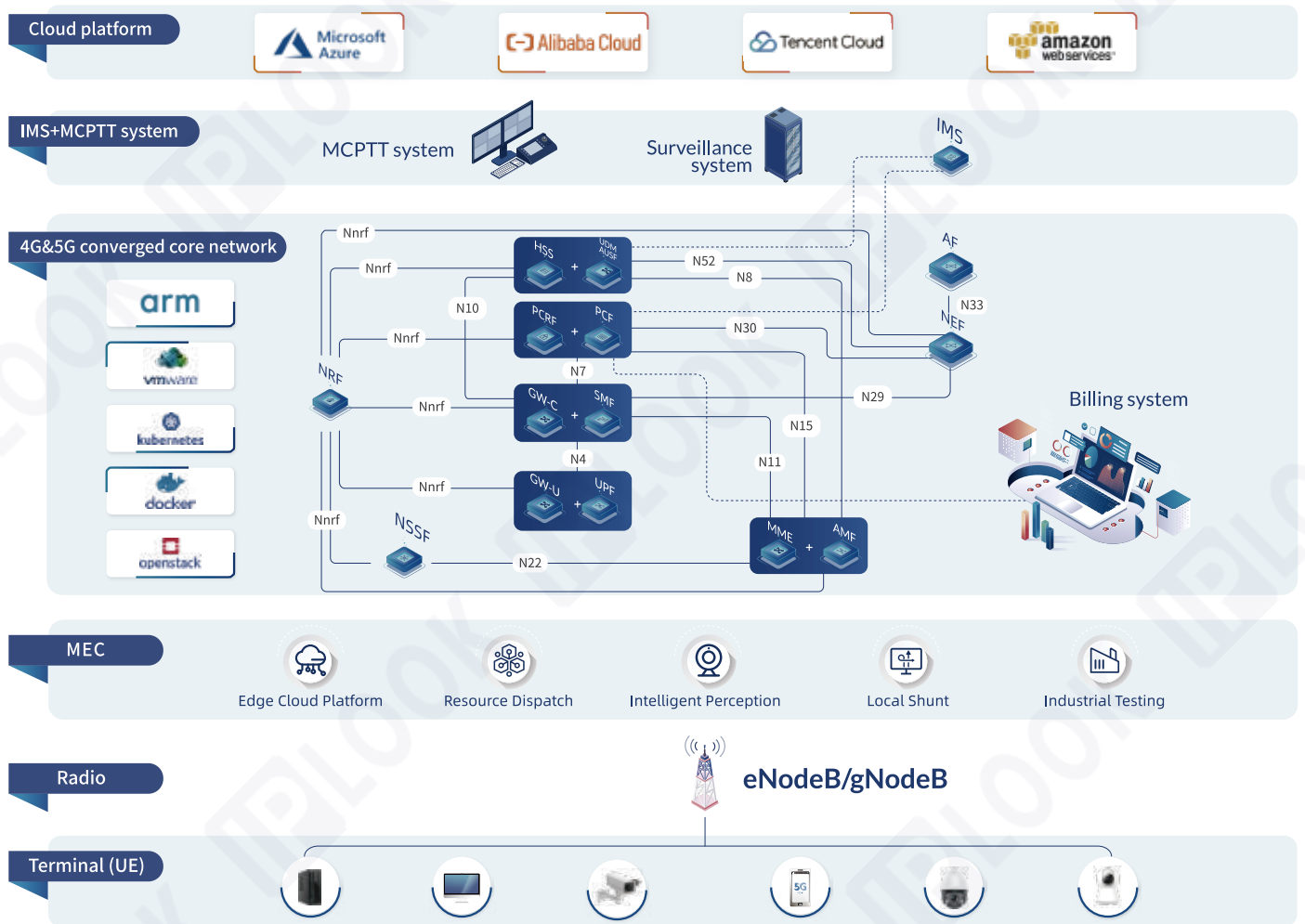- 24×7 hotline and online support

Global Clients

BABILON-MOBILE   DailyTelecom   NPN

K-NET   Acclinks

SPACEWIDE   yes seatel   SuperNet

CONNECT   YELLOW

ALCON   Hytera   Congo Telecom

teleseL   MB Multi-byte Info

TELETOK   SCT   UNITEL

End-to-End 4G&5G Converged Core Solution

IPLOOK cloud converged core is a fully-converged core network solution meeting full access of 2G/3G/4G/5G/Fixed networks. It can build, expand and optimize your wireless networks to meet diversified deployment scenarios.

This solution is specialized to enable all-sized **CSPs**, **private networks**, **operators**, **enterprises**, **and integrators** to take advantage of LTE/5G technology, delivering flexible and optimized-footprint solutions for business applications. It is suitable for both on-premises and cloud deployments.

Cloud platform
Microsoft Azure · Alibaba Cloud · Tencent Cloud · amazon web services

IMS+MCPTT system
MCPTT system · Surveillance system · IMS

4G&5G converged core network
arm · vmware · kubernetes · docker · openstack

Nnrf · HSS + UDM/AUSF · N52 · N8 · AF · N33 · NEF · N10 · PCRF + PCF · N30 · N7 · NRF · GW-C + SMF · N29 · N4 · N15 · GW-U + UPF · N11 · NSSF · MME + AMF · N22

Billing system

MEC
Edge Cloud Platform · Resource Dispatch · Intelligent Perception · Local Shunt · Industrial Testing

**Radio**
eNodeB/gNodeB

Terminal (UE)

Key Features

01 Turn-Key solution to reduce time-to-market while lowering CAPEX

02 Fully virtualized EPC/5GC on X86 COTS hardware and Cloud

03 Enable a smooth upgrade to 5G with seamless experience

04 Support multi-vendor radios and 3rd Party applications

05 Scalable network deployment with flexible architecture

06 Process scalability supporting 1,000 to 1,000,000 subscribers

IPLOOK's Core Network Based on NFV

IPLOOK provides customized core network solution based on Network Function Virtualization (NFV) technology. Due to its cloud-native and fully virtualized core network design, it can be deployed in **Docker**, **OpenStack**, **RedHat and Kubernetes Containers**, enabling operators and enterprises to deploy more flexible networks and reduce overall CAPEX.

iMANO: IPLOOK's Self-developed Management Platform

IPLOOK's iMANO platform supports OpenStack and Kubernetes integration, catering to VIM and CIM respectively to achieve unified management of the entire NFV infrastructure.
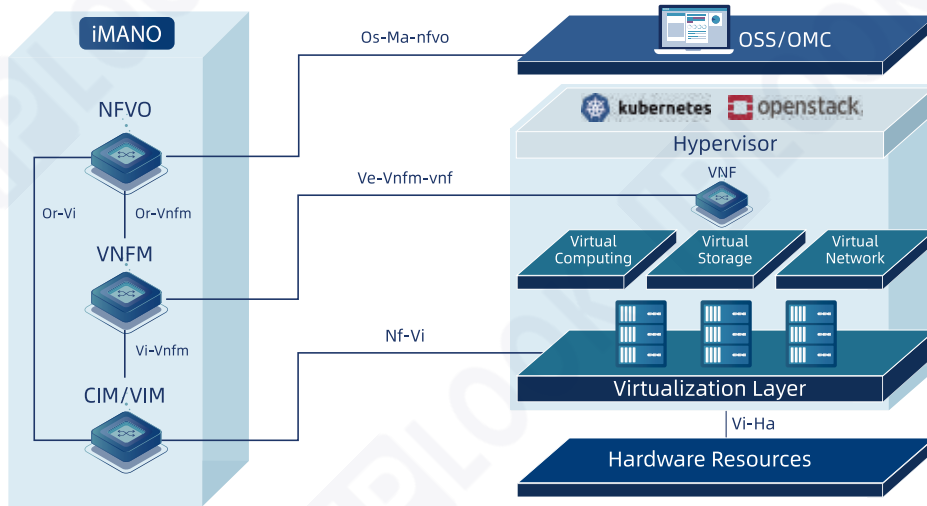
Management and Orchestration (MANO), the key element of NFV architecture, is responsible for managing virtual network function (VNF) lifecycles, to enhance the efficiency and flexibility of network operation reducing OPEX. MANO consists of two main components: Virtualized Network Function Manager (VNFM) and NFV Orchestrator (NFVO).

• VNFM creates, maintains, and ends VNF instances; scales up/scales down VNFs; manages fault, configuration, accounting, performance, and security (FCAPS).

• NFVO manages/coordinates the resources from VIMs; achieves service (involves multiple VNFs) orchestration; manages topology of the network services instances.

Key Features

01 NFV standard-compliant (ETSI)	**02** Multi-Cloud management
03 Adapt to IPLOOK's core network	**04** Dynamic network management
05 Support horizontal and vertical scaling	**06** Network services optimization

Solution for MNO

IPLOOK's mobile network operator (MNO) solution is designed for all-sized operators, providing a new end-to-end mobile network architecture to better cater to customers' needs.

This integrated and flexible solution enables new operators to enter the telecom market by deploying 3G/4G/5G networks and delivering high-speed network services faster. The new network will support VoLTE and VoNR, as well as CSFB to meet a variety of voice application scenarios.
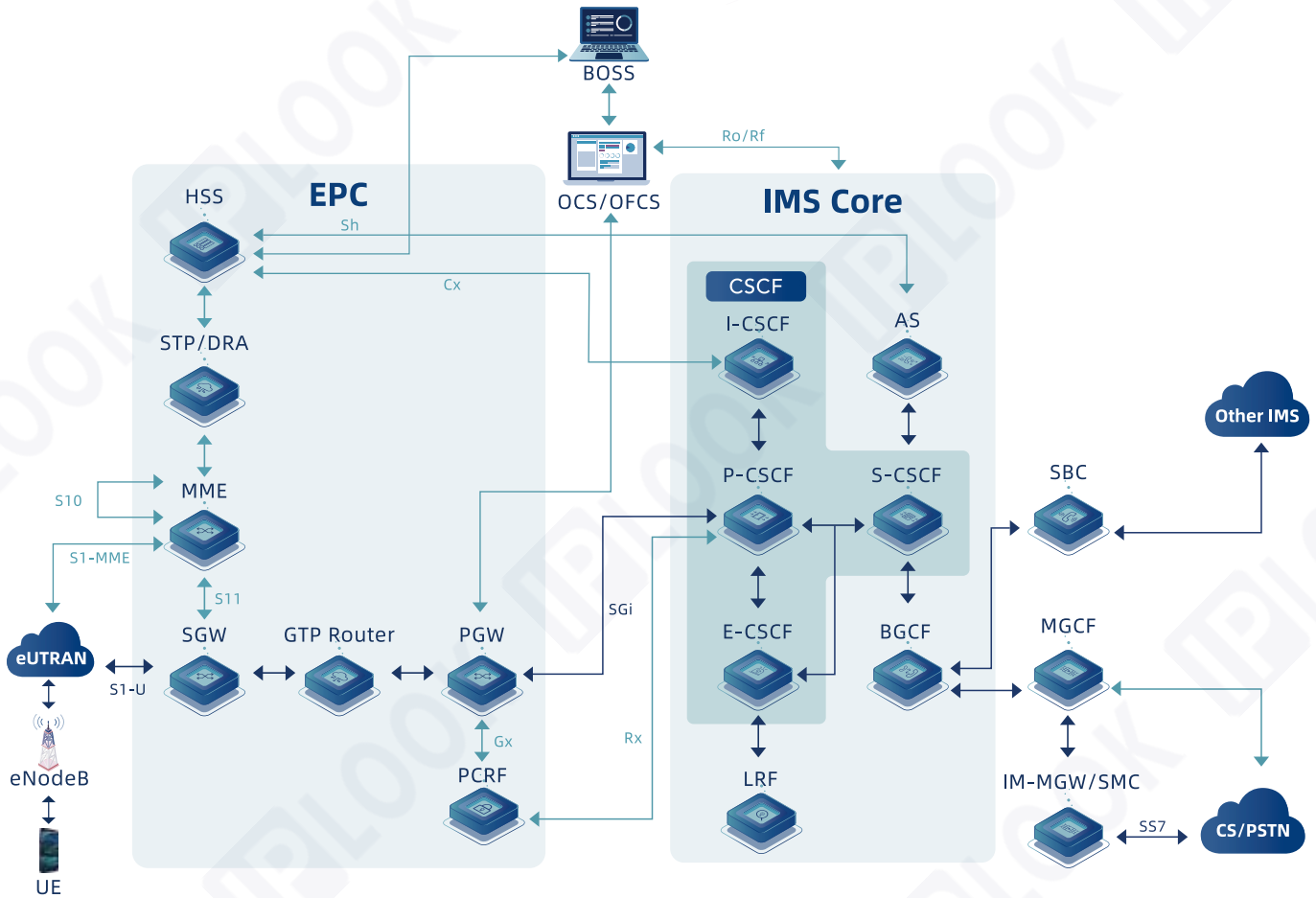
••• LTE Network Architecture for MNO •••

Highlights

- 5G ready platform supporting seamless upgrade to 5G NR smoothly
- NFV core network with ultra-high speed on COTS server and cloud
- Rapid network deployment for all-sized operators
- Upgrade the OSS/BSS to new system with OCS
- Simplify operators' network architecture and reduce O&M costs
- Support all eNodeB vendors openly with its 3GPP-compliant interface

Successful Cases: ONDO

IPLOOK delivers **4G network services covering the capital area supporting about 500,000 users** to meet high bandwidth demand in Mongolia. The highly-scalable 4G LTE commercial network provides ONDO with an accelerated ability and service agility to deliver new services to the market.
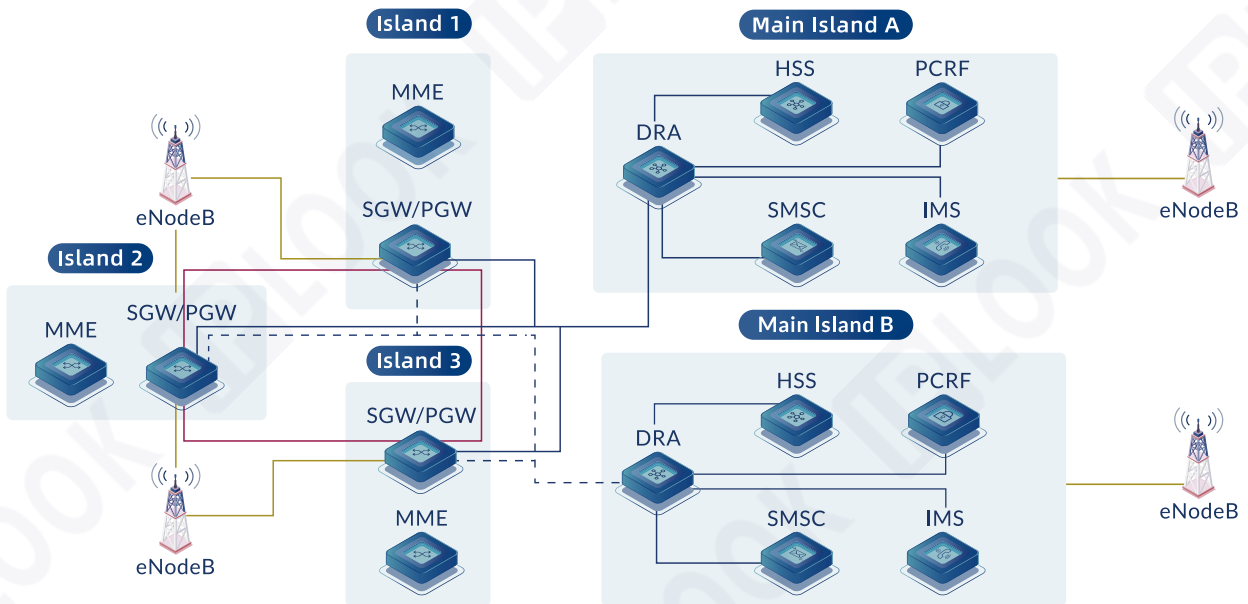
Key Benefits

01	Enable smooth upgrade to 5G network
02	Complete roaming interfacing with other operators
03	Ensure the success of user session transmission
04	Provide massive network capacity and service agility
05	Support multi-scenario 4G/5G applications
06	Reduce CPAEX ready for next-generation infrastructure
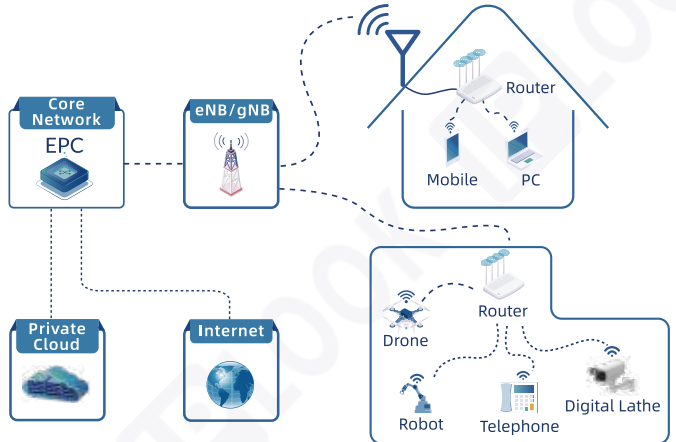
Successful Cases: Acclinks

With IPLOOK's carrier-grade EPC and IMS platform, Oceanlink achieved a **swift rollout of the new-built 4G commercial network (CSFB Feature)** on Pacific Islands, to provide high-speed internet and multiple media services, while significantly lowering TCO.

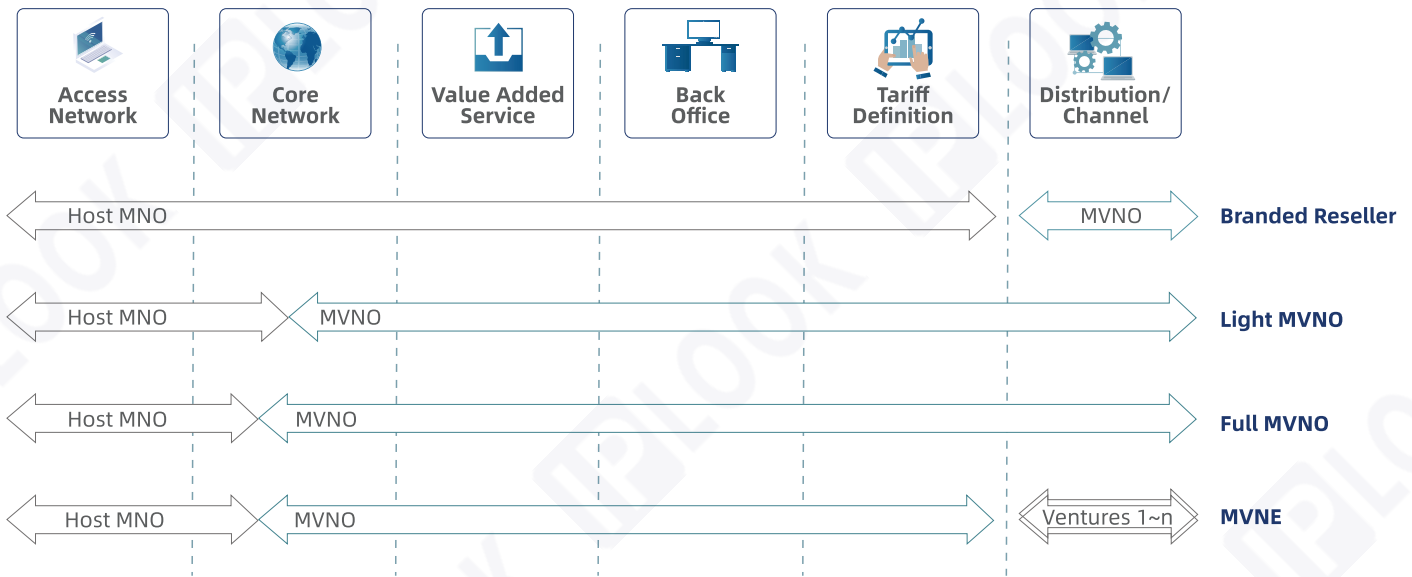••• LTE Network Designed for Island •••

Key Benefits

01	Expand service: Data, VoLTE, CSFB, SMS	**02**	Stable services in long latency environment
03	Seamless connectivity experience	**04**	1+1 standby mode with resource sharing

Solution for MVNO

Mobile Virtual Network Operators (MVNOs) offer mobile phone services to customers without owning a physical mobile network infrastructure. But they can have their own core network which takes charge of storage and communication functions.

IPLOOK's MVNO solution is a complete end-to-end and modular solution. It has all-in-one features and supports 3G/4G/5G/NB-IoT access while lowering CAPEX, which can be applied in international roaming for tourists & M2M.

MVNO Business Model

Access Network	Core Network	Value Added Service	Back Office	Tariff Definition	Distribution/Channel

Branded Reseller — Host MNO / MVNO

Light MVNO — Host MNO / MVNO

Full MVNO — Host MNO / MVNO

MVNE — Host MNO / MVNO / Ventures 1~n

Each of them can manage its own set of services, own web self-care and launch its own plans and tariffs. Light MVNO, Full MVNO and MVNE can directly connect with MNOs/MVNOs, forwarding signaling or traffic to other MVNOS. They can also write SIM card and select eSIM vendors; achieve full OTA process; swap host MNO dynamically based on specific requirements.

Key Benefits

01 Scalable Platform
Support from 1 thousand to 10 million subscribers

02 Pay-as-you-go Model
Available as one-time purchase or leasing formula

03 Flexible Deployment
Deploy on COTS server or cloud platform

04 Multi-Tenant Architecture
Multiple MNOs/MVNOs available in single platform

05 Smooth Upgrade
From existing 3G/4G network to 5G NSA&SA

06 Field-Proven Solution
Work with multi-level redundancy

Successful Cases: ıllnetgsm

IPLOOK's core network enables NETGSM, Türkiye's first and only full MVNO, to offer reliable 3G/4G data services, SMS, VoLTE in various scenarios via direct interconnection with all operators in Türkiye. It is estimated that 5G services will be introduced following the project.

Network Capacity:
1 Million+

The Peak Throughput:
15Gbps
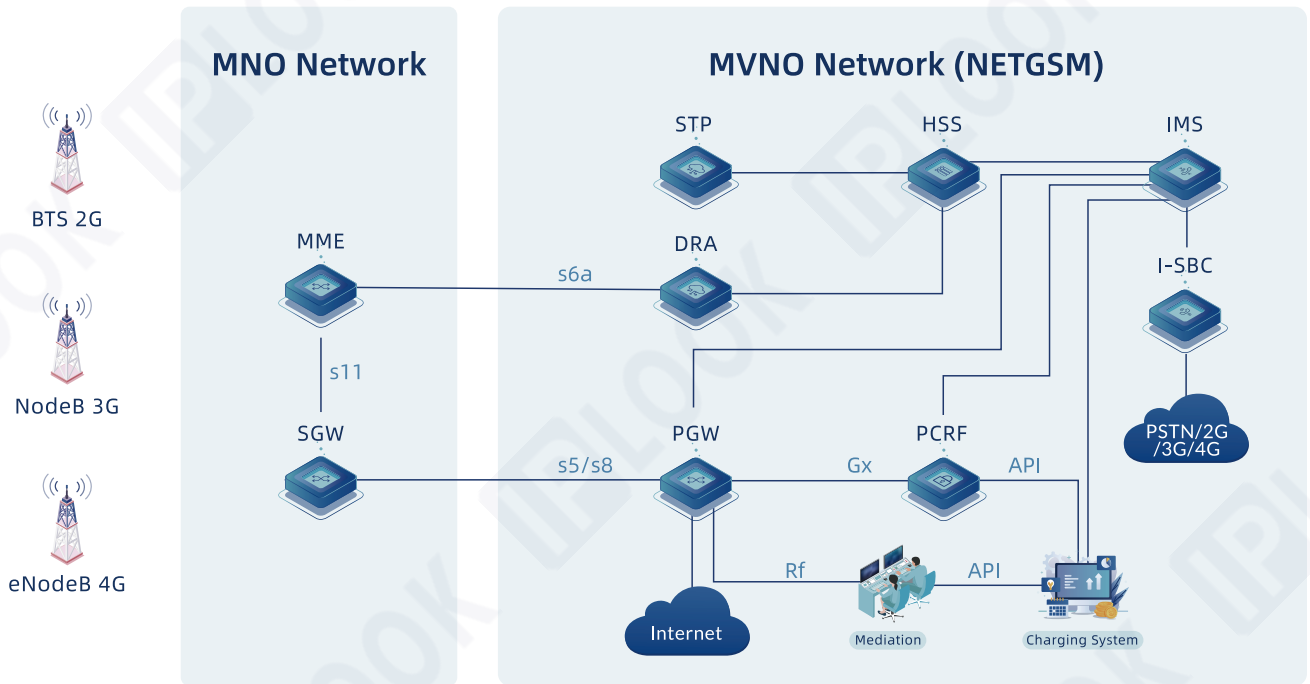
••• MVNO Network Architecture •••

Successful Cases: NPN
The Best E-Channel in 5G

IPLOOK has embarked on the 3G&4G&5G mobile core cooperation with NPN since 2018, providing network elements (HSS/HLR, PGW/GGSN, PCRF...) in 5GC and EPC. Now, NPN can provide 3G, 4G mobile data services with reliable connectivity.

- Support **1,000,000+** connections
- Geo-redundancy in different data centers
- Interconnect with **15** operators in Asia & Europe

Compact EPC: IPLOOK IKEPC 500 Series

IKEPC 500 series, a fully-integrated, highly-scalable and cost-effective LTE mobility platform, combines MME, SGW, PGW, HSS, PCRF, IMS and DRA network elements in one X86 COTS platform which are 100% 3GPP compliant. This compact EPC enables telcos to rapidly enter the market at competitive price.

Open operability for eNodeB & charging

Easy deployment

High scalability

All-in-one design

High O&M efficiency

Smooth upgrade to 5G network

HA network for geo-redundancy

IKEPC 510 (1U Server)   **IKEPC 520 (2U Server)**

Roaming with MNOs by 3GPP-compliant interface

WISP   **CBRS**   **Private LTE**   **Campus Coverage**

IKEPC 500 series consists of IKEPC 510 and IKEPC 520, to provide LTE high-speed data services, VoLTE, video, SMS and other services, using a unified EMS (Element Management System) to reduce OPEX.

Specification

Item	IPLOOK IKEPC 510	IPLOOK IKEPC 520
Product Description	Compact EPC (MME/HSS/PGW/SGW/PCRF/IMS/DRA/OAM)	
Hardware Type	1U Server	2U Server
Hardware Specifications	• 3rd or 4th generation Intel® Xeon® Scalable processors (Silver/gold/platinum full range) • CPU*2, 2GHz or higher • 16GB RAM or greater • 480GB*2 SSD RAID1 • Quad Port 1GbE*4 Base-T	• 3rd or 4th generation Intel® Xeon® Scalable processors (Silver/gold/platinum full range) • CPU*2, 2GHz or higher • 32GB RAM or greater • 480GB*2 SSD RAID1 • Intel 82599 Dual Port 10GbE SFP+ Quad Port 1GbE*4 Base-T
Number of UE	≤ 10,000	≤ 20,000
Number of eNodeB	≤ 200	≤ 500
Throughput	Up to 600 Mbps	Up to 6 Gbps

Note: IPLOOK's deployment service enables customers to deploy networks of all sizes. Based on different traffic models of networks, the capacity will be different, contact us for detailed evaluation.

FWA Solution for WISP

IPLOOK's Fixed wireless access (FWA) solution enables ISPs and Operators to deliver high-speed broadband services to areas where fiber is unavailable or expensive to build.
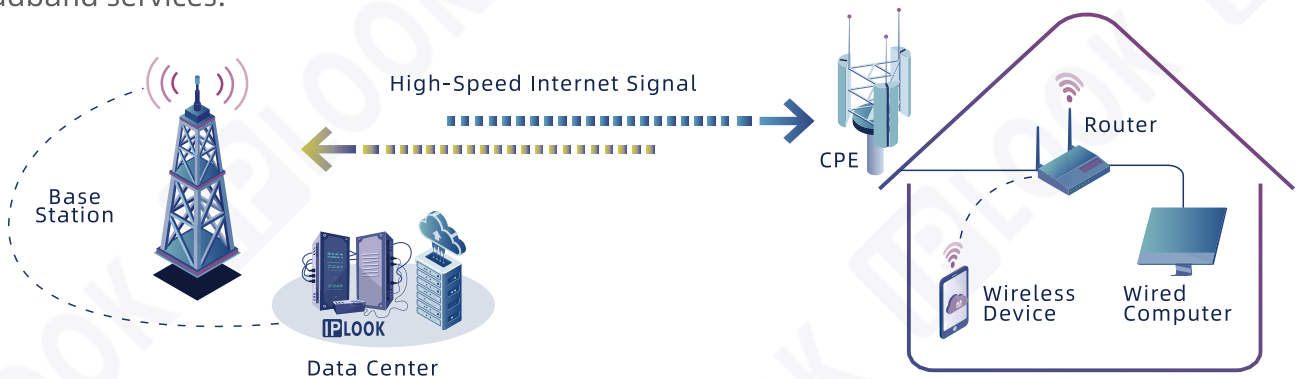
Network Deployment Challenges	Highlights of FWA Solution
Barriers to entering the telecom market	End-to-end solution with simplified deployment at competitive price
Unstable network connection in remote areas	Reliable network services stably over long distances
Growing numbers of connections	Sufficient bandwidth capacity for community and enterprise users
Difficulties in network operation	Easy O&M of traffic flows with a unified management platform
Emerging network requirements	Customized solutions for diverse applications
Requirements of enhancing operations abilities	Open operability for radio vendors and provide APIs for provisioning and billing

IPLOOK's Complete Fixed Wireless Solution

By installing radio equipment and deploying IPLOOK's 5GC/EPC in central locations around a community, with connections back to the Internet. Each subscriber who has a CPE on their house can receive broadband services.

High-Speed Internet Signal

Base Station

CPE

Router

Data Center

Wireless Device

Wired Computer

Successful case: telesol
just a touch

IPLOOK's flexible FWA solution enables Telesol to roll out ultra-fast and reliable 4G data services for over 20,000 subscribers while completing the integration of fingerprint collection system and billing system from different vendors, to provide a network of diverse services.

Private Network

Connectivity is everywhere. The application scenarios that run by networks become multiple as more enterprises and operators deploy private networks to support all requirements, creating new enterprise business and revenue opportunities.

Private LTE/5G network solutions can be widely applied in many fields based on requirements from enterprises and vertical industries to meet the needs of diversified application scenarios.

Availability

Interconnection

Quality of service

Reliability

Private Network

Security

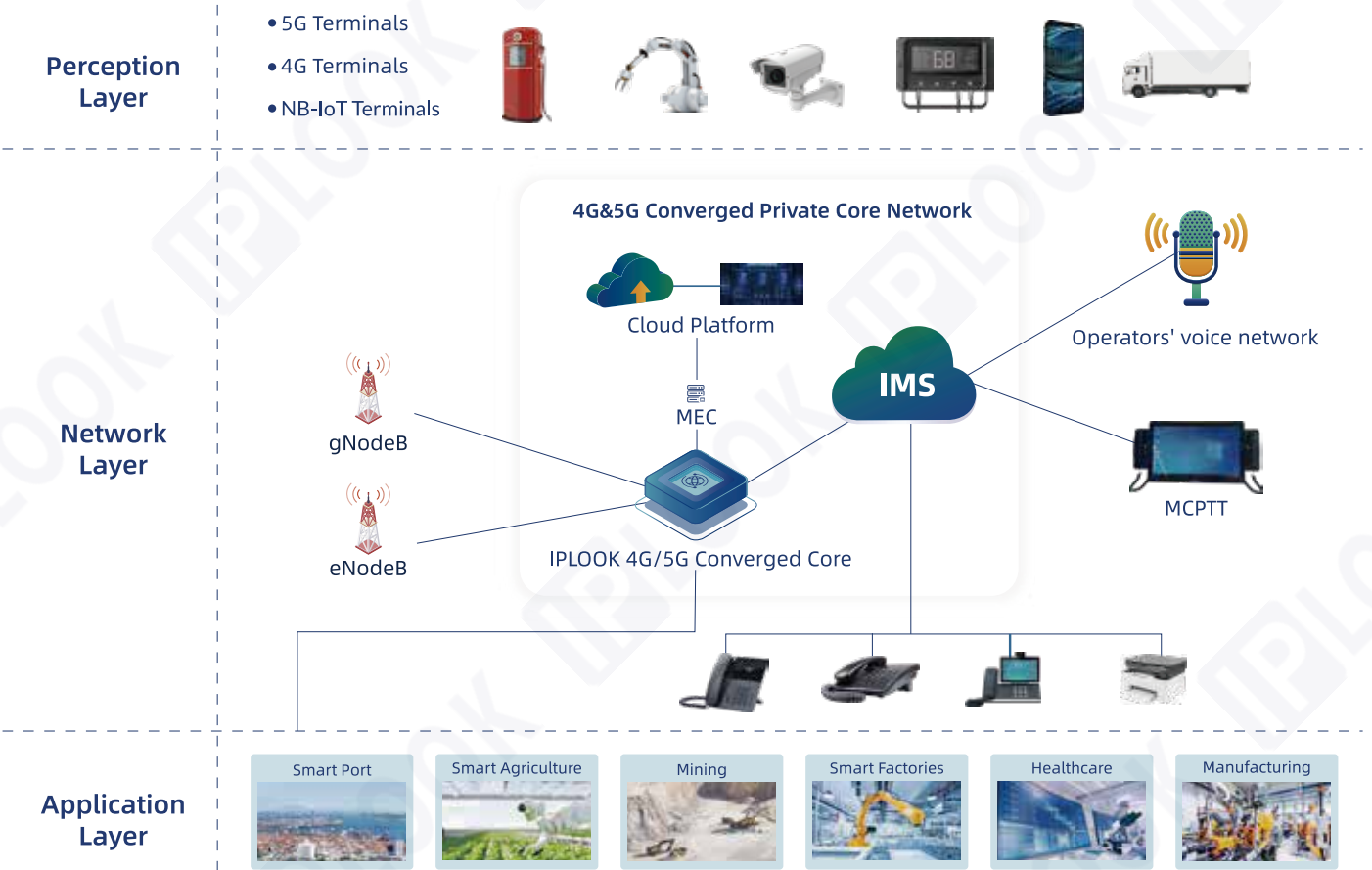••• The Requirements of Private Network •••

Why private network?

IPLOOK Private LTE/5G Network
End-to-End, cloud-native, highly integrated and scalable

Enhanced speed and bandwidth
Offer higher speeds and bandwidth than regular public networks

Increased control over services
Higher-level control of network resource, traffic prioritization, additional services

High security and data privacy
Access restriction and local data process within dedicated network

More customizable solutions
Customized to meet needs, making it ideal for a wide range of applications

Low-latency applications
Deploy edge computing capabilities to improve customer experience

Broader network coverage
Enable private network in underserved areas without reliance from public network

Flexible deployment with competitive price
On-premises, cloud-deployed, and cloud-hosted deployment

Enable innovative use cases
Open to modern applications for all vertical industries with optimized performance

Solution for Private Networks

IPLOOK elevates 4G&5G Converged Private Core Network Solution with the powerful combination of converged core, IMS, and MCPTT, to provide Data, VoLTE/VoNR, MCPTT, SMS services for diversified application scenarios.

▫ Flexible	◉ Converged	☁ Customized	◈ Virtualized

Perception Layer
- 5G Terminals
- 4G Terminals
- NB-IoT Terminals

Network Layer

4G&5G Converged Private Core Network

Cloud Platform

MEC

gNodeB

eNodeB

IMS

Operators' voice network

MCPTT

IPLOOK 4G/5G Converged Core

Application Layer

Smart Port	Smart Agriculture	Mining	Smart Factories	Healthcare	Manufacturing

••• The End-to-End Solution for Private Network •••

Key Benefits

01 4G/5G converged core for smooth and seamless network migration

02 Highly reliable and secure services for industrial applications

03 Customized solution to cover clients' network requirements

04 Roaming from private LTE/5G to public operators' network

05 High performance capacity with flexible deployment options

06 Cost-effective network solution to support and maintain
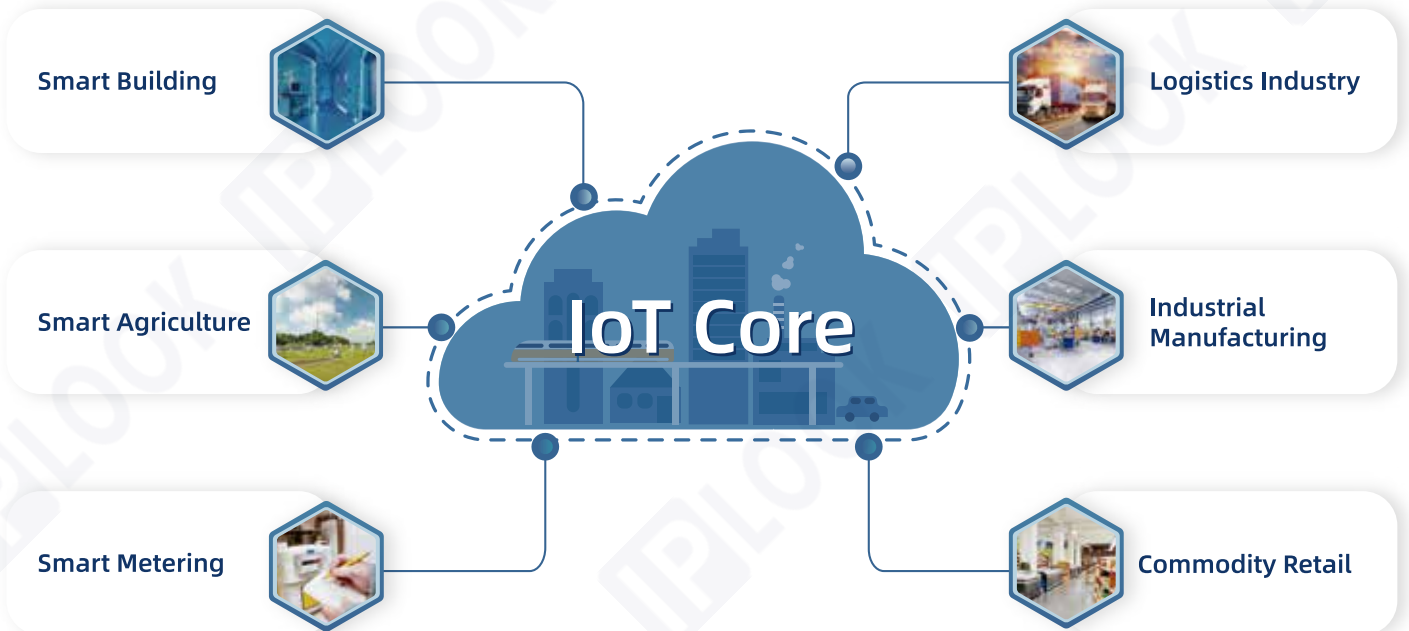
Solution for IoT

5G witnesses significant innovation in the telecom industry. It is also seen as the major driving force of the Internet of Things (IoT) which has changed the world.

IoT is being widely embraced with the number of connected devices growing rapidly. For new business models, connectivity must be flexible and agile, in order to meet the network performance required for rising 5G application scenarios.

Key benefits

01 Converged EPC, 5GC and IoT core

02 Support smooth upgrade to 5G network

03 CAPEX-saving solution with lite eNB, gNB and core

04 Flexible deployment with compact version & distributed version

05 Customized IoT Solution for industrial networks

06 Improved system capacity and spectrum efficiency

IoT Applications

Smart Building
Logistics Industry
Smart Agriculture
IoT Core
Industrial Manufacturing
Smart Metering
Commodity Retail

NB-IoT Solution

NB-IoT is a standards-based LPWA (Low Power Wide Area) technology developed to enable a wide range of new IoT devices and services, supporting flexible, virtualized and compact network deployment.
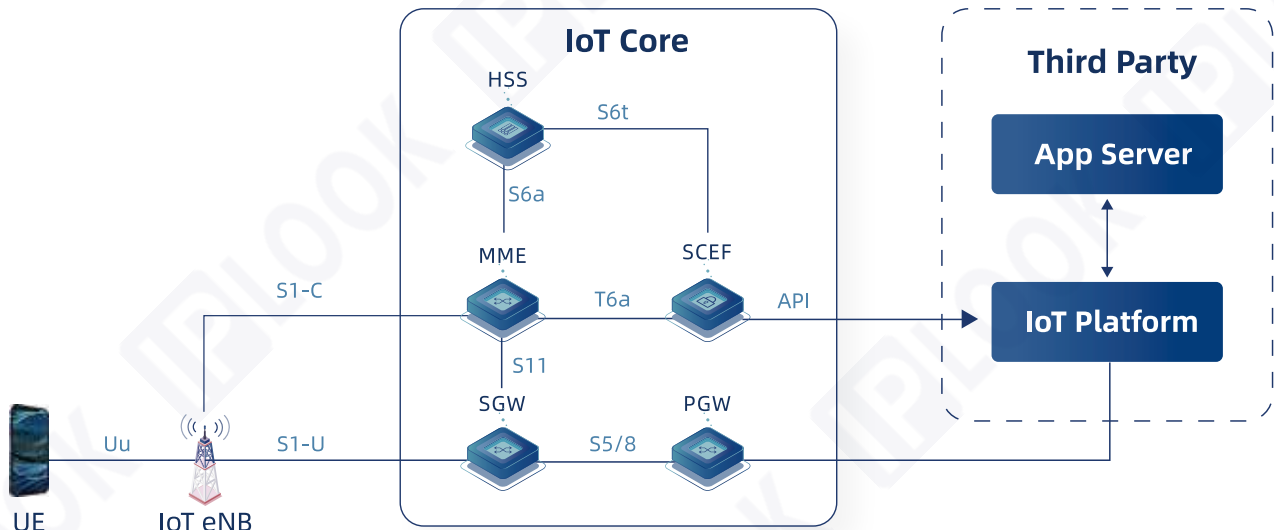
••• IPLOOK IoT Network Architecture •••

SCEF (Service Capability Exposure Function) is introduced in IPLOOK's NB-IoT network architecture to support the optimized options for the control plane and NIDD (Non-IP Data Delivery).

IPLOOK's NB-IoT Solution provides mobile management, subscriber and TAU services with converged EPC, 5GC and IoT core. It can be integrated with downstream interfaces for the end-to-end realization of a variety of use cases.
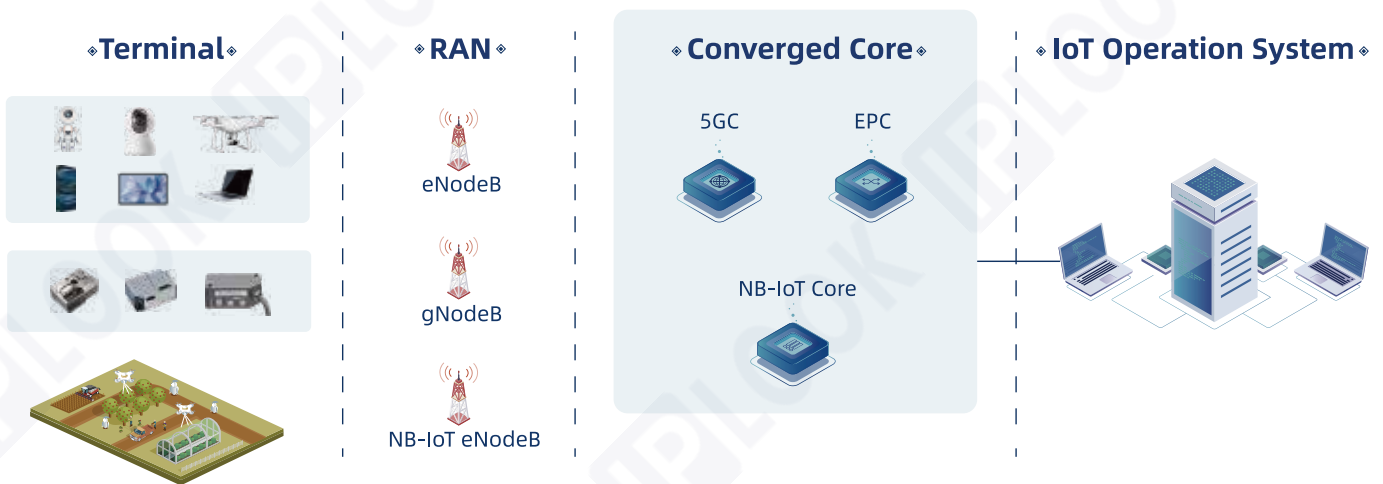
••• The Comprehensive NB-IoT Solution for Industrial Networks •••

IPLOOK

Connect everywhere and everything!

🔍 | IPLOOK Mobile Core Network | 🎤

🕐 IPLOOK **End-to-End Mobile Network** Solution

🕐 IPLOOK **5GC**

🕐 IPLOOK **EPC**

🕐 IPLOOK **4G&5G Converged Core**

🕐 IPLOOK **MNO** Solution

🕐 IPLOOK **MVNO** Solution

🕐 IPLOOK **FWA** Solution

🕐 IPLOOK **Private Network** Solution

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