



IPLOOK **IMS** PRODUCT INFORMATION

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IPLOOK Network Technologies

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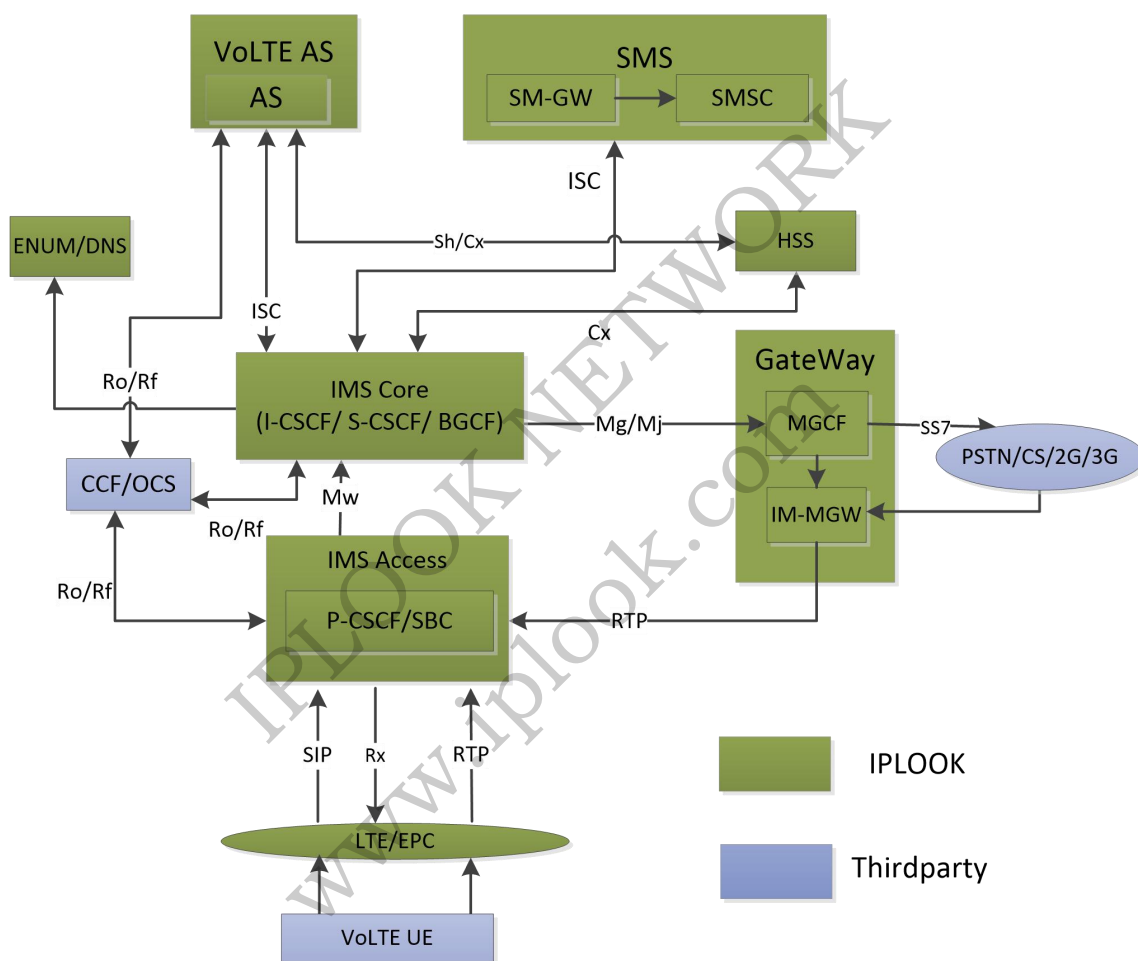
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Overview

IPLOOK IMS product overview is described in the following picture:



IMS product overview diagram

Feature List

IPLOOK IMS products have supported the following features:

1. Voice call with VoLTE or VoIP tech
2. Video call with VoLTE or VoIP tech
3. Interaction Call between LTE and PSTN or 2/3G CS through E1/T1 connections
4. Interaction between IMS networks
5. Instant Messaging
6. Billing event generation for Prepaid or Postpaid for charging
7. Support IPSec ESP for signaling transport
8. Support AKAv1/AKAv2/Http Digest/SIP Digest authentication
9. Supplementary service:
 - Calling line Identification Presentation
 - Calling Line Identification Restriction
 - Call Forwarding Unconditional
 - Call Forwarding on Mobile Subscriber Busy
 - Call Forwarding on No Reply
 - Call Forwarding on Mobile Subscriber Not Reachable
 - Call Wait
 - Call Hold
 - Operator Determined Barring
10. 3rd party call
11. Fax T.38 service
12. Work with RCS to support Presence information
13. Interaction with SMC&SMGW to support SMS service
14. IPLOOK IMS products have supported the following interfaces:
 - Rx interface between PCRF and P-CSCF for QoS control.
 - ENUM interface between S-CSCF and ENUM-DNS server for Tel URI to SIP URI conversion.
 - Sh interface between AS and HSS – used for IMS user profile management

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- ISC interface between AS and CSCFs – standard IMS interfaces
- Gm interface between SBC/P-CSCF and UE (via EPC/PGW)
- Cx/Dx interface between CSCF and HSS
- Mg/Mj interface between CSCF and MGCF for PSTN-IMS interconnect
- SNMP interface towards Network Management System
- Ro interface between CSCFs and IN/OCS – used for pre-paid service charging
- Rf interface between CSCFs and CCF – used for post-paid service charging

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Functional Description

1. IPLOOK S-CSCF network element support the following main functions:
 - To handle registration requests by acting as a registrar as defined in [RFC3261].
 - To authenticate users by means of the IMS Authentication and Key Agreement (AKA) schema.
 - To download user information and service profile from the HSS during registration or when handling a request to an unregistered user.
 - To route mobile-terminating traffic to the P-CSCF and to route mobile originated traffic to the I-CSCF, the Breakout Gateway Control Function (BGCF) or the application server (AS).
 - S-CSCF Enhanced iFC Handling
 - To interact with RCS
 - Sending of SIP OPTIONS for remote peer availability
 - To translate an E.164 number to a SIP universal resource identifier (URI) using a domain name system (DNS) translation mechanism
 - To send accounting-related information to the CCF for offline charging purposes and to the Online Charging System
2. IPLOOK BGCF network element support the following main functions:
 - With integrated BGCF, processes requests for routing from an S-CSCF when the S-CSCF has determined that the session cannot be routed using DNS or ENUM/DNS.
 - Processes the interworking with the PSTN/CS Domain, when the BGCF has determined that a breakout should occur in the same IMS network to send SIP message from BGCF to MGCF.
3. IPLOOK I-CSCF network element support the following main functions:
 - To allow detection of an INVITE request addressed to a special address, triggering the Cx LIR query to use the IMPU from the P-Asserted-Identity header.
 - To modify the Request-URI type, e.g. from TEL URI or SIP URI to SIP URI with user=phone.
 - First Point of Entry(From P-CSCF in home network or From P-CSCF in visited network)
 - S-CSCF Assignment by selection based on assignment in HSS
4. IPLOOK P-CSCF/SBC network element support the following main functions:
 - 3GPP R10 compliant Proxy-CSCF (P-CSCF) function
 - Support for Gm, Mw, Rx, Rf/Ro interfaces

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- Voice Quality Enhancements (VQE)
- Security support, IPsec for SIP, etc.

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Roadmap

IPLOOK IMS Roadmap is shown as below figure.



IPLOOK IMS Roadmap

Product Strategy

The IMS product offers Virtualized platform deployment, using x86 standard server with linux 64-bit platform, as the following hardware:

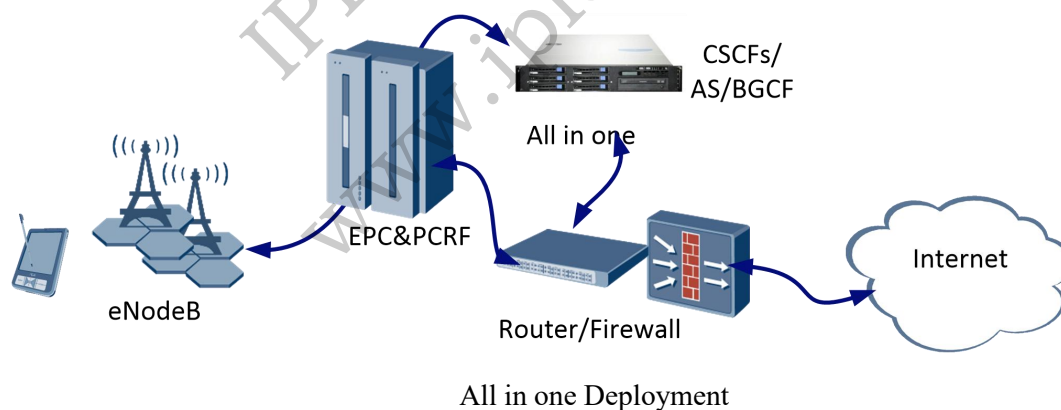


KTVIMS Server

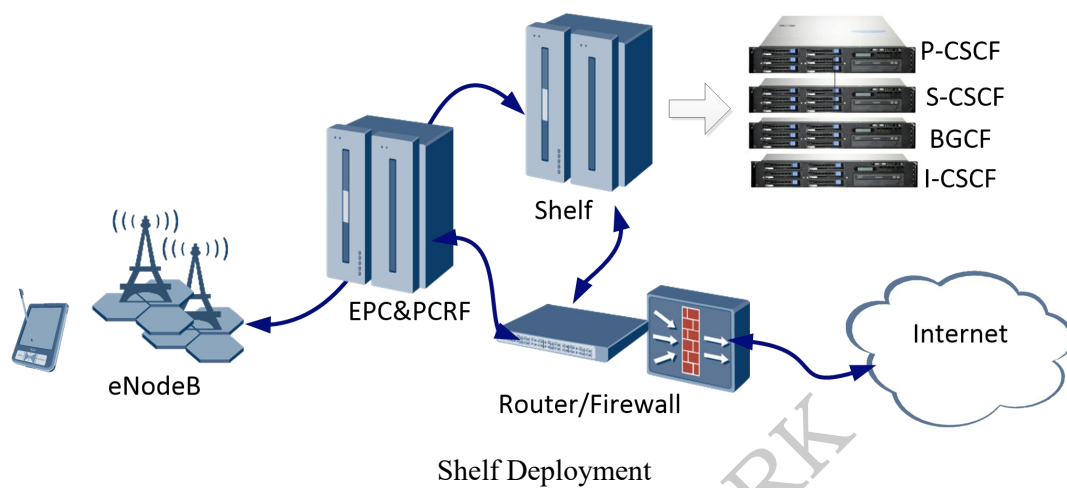
The IMS network element can be directly deployed on the x86 server to reduce the CAPEX.

Based on capacity, vIMS can be deployment in two ways:

1. All in one platform, one x86 standard server deploy all the IMS network elements including CSCFs/BGCF/AS;



2. Shelf platform, the IMS network elements are separated into different server, and multiple same elements to support big capacity.



Technical Support

1. Training

Provide a three-day free training and technology consulting for customer after system completed, to ensure related personal can use this system correctly.

Main courses of training are as follow:

- Business process understanding of industry and enterprise, and information training.
- Technical training of system hardware device operation specification
- System software program installing, operation, and system software upgrading training
- System simple maintenance training
- System fault location and solving method of faults training.

2. Guarantee and service commitment

- Quality assurance:

The products what we have produced and sold are design and build under industry standard. All products have eligibility card, warranty card. They are all new, original and accepted product.

- The warranty period: ONE YEAR.

During the warranty period, IPLOOK provide free maintenance for software failure or hardware failure, provided by IPLOOK, caused by non-human factors. Software is freely upgraded on site or equipment can be return to the factory for maintenance service. The resulting costs are free.

After the warranty period, IPLOOK provide free technical support for system upgrade and response to equipment comprehensive maintenance. In addition to the travel expenses charged, the other service charged as the same as in warranty.

- Upgrade: software upgrades are for free, hardware upgrades will take a discount.
- Operation and maintenance scheme

Resident maintenance: arrange staffs to real-time monitoring in 24 hours, they are in charge of resident maintenance, upgrading software and hardware, take charge of connecting and debugging other products

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Remote maintenance: arrange staffs to remote monitoring, remote maintenance and debugging for communication products.

- Fault handling and response time

During the warranty, if the product failure, IPLOOK will take a response within 1 hour after receiving the customer's repair record and arrive to site within 12 hours. IPLOOK ensure the repair is completed within 48 hours.

If special condition meet and it can not be repaired, IPLOOK will provide alternative equipment in the following 2 working day until the user equipment are back to service.

During the warranty, if the equipment is still in abnormal state after repairmen, we will provide the replacement of new equipment with no charge.

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