Datasheet

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XproIMS

Professional IMS Core Network Testing Solution

Dotouch XproIMS aims at simulating VoNR/VoLTE behaviors based on 3GPP. On the control plane, SIP and MSRP protocol stack are supported. On the user plane, RTP protocol stack is supported to simulate business processes over the Gm interface. The main functionalities of the IMS simulation include IMS UE simulation and IMS core network simulation. During actual testing, the XproIMS UE tester and the XproIMS core network tester can be flexibly deployed according to the actual testing scenario requirements.

Test Scenarios

- IMS Network Element Simulation Testing
- IMS UE Simulation Testing
- Standard VONR/VOLTE Signaling Process Simulation Testing
- Standard VONR/VOLTE User Plane Simulation Testing
- SMS and 5G Message Simulation Testing

UE Simulation

The main functions of IMS UE simulation include:

- UE initiating IMS registration.
- UE initiating VoNR/VoLTE call establishment (voice and video).
- UE initiating 5G message/short message exchange (including MSRP long messages).
- UE initiating media traffic such as RTP voice and MSRP protocol 5G messages.

It can directly conduct functional and performance testing on the IMS core network.
It can work with the XproReplay 5GC tester to connect with a real IMS core network to test VONR/VOLTE and 5G message.

IMS Core Network Simulation:

The main functions of IMS core network simulation include:

- It simulates IMS core network elements such as P-CSCF, I-CSCF, S-CSCF, ENMU/DNS, AS, etc.
- It simulates interfaces with external core networks (5GC, EPC) and third-party AS (Application Servers).
- It stimulates the entire IMS network or particular IMS NE (Network Element) to test the DUT (Device Under Test).

XproIMS Core Network Simulation can interface with XproReplay 5GC tester, to test gNB/eNB functionality using 5G/4G real UE.

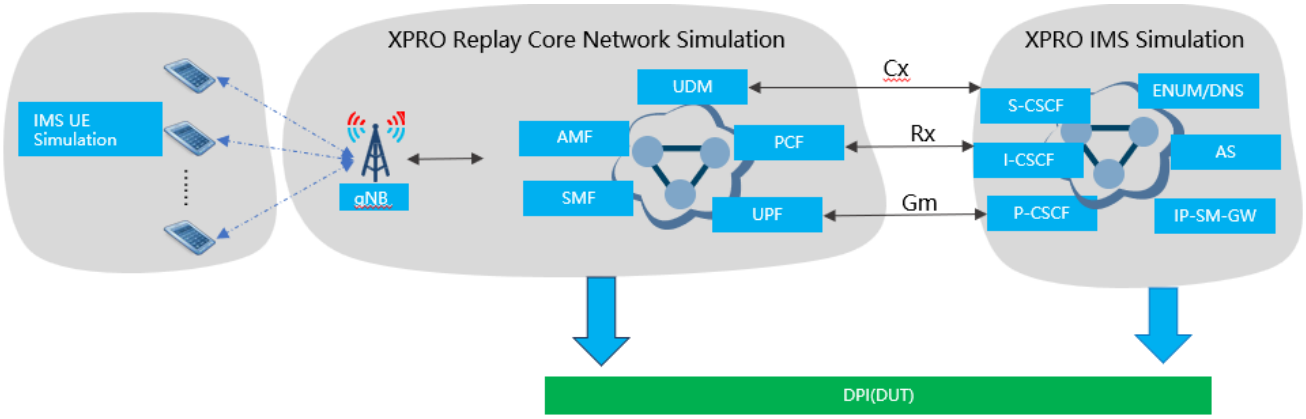
Supported Processes:

Supported Process
Supports 5GC/EPC registration/deregistration, IMS registration/deregistration processes.
Supports standard voice call setup procedures.
Supports standard video call setup procedures.
Supports EPS Fallback procedures.
Supports short message and 5G message service flows.

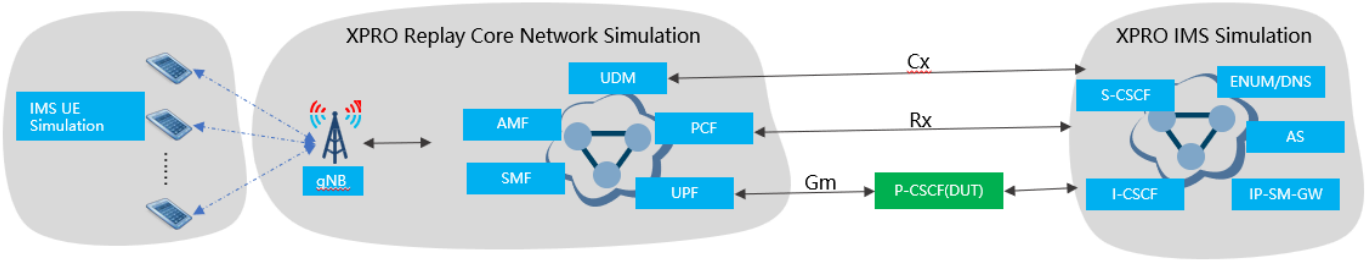
Typical Testing Scenarios:

It is possible to deploy the XproIMS UE tester only, the XproIMS core network tester only, or both simultaneously. When combined with the XproReplay 5GC tester, it is possible to achieve testing requirements for 5GC DPI, IMS core network and individual network elements, 5GC/EPC, gNB/eNB, mobile terminals, and SMS gateways.

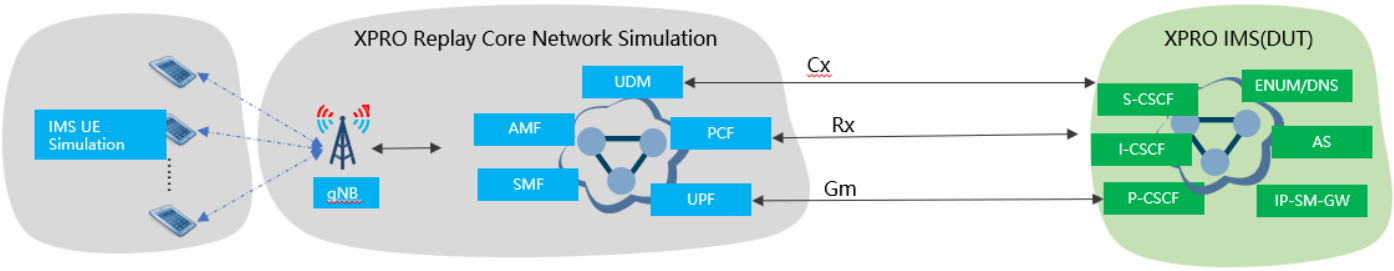
- **Scenario 1: Simulate all NEs to Test DPI**



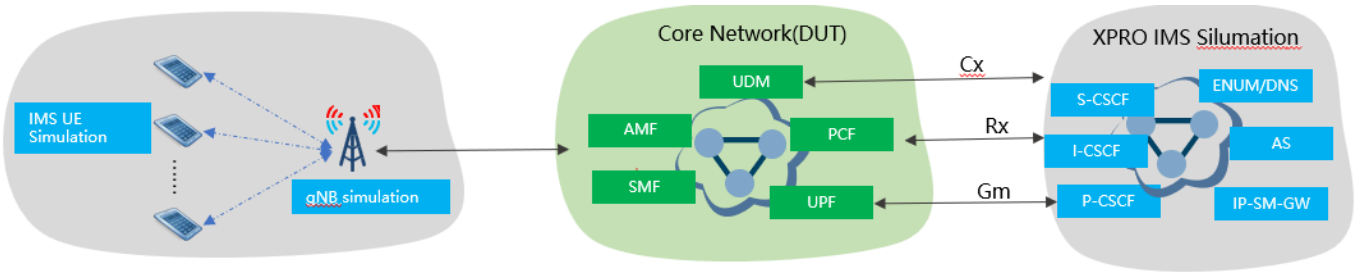
- **Scenario 2: Particular IMS NE Wraparound Testing**



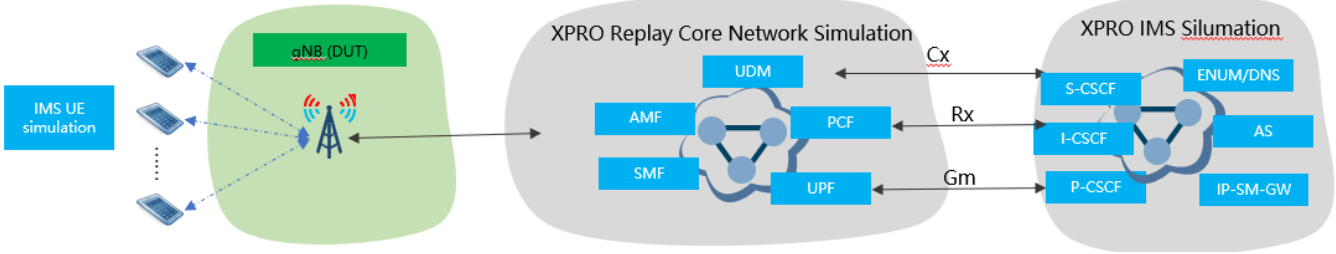
- **Scenario 3: IMS Full Wraparound Testing**



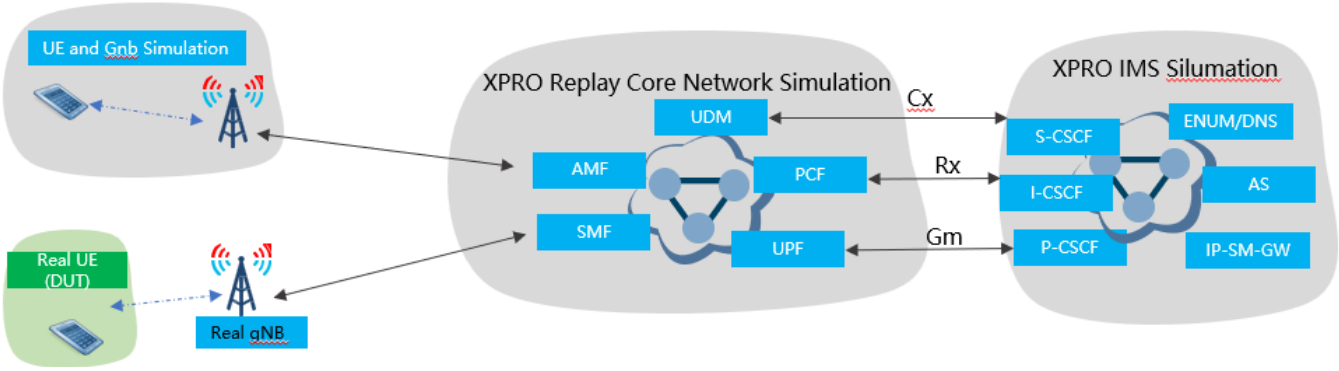
- **Scenario 4: 5GC/EPC Full Wraparound Testing**



- **Scenario 5: gNB Full Wraparound Testing**



- **Scenario 6: Real UE Testing**



Software Defined Tester

XproIMS is a software-defined tester and the dedicated appliance is NOT needed. Decoupling software and hardware to reduce cost investment. XproIMS can be deployed on a universal X86 architecture hardware platform. You can purchase a new X86 server or reuse existing servers to install the XproIMS software. You can upgrade your hardware combination (CPU, memory, and network card) to achieve a flexible combination of performance and port density. XproIMS also can be deployed in a range of private and public cloud computing environments based on technologies from VMware, KVM, OpenStack, and Amazon Web Services.

Capabilities

Capabilities per signal IMS	
IMS Registration Capability	30,000 CPS
IMS UE Online Capability	1,000,000 UE terminals concurrently
Voice Call	500 CAPS
Concurrent Voice Calls	30,000 lines
Loop Registration/Deregistration	1,000,000 UE loop registration and deregistration

Key Features

Key Features
Supported Network Elements: UE, S-CSCF, I-CSCF, P-CSCF, AS
Supported Interfaces with 5GC/EPC: Cx, Rx, Dx
Supports real UPF communication using user plane GTP-U connection, and the linkage with the 5GC/EPC control plane.
Supports control plane transmission using TCP/UDP/SCTP.
Supports IMS UE cyclic online and offline and configuration of different call signaling processes.
Supports common voice call signaling processes.
Supports signaling process performance statistics such as call success rate, failure rate, minimum delay, maximum delay, average delay, etc.
Supports deployment on standard x86 servers and common virtualized environments.
Supports 1 million concurrent IMS UE clients online on a single server.
Supports initiating over 20,000 voice calls per second on a single server.
Supports graphical user interface.

Ordering Information

Licensing	Description
XproIMS 10,000 UE	The total UE does not exceed 10,000
XproIMS 100,000 UE	The total UE does not exceed 100,000
XproIMS 0.5 million UE	The total UE does not exceed 500,000
XproIMS 1 million UE	The total UE does not exceed 1 million

Contact Dotouch sales representative for more detailed information.