Datasheet

XproReplay

4G/5G Core Network Testing Solution

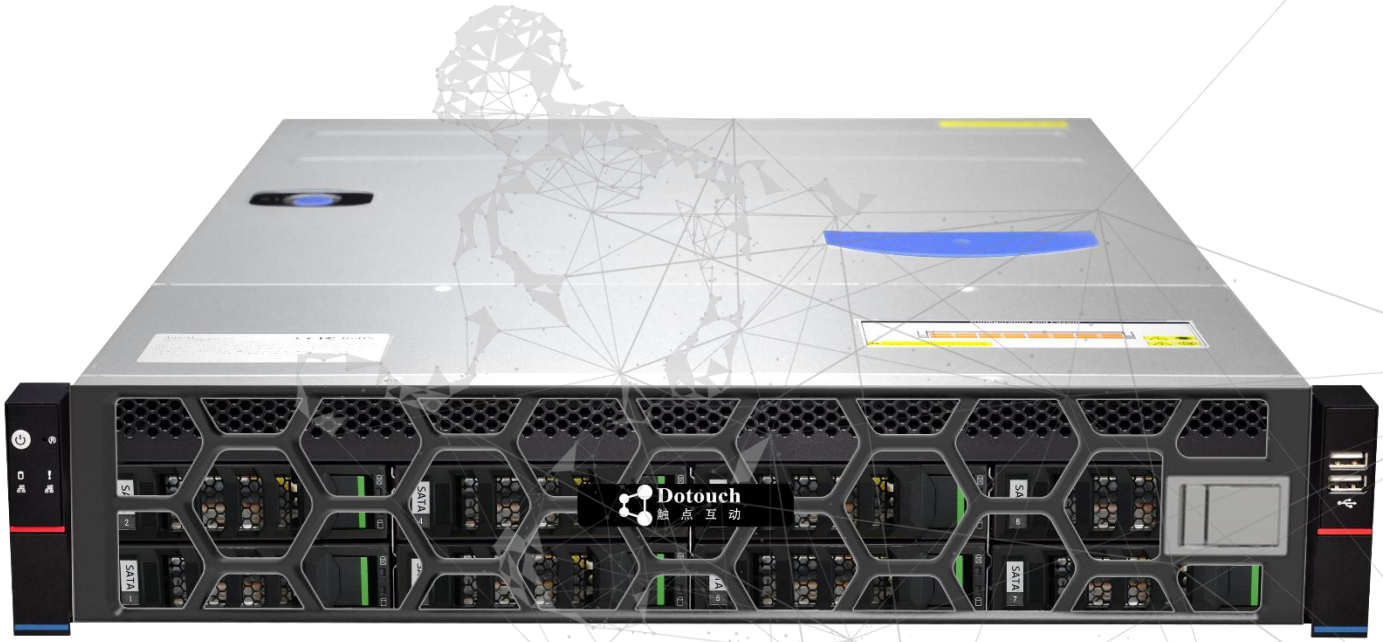
Dotouch XproReplay provides 3GPP perfectly supported 4G/5G integration network simulation solutions. All elements in the 4G or 5G network could be simulated separately or integratedly. It provides signaling plane and media plane testing components to achieve over 60,000 UE attach/ registration per second, and 10million UE concurrent online for control plane, and reach to 400Gbps throughput performance for user plane. Meanwhile, it provides automation test kit to batch learn and generate real network traffic and simulate the abnormal processes.

Signaling Plane Simulation

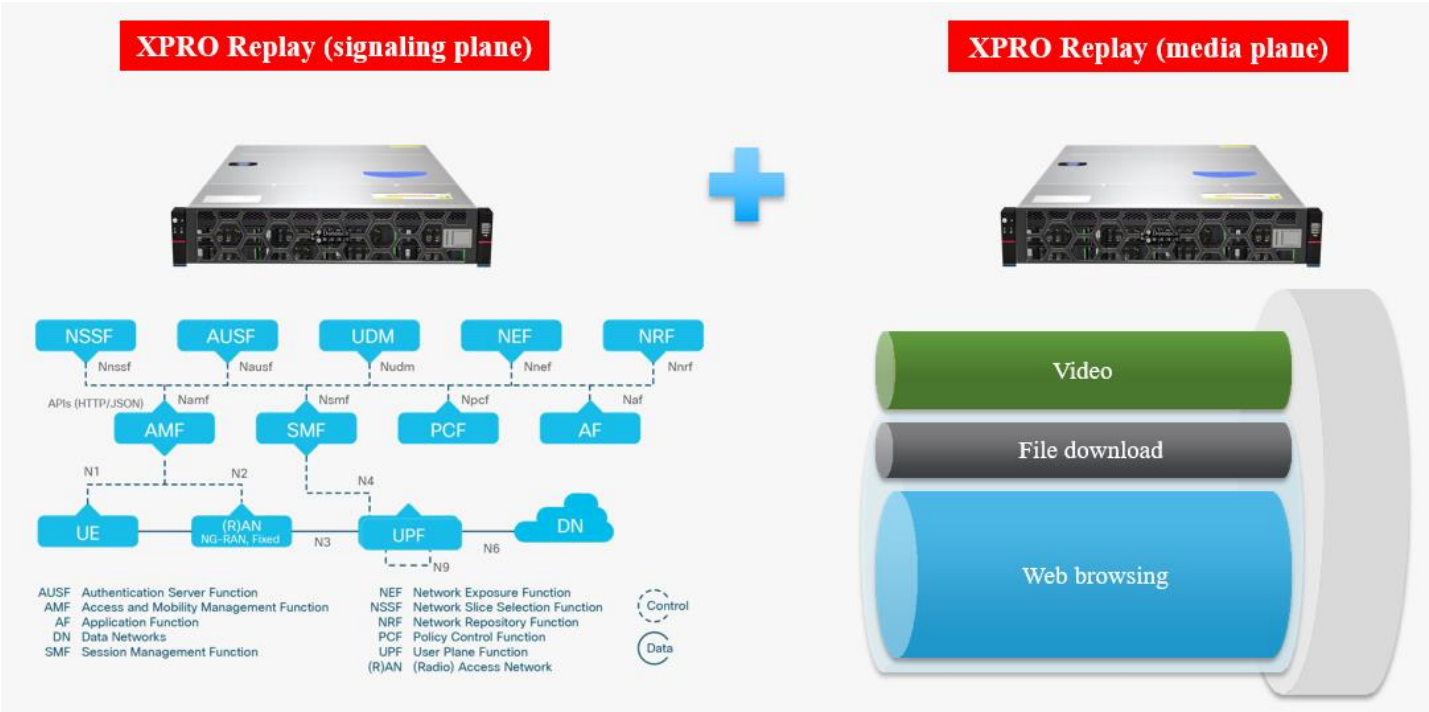
XproReplay (Signaling Plane) supports simulating both 4G and 5G signaling plane and media plane network elements and simulating the interfaces and business processes between each network element. Supports simulating the particular NE or the entire 4G/5G network.

Test Scenarios

- Network Element Simulation Testing
- Standard Signaling Process Simulation Testing
- Media/User Plane Simulation Testing
- Automation Testing
- Cloud and Virtual Network Testing
- VONR/ViNR/VOLTE Simulation Testing



Key Functions	Description
4G network elements simulation	UE, eNB, MME, SGW, PGW, HSS and PCRF.
5G network elements simulation	UE, GNB, AMF, SMF, AUSF, UDM, UPF, NRF, PCF, NEF, NSSF, AF, CHF, SCP, SMSF, SEPP...
4G business processes simulation	Supports multiple business processes, e.g. UE attach and detach, PDU session establishment, S1, X2 handover, bearer activation or deactivation, multi-PDN establishment, and other business process customization.
5G business processes simulation	Supports multiple business processes, e.g. Registration and Deregistration, PDU session setup/modification, N2/Xn handover, business triggered by UE/network, and other business process customization.



Media Plane Simulation

XproReplay (Media Plane) could construct large-scale media traffic with specified business models and connect with the signaling simulation tester through the defined message interface, and the signaling tester sends signaling message events to trigger the media stream generation, and the media streams rise and fall synchronously with the UE's online and offline.

Key Functions	Description
Ultra-high-performance media data simulation	A single server can output media traffic exceeding 80Gbps, and a single UE can support media traffic up to 20Gbps. By stacking multiple media simulation testers, it can achieve linear improvement in the scale of media traffic, e.g. stacking four media simulation testers to achieve 320Gbps performance.
Traffic customization	Supports customizing traffic according to scenarios and business models, and mixing it according to the set traffic model to construct a traffic model that is highly consistent with the current network, making the test results more realistic.

Automation

With an embedded standard 3GPP SCAS (SeCurity Assurance Specifications) use case kit, XproReplay supports testing AMF, SMF, UDM/AUSF, NSSF, NRF, UPF, and test N1, N2, N4 and service-oriented interfaces with standard signaling processes. It supports test cases for authentication, authorization, replay attacks, and other specifications of the 5G core network security foundation, and supports completely basic 5GC NE functional test cases.

Key Functions	Description
Batch Test	Use cases are executed in batches, including basic functional test cases and security test cases.
Auto Judgement and Output	Automatic judgment and output of test results for use cases.
Graphical Display	The test signaling process data is displayed in a completely graphical manner, and the display form is the same as that of the 3GPP specification SCAS chart.
Construct the codec of the protocol stack	By capturing and parsing the full signaling plane traffic, automatically construct the codec of the protocol stack based on the codec of the live network message.

Software Defined Tester

XproReplay is a software defined tester and the dedicated appliance is NOT needed. Decoupling software and hardware to reduce cost investment. XproReplay can be deployed on a universal X86 architecture hardware platform. You can purchase a new X86 server or reuse existing servers to install the XproReplay software. You can upgrade your hardware combination (CPU, memory and network card) to achieve a flexible combination of performance and port density. XproReplay 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.

Key Features

Key Features
Support UE and RAN simulation: eNB, gNB, UE
Support 5G Core simulation: AMF, SMF, AUSF, UDM, UPF, NSSF, NRF, PCF, CHF, AF, SCP
Support 4G Core simulation: MME, SGW, PGW, HSS and PCRF
Support 4G/5G interoperation
Support Mobility: Handover, Redirection, Resection
Support 5G R16 new business features: 5G LAN/N19 simulation, Ethernet session, SCP network element simulation, NPN twice authentication, NGAP UE-TNLA
Support completed OPENUPF test cases
The business simulation modules are independent of each other and can customize and edit signaling and media fields on-site
Support multiple internet/industrial internet protocol stacks: TCP, UDP, SCTP, FTP, HTTP/HTTPS, DNS, SMTP, POP3, IMAP, RTSP, SIP, NETCONFIG, RTP, industrial control, etc.
Support LBO and HR roaming scenarios
Support SMS Over NAS

Ordering Information

Licensing	Description
XproReplay 20G traffic + 0.2 million UE	The total UE does not exceed 0.2 million and the interface speed does not exceed 20G, e.g. 2x10G
XproReplay 40G traffic + 0.5 million UE	The total UE does not exceed 0.5 million and the interface speed does not exceed 40G, e.g. 4x10G
XproReplay 80G traffic + 1 million UE	The total UE does not exceed 1 million and the interface speed does not exceed 80G, e.g. 8x10G
XproReplay 200G traffic + 2 million UE	The total UE does not exceed 2 million and the interface speed does not exceed 200G, e.g. 2x100G
XproReplay 400G traffic + 4 million UE	The total UE does not exceed 4 million and the interface speed does not exceed 400G, e.g. 4x100G
SCAS	1 Year Subscription: for automatic test, automatic output, one-click script.

Contact Us

Headquarter: Room 1606, Building 2, Beijing SDIC Fortune Plaza, No. 9 Guang‘an Road, Fengtai District, Beijing

R&D Center: Room 803, Building A, Optics Valley World Trade Center, East Lake High-Tech Zone, Wuhan, Hubei Province

South China Marketing Center: Room 6306, Building 6, United Community, No. 379 Zhongshan Avenue Middle, Tianhe District, Guangzhou, Guangdong Province

East China Marketing Center: Room 2018, Shatian Building, No. 587 Changshou Road, Putuo District, Shanghai

Email: market@dotouch.com.cn

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