



DarPeng series network application and security tester

DarPeng series is a high-performance tester launched by Xinertel for voice, video, data and network security which can accurately simulate the network access behavior of millions of real end users, and test the function and performance of network security devices (such as Firewall/IPS/IDS/WAF/DPI, etc.) or the entire system; Verify the ability of network security devices or systems to detect, defend against attacks and viruses by simulating a large number of real attack traffic and malware and virus traffic.



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Product Introduction

DarPeng3000E is a network application and security tester based on the new generation x86 architecture with high performance, high bandwidth, high integration and high efficiency.

Cooperate with Xinertel's new generation of B/S test software ALPS, DarPeng3000E supports real application traffic simulation, and millions of HTTP/TCP connections/s and billions of concurrent connections; At the same time, it supports to simulate real attack traffic, malicious traffic and virus traffic, encryption and decryption protocols such as IPsec and SSL, and audio and video quality testing.

DarPeng3000E Application and Security Tester



The DarPeng Series developed by Xinertel, is a high-performance network application security testing platform designed for voice, video, data applications, and cybersecurity. By accurately emulating millions of real-world end-user behaviors, the system conducts rigorous stress and performance testing on standalone application-aware devices (such as Firewall, IPS, IDS, WAF, and DPI) or entire network infrastructures. Furthermore, it validates the detection and mitigation capabilities of security systems by simulating massive volumes of cyberattacks, malware, and virus traffic. It also supports real-world traffic replay to verify the identification and traffic control precision of the Device Under Test (DUT).

The Xinertel DarPeng3000E leverages a next-generation high-performance x86 architecture, specifically engineered to overcome performance bottlenecks in network security and application delivery. As a premier benchmarking platform for security and application-layer testing, the DarPeng3000E delivers industry-leading application-layer throughput, Connections Per Second (CPS), Concurrent Connections, and SSL encryption/decryption performance, enabling the emulation of massive user traffic and hyper-scale attack.

Integrated with the next-generation B/S-based ALPS (Application Layer Protocol Simulator) software, the system supports high-fidelity emulation of real-world traffic, including data (HTTP/FTP/TCP/DNS), voice (VoIP SIP & RTP), and video (RTSP/RTP/IPTV). It achieves millions of HTTP/TCP CPS and hundreds of millions of concurrent connections. Furthermore, it simulates sophisticated threat landscapes, including DDoS attacks, botnets, malware, and viruses. The platform also provides comprehensive audio/video quality testing.

Key Features

- **Comprehensive interfaces**

Supports up to 4 400G OSFP ports, 8 100G QSFP28 ports (compatible with 50G, 40G, 25G, 10G), allows mixed installation of test modules with varying data rates

- **Ultra high application protocol simulation capability**

With 4 400G ports:

HTTP Performance: 770 Gbps throughput, 10 million Connections Per Second (CPS), and 300 million concurrent connections.

HTTPS Performance: 380 Gbps throughput, 540,000 CPS, and 22 million concurrent connections.

With 8 100G ports:

HTTP Performance: 390 Gbps throughput, 8 million Connections Per Second (CPS), and 300 million concurrent connections.

HTTPS Performance: 330 Gbps throughput, 820,000 Connections Per Second (CPS), and 22 million concurrent connections.

- **Support network security device performance and capacity testing**

Including firewalls, load balancers, WAFs, URL filters, antivirus, anti spyware, HTTP/HTTPS accelerators, WAN accelerators, IDS/IPS, and IPsec VPN gateways, etc.

- **Support application server performance testing**

Including web servers, mail servers, DHCP services, FTP servers, DNS servers, RTSP/RTP QuickTime streaming servers, multicast servers, etc.

- **Support network security testing**

Support simulation of attack traffic, virus traffic, and Cyber Range.

- **Stateful RoCEv2 testing**

Supports emulation of stateful RoCEv2 protocols, enabling comprehensive interoperability testing with RoCE-enabled Network Interface Cards (NICs)

- **Support offline testing**

Enables offline testing, ensuring that test results are not lost in the event of management network disconnections.

Specifications

Port and Speed	<ul style="list-style-type: none"> Up to 4 x 400G OSFP ports. Up to 8 x 100G QSFP28 ports (compatible with 50G/40G/25G/10G)
Dimensions (W×H×D)	4U, 435mmx174.8mmx700mm
Rack Mount	Mounted in rack that meets the IEC 297 standard: <ul style="list-style-type: none"> Width: 19 inches Depth: ≥ 800 mm
Weight (kg)	27 kg
Temperature	5°C~ 35°C
Power	2* AC 220~240V; 50Hz; 10A
Max power consumption (W)	<4000W

Protocols

Application	TCP, UDP, SCTP, WebSocket, DNS, HTTP, HTTPS, HTTP2, FTP, SSH, Telnet TFTP, RTMP, H.225, H.245, SMB, RPC, ONVIF, Chat applications (SKYPE, QQ, WeChat, etc.), E-mail applications (SMTP, POP3, IMAP, etc.), Gaming applications, video applications (HLS, etc.), Download applications (BitTorrent, eDonkey, etc.), Social news applications (Tiktok etc.), Payment applications, Database applications (Oracle, MySQL, MSSQL, etc.)
Industrial control protocol	ECHONET Lite, BACnet, Modbus, OPCUA, MQTT, ProfiNet (PNIO CM), OPC DA, IEC 104, EtherNet/IP, ProfiNet(DCP), ENIP, IEEE C37.118 Synchronizer Omron Fins, S7comm, DNP3, Ether-S-I/O, CoAP
Voice	SIP/RTP, Voice Codec (PCMU, PCMA, G.723, G.728, G.729, G.726-32, G.729AB, G.729A, G.723.1), MOS score
Video	RTSP/RTP, Multicast, Video Codec (H.261, H.262/MPEG-2, H.263, H.264, H.265, MPEG-TS, MPEG-1, MPEG-4)
DDoS	Support more than 90 types of DDoS attacks, including L2/L4 DDoS attacks IP (Fragmented IP Attack, IP Teardrop Attack), ARP (ARP Flood Attack), ICMP (ICMP Nuke Attack, ICMP Smurf Attack), TCP (TCP ACK Flood Attack, TCP Fin Flood Attack), UDP (DNS Flood Attack, Evasive UDP Attack).
Virus and attack libraries	Covering over 8000 types of vulnerability attacks, over 110000 types of malware. The virus and attack library is updated on a monthly basis.
Access Protocol	IPv4, IPv6, 802.1Q(QinQ), DHCPv4/DHCPv6 client, DHCPv4/DHCPv6 server, PPPoEv4/PPPoEv6 client, PPPoEv4/PPPoEv6 server, IPsecv4/IPsecv6, GTP, 802.1x, IP/TCP+UDP/TCP/UDP, custom IPv6 extension headers and stream labels
Routing Protocol	SRv6 BE/SRv6 TE
RoCEv2	<ul style="list-style-type: none"> Supports Perfctest suite: ib_send_bw/lat, ib_write_bw/lat, ib_read_bw/lat, ib_atomic_bw/lat. Supports RC and UD transport: Includes SEND/WRITE (First/Middle/Last/Only) opcodes for RC. Supports sequential and random payload size traversal. Supports Inline mode. Supports one-arm and two-arm testing (Client/Server). Supports Many-to-One, One-to-Many, and Many-to-Many traffic mesh.
Data encryption and decryption	SSLv3, TLSv1.0, TLSv1.1, TLSv1.2, TLSv1.3

Ordering information

Product Name	Product Description	Product Classification
DarPeng3000E	DarPeng3000E Appliance	Chassis
K2-400G-1OSFP-HQ	1 port 400G test module	Test Module
K2-100G-1QSFP28-HQ	1 port 100G/50G/40G/25G/10G five speed test module	Test Module
K2-100G-2QSFP28-HQ	2 port 100G/50G/25G/10G four speed test module	Test Module
ALPS Security and Protocol Software Package A	Compatible with the DarPeng platform, supporting all components, including virus and attack library updates during the valid maintenance period. Capable of handling all attack and application types, including HTTP, FTP, replay, DDoS, virus, and other attack scenarios.	DarPeng Series License
ALPS RoCE Software Package	Compatible with the DarPeng platform	DarPeng Series License

Supported Test Module Combinations	Description	Scalable Port Counts
4*K2-400G-1QSFP-HQ	4*1 port 400G test module	4*400G ports
8*K2-100G-1QSFP28-HQ	8*1 port 100G/50G/40G/25G/10G five speed test module	8*100G/50G/40G/25G/10G ports
4*K2-100G-2QSFP28-HQ	4*2 port 100G/50G/25G/10G four speed test module	8*100G/50G/25G/10G ports
2*K2-400G-1QSFP-HQ + 4*K2-100G-1QSFP28-HQ	2*1 port 400G test module and 4*1 port 100G/50G/40G/25G/10G five speed test module	2*400G and 4*100G/50G/40G/25G/10G ports

DarPeng2000E Application and Security Tester



DarPeng2000E is high-performance application and security tester launched by Xinertel for voice, video, data applications, and network security test. It accurately simulates the network access behavior of millions of real end users, and performs pressure and performance tests on application and security devices(such as Firewall/IPS/IDS/WAF/DPI, etc.) or the entire system;By simulating a large amount of real attack traffic and malicious software and virus traffic, the detection and defense capabilities of network security devices and systems against attacks and viruses can be verified and tested. At the same time, the control and recognition capabilities of the tested device over traffic can be confirmed by replaying real environment traffic.

Collaborating with B/S architecture testing software ALPS(Application Layer Protocol Simulator), which supports real application layer traffic simulation(such as application layer protocol HTTP/FTP/TCP/DNS, voice: VoIP SIP&RTP, video: RSTP/RTP/IPTV, etc.), its HTTP/TCP can create millions of new connections and billions of concurrent connections; ALPS can simulate real attack traffic(DDoS attacks/botnets/custom attacks, etc.), malicious traffic, virus traffic. And ALPS supports audio and video quality testing.

Key Features

- **Comprehensive interfaces**

Supports up to 4 100GE QSFP28 ports(compatible with 50G, 40G, 25G, 10G), 16 SFP+10GE ports, or 32 SFP 1GE ports, allows mixed installation of test modules with varying data rates

- **Ultra high application protocol simulation capability**

TCP Performance:

8 million TCP CPS, 300 million TCP CC;

HTTP Performance:

6.4 million HTTP CPS, 200 million HTTP CC, and 194G HTTP throughput.

HTTPS Performance:

270000 HTTPS CPS, 7 million HTTPS CC, and 100G HTTPS throughput;

- **Support network security device performance and capacity testing**

Including firewalls, load balancers, WAFs, URL filters, antivirus, anti spyware, HTTP/HTTPS accelerators, WAN accelerators, IDS/IPS, and IPsec VPN gateways, etc

- **Support application server performance testing**

Including web servers, mail servers, DHCP services, FTP servers, DNS servers, RTSP/RTP QuickTime streaming servers, multicast servers, etc

- **Support network security testing**

Support simulation of attack traffic, virus traffic, and Cyber Range.

- **Stateful RoCEv2 testing**

Supports emulation of stateful RoCEv2 protocols, enabling comprehensive interoperability testing with RoCE-enabled Network Interface Cards (NICs)

- **Support offline testing**

Enables offline testing, ensuring that test results are not lost in the event of management network disconnections.

Specifications

Port and Speed	<ul style="list-style-type: none"> • Up to 4 QSFP28 100G(compatible with 50G, 40G, 25G, 10G) • Up to 16 SFP+ 10G/1G • Up to 32 SFP/RJ45 1G
Dimensions (W×H×D)	3U: 438mm x 132mm x 500mm
Rack Mount	Mounted in rack that meets the IEC 297 standard: <ul style="list-style-type: none"> • Width: 19 inches • Depth: ≥ 800 mm
Weight(kg)	15.5KG
Temperature	0°C ~ 40°C
Power	AC 110~230V; 50Hz; 10A
Max power consumption(W)	1500

Protocols

Application	TCP, UDP, SCTP, WebSocket, DNS, HTTP, HTTPS, HTTP2, FTP, SSH, Telnet TFTP, RTMP, H.225, H.245, SMB, RPC, ONVIF, Chat applications(SKYPE, QQ, WeChat, etc.), E-mail applications(SMTP, POP3, IMAP, etc.), Gaming applications, video applications(HLS, etc.), Download applications(BitTorrent, eDonkey, etc.), Social news applications(Tiktok etc.), Payment applications, Database applications(Oracle, MySQL, MSSQL, etc.)
Industrial control protocol	ECHONET Lite, BACnet, Modbus, OPCUA, MQTT, ProfiNet(PNIO CM), OPC DA, IEC104, EtherNet/IP, ProfiNet(DCP), ENIP, IEEE C37.118 Synchronizer Omron Fins, S7comm, DNP3, Ether-S-I/O, CoAP
Voice	SIP/RTP, Voice Codec (PCMU, PCMA, G.723, G.728, G.729, G.726-32, G.729AB, G.729A, G.723.1), MOS score
Video	RTSP/RTP, Multicast, Video Codec(H.261, H.262/MPEG-2, H.263, H.264, H.265, MPEG-TS, MPEG-1, MPEG-4)
DDoS	Support more than 90 types of DDoS attacks, including L2/L4 DDoS attacks IP(Fragmented IP Attack、 IP Teardrop Attack)、 ARP(ARP Flood Attack)、 ICMP(ICMP Nuke Attack、 ICMP Smurf Attack)、 TCP(TCP ACK Flood Attack、 TCP Fin Flood Attack)、 UDP(DNS Flood Attack、 Evasive UDP Attack)
Virus and attack libraries	Covering over 8000 types of vulnerability attacks, over 110000 types of virus. The virus and attack library is updated on a monthly basis.
Access Protocol	IPv4, IPv6, 802.1Q(QinQ), DHCPv4/DHCPv6 client, DHCPv4/DHCPv6 server, PPPoEv4/PPPoEv6 client, PPPoEv4/PPPoEv6 server, IPsecv4/IPsecv6, GTP, 802.1x, IP/TCP+UDP/TCP/UDP, custom IPv6 extension headers and stream labels
Routing Protocol	SRv6 BE/SRv6 TE
RoCEv2	<ul style="list-style-type: none"> • Supports Perftest suite: ib_send_bw/lat, ib_write_bw/lat, ib_read_bw/lat, ib_atomic_bw/lat. • Supports RC and UD transport: Includes SEND/WRITE (First/Middle/Last/Only) opcodes for RC. • Supports sequential and random payload size traversal. • Supports Inline mode. • Supports one-arm and two-arm testing (Client/Server). • Supports Many-to-One, One-to-Many, and Many-to-Many traffic mesh. • Supports MTU configuration.
Data encryption and decryption	SSLv3, TLSv1.0, TLSv1.1, TLSv1.2, TLSv1.3

Ordering information

Product Name	Product Description	Product Classification
DarPeng2000E	DarPeng2000E Appliance, support up to 8 slots	Chassis
K2-100G-1QSFP28-HQ	1 port 100G/50G/40G/25G/10G five speed high-performance test module	Test Module
K2-100G-2QSFP28-HQ	2 port 100G/50G/25G/10G four speed high-performance test module	Test Module
K2-10G-4F-HD	4 ports SFP+ 10G/1G two speed high-performance test module	Test Module
K2-1G-4F-HS	4 ports SFP 1G high-performance test module	Test Module
K2-1G-4C-HT	4 ports RJ45 1G high-performance test module, support 10M/100M/1000M	Test Module
ALPS Security and Protocol Software Package A	Compatible with the DarPeng platform, supporting all components, including virus and attack library updates during the valid maintenance period. Capable of handling all attack and application types, including HTTP, FTP, replay, DDoS, virus, and other attack scenarios.	DarPeng Series License

Supported Test Module Combinations	Combination Description	Port Count
2*K2-100G-1QSFP28-HQ	2x100G/50G/40G/25G/10G test module	2x100G/50G/40G/25G/10G port
4*K2-100G-1QSFP28-HQ	4x100G/50G/40G/25G/10G test module	4x100G/50G/40G/25G/10G port
1*K2-10G-4F-HD	1x4-port SFP+10G/1G test module	4xSFP+10G/1G port
2*K2-10G-4F-HD	2x 4-port SFP+10G/1G test module	8xSFP+10G/1G port
4*K2-10G-4F-HD	4x4-port SFP+10G/1G test module	16xSFP+10G/1G port
2*K2-1G-4F/C-HS	2x4-port SFP/RJ451G test module	8xSFP/RJ45 1G port
4*K2-1G-4F/C-HS	4x4-port SFP/RJ451G test module	16xSFP/RJ45 1G port
8*K2-1G-4F/C-HS	8x4-port SFP/RJ451G test module	32xSFP/RJ45 1G port
2*K2-100G-1QSFP28-HQ+ 1*K2-10G-4F-HD	2x100G/50G/40G/25G/10G and 1x 4port SFP+ 10G/1G test module	2x100G/50G/40G/25G/10G port and 4x SFP+ 10G/1G port
2*K2-100G-1QSFP28-HQ+ 2*K2-10G-4F-HD	2x100G/50G/40G/25G/10G test module and 2x 4port SFP+ 10G/1G test module	2x100G/50G/40G/25G/10G port and 8xSFP+ 10G/1G port
4*K2-100G-1QSFP28-HQ+ 2*K2-10G-4F-HD	4x100G/50G/40G/25G/10G test module and 1x 4port SFP+ 10G/1G test module	4x100G/50G/40G/25G/10G port and 8xSFP+ 10G/1G port
2*K2-10G-4F-HD+4*K2-1G-4F/C-HS	2x 4-port SFP+10G/1G test module and 4x4-port SFP/ RJ451G test module	8xSFP+10G/1G port and 16xSFP/ RJ451G port
2*K2-100G-1QSFP28-HQ+ 1*K2-10G-4F-HD +	2x100G/50G/40G/25G/10G test module and 1x4-port SFP+10G/1G test module and 2x 4-port SFP/RJ451G test module	2x100G/50G/40G/25G/10G port and 4xSFP+10G/1G port and 8xSFP/ RJ451G port

DarPeng VE application and security virtual tester

DarPeng VE is application and security tester launched by Xinertel for voice, video, data applications, and network security test. It accurately simulates the network access behavior of millions of real end users, and performs pressure and performance tests on application and security devices(such as Firewall/IPS/IDS/WAF/DPI, etc.) or the entire system;By simulating a large amount of real attack traffic and malicious software and virus traffic, the detection and defense capabilities of network security devices and systems against attacks and viruses can be verified and tested. At the same time, the control and recognition capabilities of the tested device over traffic can be confirmed by replaying real environment traffic.

DarPeng VE is a virtualization security tester based on VMware and KVM. Collaborating with the B/S architecture based testing software ALPS(Application Layer Protocol Simulator) developed by Xinertel, it supports real application traffic simulation(such as HTTP/FTP/TCP/DNS for application layer protocols, VoIP SIP&RTP for voice, RTSP/RTP/IPTV for video, etc.); At the same time, it can simulate real attack traffic(DDoS attacks/botnets/custom attacks, etc.), malicious traffic, and virus traffic, and support voice and video quality testing.

Key Features

- **Interfaces**

A single DarPeng VE virtual tester support up to 8 testing interfaces and network cards with different speed.

- **Unified License Deployment**

DarPeng VE adopts an All In One deployment approach, where the console, traffic generator, and LicenseServer are deployed in the same virtual machine.

- **Support network security device performance and capacity testing**

Including firewalls, load balancers, WAFs, URL filters, antivirus, anti spyware, HTTP/HTTPS accelerators, WAN accelerators, IDS/IPS, and IPsec VPN gateways, etc

- **Support application server performance testing**

Including web servers, mail servers, DHCP services, FTP servers, DNS servers, RTSP/RTP QuickTime streaming servers, multicast servers, etc

- **Support network security testing**

Support simulation of attack traffic, virus traffic, and Cyber Range.



Protocols

Application	TCP, UDP, SCTP, WebSocket, DNS, HTTP, HTTPS, HTTP2, FTP, SSH, Telnet TFTP, RTMP, H.225, H.245, SMB, RPC, ONVIF, Chat applications(SKYPE, QQ, WeChat, etc.), E-mail applications(SMTP, POP3, IMAP, etc.), Gaming applications, video applications(HLS, etc.), Download applications(BitTorrent, eDonkey, etc.), Social news applications(Tiktok, etc.), Payment applications, Database applications(Oracle, MySQL, MSSQL, etc.)
Industrial control protocol	ECHONET Lite, BACnet, Modbus, OPCUA, MQTT, ProfiNet(PNIO CM), OPC DA, IEC104, EtherNet/IP, ProfiNet(DCP), ENIP, IEEE C37.118 Synchronizer Omron Fins, S7comm, DNP3, Ether-S-I/O, CoAP
Voice	SIP/RTP, Voice Codec(PCMU, PCMA, G.723, G.728, G.729, G.726-32, G.729AB, G.729A, G.723.1), MOS score
Video	RTSP/RTP, Multicast, Video Codec(H.261, H.262/MPEG-2, H.263, H.264, H.265, MPEG-TS, MPEG-1, MPEG-4)
DDoS	Support more than 90 types of DDoS attacks, including L2/L4 DDoS attacks IP(Fragmented IP Attack, IP Teardrop Attack)、 ARP(ARP Flood Attack)、 ICMP(ICMP Nuke Attack、 ICMP Smurf Attack)、 TCP(TCP ACK Flood Attack、 TCP Fin Flood Attack)、 UDP(DNS Flood Attack、 Evasive UDP Attack)
Virus and attack libraries	Covering over 7000 types of vulnerability attacks, over 40000 types of virus, and 73 types of DDoS attacks.
Access Protocol	IPv4, IPv6, 802.1Q(QinQ), DHCPv4/DHCPv6 client, DHCPv4/DHCPv6 server, PPPoEv4/PPPoEv6 client, PPPoEv4/PPPoEv6 server, IPsecv4/IPsecv6, GTP, 802.1x, IP/TCP+UDP/TCP/UDP, custom IPv6 extension headers and stream labels
Routing Protocol	SRv6 BE/SRv6 TE
Data encryption and decryption	SSLv3, TLSv1.0, TLSv1.1, TLSv1.2, TLSv1.3

Specifications

Minimum resource allocation	<ul style="list-style-type: none"> • 4 vCPUs • 8GB • 128GB Disk Space
Supporting platform	<ul style="list-style-type: none"> • VMware ESXI • KVM

Ordering information

Product Name	Product Description	Product Classification
DarPeng VE-1G	DarPeng VE application and security virtual tester with 1G throughput, including 1-year software package upgrade service.	DarPeng VE License
DarPeng VE-10G	DarPeng VE application and security virtual tester with 10G throughput, including 1-year software package upgrade service.	DarPeng VE License
DarPeng VE-100G	DarPeng VE application and security virtual tester with 100G throughput, including 1-year software package upgrade service.	DarPeng VE License

Note: DarPeng Series testers are powered by ALPS test software.