

# Nokia IP Security Platform

# Nokia IP2450

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Nokia IP2450 security platform is a high-end, next-generation security appliance designed for the demanding price performance and multi-Gigabit Ethernet throughput requirements of large enterprises and service providers. Using just a two-rack unit form factor, it features two quad-core Intel CPUs and is purpose-built to run Check Point VPN-1 Power, Check Point VPN-1 UTM and next generation multi-processing enterprise security applications such as Check Point CoreXL.



## Nokia IPSO Advantage

Nokia IPSO is a proven, secure operating system that natively supports key networking needs, such as dynamic and multicast routing, IPv6, VLANs, link aggregation and transparent mode, among many other features – making integration into complex networks easy and virtually transparent. Nokia IPSO includes role-based administration, AAA with support for centralized databases and third party administrator authorization. Superior element management capability is accessible through an extensive command line interface (CLI), as well as Nokia Network Voyager graphical interface for secure, remote administration over a variety of out-of-band management channels. Nokia IPSO has a robust network management capability supporting SNMP v2 and v3, and interoperability with major systems management tools.

## Nokia Quality Assurance

Extensively tested by Nokia Quality Assurance for standards compliance and interoperability with Check Point VPN-1 pre-installed at the factory, Nokia security platforms set a high standard for rapid deployment and dependability.

## Nokia First Call-Final Resolution Global Support

Like all Nokia Firewall / VPN appliances, Nokia IP2450 with Check Point VPN-1 Power is backed by world-class Nokia First Call—Final Resolution technical support and service. This offers organizations a single point of technical support and assistance, globally, for both Nokia IP2450 and Check Point VPN-1 applications.

Nokia IP2450 is optimized to provide scalability and investment protection into the next decade by helping to enable customers to boost performance as needed with up to two, next generation, high-port density Nokia Accelerated Data Path (ADP) cards and Nokia IPSO™ operating system upgrades. Nokia is the leading provider of security appliances with Check Point software. For over ten years Nokia and Check Point have had one of the most long standing and successful partner relationships within the security industry.

## Performance Boosts without Forklift Upgrades

Nokia IP2450 provides significant performance improvement through optional Nokia ADP cards and Nokia IPSO software upgrades in phases, allowing customers to deploy now, expanding capacity and performance as their needs grow. The power boost options help avoid costly hardware forklift upgrades. This non-bladed appliance approach helps to avoid a costly upfront chassis investment while offering high performance and redundancy features.

## Excellent Price Performance and Port Density

Nokia IP2450 provides superior price performance on key investment criteria such as price per port and price per GB, all in a smaller form factor than competing products. It is a two rack unit (2RU) security

appliance that delivers more than 9 Gbps of large packet throughput when equipped with Nokia IPSO v4.2; and up to 20 Gbps of large packet throughput when equipped with Nokia IPSO v6.0, two Nokia ADP cards and Check Point SecureXL. The optional Nokia ADP cards are available with 12 ports of Gigabit Ethernet in 1000Base-T as well as 12 ports of Gigabit Ethernet in 1000Base-X with interchangeable small form factor pluggable (SFP) modules for SX, LX and copper interfaces as needed. In addition, 10 Gigabit Ethernet Nokia ADP cards provide 3 ports per card with XFP modules for SR, LR-10 km and LR-40 km fiber.

## Enhanced Business Continuity, Reliability and Extensibility

Nokia IP2450 delivers enhanced business continuity through features such as redundant dual and hot-swappable power supplies, hot-swappable fan trays and optional redundant hard disk drives with RAID 1. For optimal reliability, Nokia IP2450 offers the option of either disk-based or flash-based configurations and includes features such as Nokia IP Clustering and virtual router redundancy protocol (VRRP). Nokia IP2450 interoperates with existing Nokia approved PMC interface cards, providing additional investment protection. In addition, Nokia Horizon Manager helps enable central and remote management of multiple Nokia IP2450 security platform appliances.

# Technical Specifications

## Performance

- Firewall – > 9 Gbps large packet with Nokia IPSO 4.2 and Check Point SecureXL
- > 9.0 Gbps large packet with Nokia IPSO 6.0 and Check Point SecureXL, and up to 20 Gbps large packet, with Nokia IPSO™ 6.0, two Nokia ADP cards and Check Point SecureXL
- VPN – 2 Gbps large packet, AES256
- Maximum of 725,000 connections
- TCP session rate > 35,000 non-accelerated, 90,000 with SecureXL and Nokia ADP card

## Management

- SNMP RFC 1157, SNMPv2c, SNMPv3
- Telnet RFC 854
- FTP RFC 959
- SSHv2 (secure Telnet and FTP)
- HTTP Server RFC 2068
- SSL/TLS RFC 2246
- Command Line Utilities Supported in Nokia
- Horizon Manager

## Environment Operating Conditions

- Temperature: 32°F to 104°F / 0°C to 40°C
- Altitude: 10,000 ft. / 3048m
- Humidity: 10% - 90% (non-condensing)

## Environment Non-Operating Conditions

- Temperature: -5°C to +45°C
- Humidity: up to at least 95% (non-condensing)

## High Availability

- VRRP (Active/Passive) RFC 2338
- FireWall-1 State Sync
- Patented Nokia IP Clustering (Active/Active)

## Safety

- CSA 60950 - 1 - 03/UL 60950-1, First Edition

## Security

- Secure Administrative Access
- Role-Based Administration

- 3rd party administrator authorization
- Read/Write and Read-Only Access Modes
- SSH (secure Telnet and FTP)
- SSL/TLS (secure HTTP) RFC 2246
- Encrypt end user Passwords
- S/Key (one-time password) RFC-1760
- Access Control Lists
- Traffic Management
- MD5 Routing
- Authentication (RIPv2) RFC 1723
- Centralized Authentication
- NTP Client and Server RFC 1305
- RADIUS Client, TACACS+ Client

## System Indicators

- 10/100/1000 Ethernet port status
- Power status on system
- Failure status on system
- Port status on network interface cards
- System Operational Indicator

## Emission Compliance

- FCC Part 15, Subpart B, Class A
- EN55022A: 1998, CISPR 22 Class A
- 1998, EN61000-3-2, EN61000-3-3

## Immunity

- EN55024:1998

## FLASH base System Configuration

- 4 GB Compact Flash
- Dual (2), Redundant Hot-Swappable AC Power Supplies
- Nokia VPN Accelerator Card
- 4 GB System RAM (expandable with 8 DIMM slots)
- Four-port 1000BASE-T Ethernet NIC card

## HDD base System Configuration

- 128 MB Compact Flash
- 4 GB System RAM (expandable with 8 DIMM slots)
- One 40 GB Hard Disk Drive
- Dual, Redundant Hot-Swappable AC Power Supplies

## Options

- Additional 4 GB RAM
- Up to two 40 GB HDD with hardware RAID I

- Dual, Redundant Hot-Swappable DC Power Supplies
- NIF4423000 - Two-port 1000BASE-LX, Ethernet, SFP PMC Card
- NIF4424000 - Four-port 10/100BASE-T, Ethernet PMC Card
- NIF4425000 - Two-port 1000BASE-T, Ethernet PMC Card
- NIF4422000 - Two-port 1000BASE-SX, Ethernet, SFP PMC Card
- NIF4426000 - Four-port 1000BASE-T Ethernet PMC Card
- NIM5610000 -1-GB PC Card Option

## Dimensions

- Height - 3.5 in. (8.6 cm) – 2U
- Width - 17 in. (43.18 cm) without mounting brackets – 2U, or 19 in (48.2 cm) with mounting brackets
- Depth - 24.89 in. (63.22 cm) including front bezel
- Depth – 25.41 in (64.54 cm) including front handles
- Weight – With accessories (power and console cables, two Nokia ADP cards) - 57.5 lbs
- Without accessory - 52 lbs
- Product kit (accessory kit) includes BOX, CD, doc, power cord, others. Weight is about 1.75 LB (0.8kg)
- Front access, slide out tray for maintenance

## Power Requirements

- AC Input Voltage 100-120V/ 200-240V
- Frequency 50/60Hz
- AC Input Current maximum 8.5A/ 4.0A
- DC Input Voltage 40-60V
- DC Input Current maximum 17.5A

## Internet Protocols

- IPSec (RFCs 2401-2411, 2451)
- GRE (RFCs 1701 & 1702) Generic Routing Encapsulation
- IP RFC 791
- ICMP RFC 792
- ARP RFC 826
- ICMP Router Discovery (server) RFC 1256
- Router Discovery v6 (ICMP v6) RFC 2466
- CIDR RFC 1519
- Static Routes

- RIP RFC 1058
- RIP Version 2 (with authentication) RFC 1723
- RIPng (IPv6) RFC 2080
- OSPF RFC 2328
- OSPF NSSA RFC 3101
- OSPFv3 (IPv6) RFC 2740
- DVMRP (multicast) RFC 1075
- IGMP (multicast) RFC 2236, IGMPv3 RFC 3376
- PIM-SM and PIM-SSM RFC 4601
- PIM-DM RFC 3973
- PIM-DM State Refresh draft-ietf-pim-refresh-02.txt
- Multicast Tunnels
- IGRP (optional) Cisco
- BGP4 (optional) RFC 1771
- BGP4++ RFC 2545, 2858 (unicast IPv6)
- IPv4 RFC 791
- IPv6 Core RFCs
- VRRPv2 RFC 3768
- VRRPv3 (IPv6) draft-ietf-vrrp-ipv6-spec-08.txt
- Mobile IP (IPv4) RFC 2794, RFC 3024, RFC 3344, RFC 3519
- Requirements for IPv4 Routers RFC 1812
- Differentiated Services (EF) RFC 2598
- Bootp/DHCP Relay RFC 2131
- Route Aggregation & Redistribution
- Unnumbered Interfaces
- Link negotiation IEEE 802.3
- Flow control IEEE 802.3
- Private (RFC 1918) and Public IP Routing
- VLAN 802.3Q

## LAN Support

- 10/100BASE-T (10/100 Mbps Ethernet) - PMC card
- 1000BASE-T (10/100/1000 Mbps Ethernet) – PMC Card
- 1000BASE-SX (1000 Mbps Ethernet) – SFP, multi-mode fiber (MMF)
- 1000BASE-LX (1000 Mbps Ethernet) – SFP, single-mode fiber (SMF)
- 10 Gb-SR (10 Gb Ethernet) – XFP, multi-mode fiber (MMF)
- 10 Gb-LR 10 km (10 Gb Ethernet) – XFP, single-mode fiber (SMF)
- 10 Gb-LR 40 km (10 Gb Ethernet) – XFP, single-mode fiber (SMF)

Work together. Smarter.

Asia Pacific Tel: +65 6588 3364 • Email: mobile.business.apac@nokia.com  
Greater China Tel: +86 10 65392828 • Email: mobile.business.apac@nokia.com

[www.nokia.com/business](http://www.nokia.com/business)

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