

Nokia IPSO™, a UNIX-based operating system designed to protect business networks, ensures valuable business information is delivered securely and-reliably.

Designed with security in mind, Nokia IPSO features security hardening, advanced routing, and serviceability functions. To ensure reliability and high availability, Nokia IPSO delivers IP Clustering and VRRP, hard disk mirroring, redundant and hot swap components for select Nokia IP Security Platforms. And IPSO's Role-based administration offers significant flexibility in managing access while improving security and compliance.

Nokia IPSO has a robust toolset for administrators to manage Nokia IP Security Solutions using Role-based Administration through a choice of the Web-based Nokia Network Voyager interface or comprehensive Command Line Interface (CLI). Either interface provides the same configuration and monitoring features in different forms: Nokia Network Voyager—SSL-secured browser GUI, or the CLI—SSH-secured, command-line interface. Each of these enables complete role-based configuration and monitoring of Nokia IPSO devices in all their details and variations, and are robust interfaces for complete single device management.

Nokia IPSO based security platforms deliver excellent routing capabilities and support a wide array of unicast and multicast routing

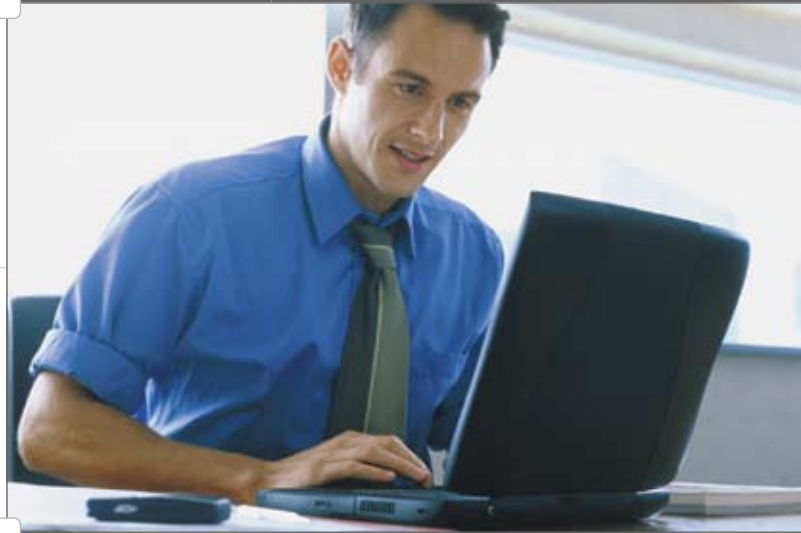
protocols. The customer can deploy a Nokia IP Security Platform as a firewall utilizing the router capabilities of Nokia IPSO, saving them both time and money.

Other Nokia IPSO capabilities are provided through SNMP for support of third-party monitoring systems. This includes an SNMP agent for SNMP v1, v2c, and v3 (USM) protocol versions that provide comprehensive interoperability with cutting-edge network management systems (NMS) for secure, centralized and highly scalable monitoring. Support for MIB-II for SNMP v1/v2c/v3 as well as a Host Resources MIB, VRRP MIB, Nokia IPSO System MIB, the Check Point MIB and several other standard MIBs are available. These MIBs allow intuitive and standards-based support for monitoring device utilization, HA, interoperation of devices and Check Point VPN-1® utilization as well as traffic load monitoring.

Nokia Network Voyager is a comprehensive and secure web-based management application for software management on Nokia IP Security Platforms. This includes

Nokia IPSO version inventory, up or downgrading to other Nokia IPSO versions, application version inventory and installation, upgrading or enabling, as well as disabling and deletion capabilities for unused applications. Nokia IPSO, through Nokia Network Voyager and the CLI can also display a summary of an entire set of configuration parameters, and supports commands to back-up those settings to a file via both interactive and scheduled operations. Additionally, Nokia Network Voyager and the CLI provide both real-time and historical monitoring of many single device system statistics with the ability to deliver user-configurable email notifications in the case of system faults. Nokia Horizon Manager also runs with Nokia IPSO, and enables management of multiple Nokia IPSO devices running different security applications.

Best of all, security, performance and reliability are backed by world-class Nokia First Call—Final Resolution global support and service.



Technical Specifications

Internet Protocols	<ul style="list-style-type: none"> TCP UDP SCTP RTP IPSec PIM-DM (multicast) PIM-SM (multicast) Route Maps GRE Generic Routing Encapsulation IP RFC 791 ICMP RFC 792 ARP RFC 826 ICMP Router Discovery (server) RFC 1256 CIDR RFC 1519 Static Routes RIP RFC 1058 RIP Version 2 (with authentication) RFC 1723 OSPF RFC 2328 DVMRP (multicast) RFC 1075 IGMP (multicast) RFC 2236 PIM-DM (multicast), PIM-SM Multicast Tunnels IGRP (optional) Cisco BGP4 (optional) RFC 1771 IPv4 RFC 791 IPv6 Core RFCs Requirements for IPv4 Routers RFC 1812 Differentiated Services (EF) RFC 2598 Bootp/DHCP Relay RFC 2131 Route Aggregation and Redistribution Unnumbered Interfaces Link negotiation IEEE 802.3 Flow control IEEE 802.3 Private (RFC 1918) and Public IP Routing VLAN 802.3Q
WAN Protocols	<ul style="list-style-type: none"> Frame Relay HDLC PPP PPPoE
LAN Support	<ul style="list-style-type: none"> 10/100 Mbps Ethernet 10/100/1000 Mbps Ethernet Copper Gigabit Ethernet Multi-mode fiber Gigabit Ethernet Virtual LAN (VLAN) Copper 10 Gigabit Ethernet
Management	<ul style="list-style-type: none"> Nokia Network Voyager Command Line Interface Supported by Nokia Horizon Manager 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
High Availability	<ul style="list-style-type: none"> VRRP (Active/Passive) RFC 2338 IP Clustering Check Point VPN-1/FireWall-1 state sync Hot-swappable network interface cards* Hot-swappable redundant hard disk drives (RAID 1)* Hot-swappable redundant power supplies* Hot-swappable redundant fans* <p>* Available on selected IP Platforms</p>
Security	<ul style="list-style-type: none"> Hardened kernel Unnecessary OS services are not present Secure communication channel SSHv2 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 Native IPSec (for non-firewall applications) NTP Client and Server RFC 1305 RADIUS Client, TACACS+ Client RIPv2 MD5 authentication NTP client and server for reliable time stamps

Nokia IP Platforms At a GLANCE . . .

All-supported by Nokia Horizon Manager

Nokia IP45

- Compact, desktop appliance with no moving parts
 - Flash-based system for high reliability
 - 3 independent Ethernet ports (LAN, WAN, DMZ/Work Port3)
 - Serial port for external ISDN or v.92 Analog modem dial backup or Out of Band Management connection
- Remote office and branch office system

Nokia IP60

- Flash-based compact, desktop appliance
 - 4 ports of 10/100 LAN switch, 1 10/100 WAN port, 1 10/100 DMZ or WAN2 port, 1 Serial port
 - Enterprise-class UTM features: firewall/VPN, IDS/IPS, web-filtering, Anti-Virus (AV)
 - Available in two versions: wired and wireless
- Remote office and branch office system

Nokia IP260 and Nokia IP265

- 4 integrated 10/100 Mbps Ethernet ports
- Disk-based or flash-based

Nokia IP390

- Up to 8 10/100/1000 OR 4 10/100/1000 and 8 10/100 Ethernet ports
 - 1RU form factor
 - 1GB RAM, expandable to up to 2GB of RAM
 - Flash-based or hybrid configuration
 - High performance
- Medium business, large business class system

Nokia IP560

- 1RU form factor
 - Flash-based or hybrid configuration
 - 4 front-facing PCI-X PMC expansion slots, supporting up to 16 10/100/1000 Ethernet interfaces
 - 4-port 10/100/1000 Ethernet interface card (included)
 - 1GB RAM, expandable to up to 4GB of RAM
- Large enterprise and Service Provider class system

Nokia IP1220

- Options: dual power, fans, HDD VPN card
 - Hot-swappable interface cards and fans, 4-integrated 10/100 and 4 PMC Interface Slots
 - 2 RU large business, data center, SP HA system
 - Disk-based, flash-based or hybrid
- Large enterprise, Service Provider class system

Nokia IP1260

- Dual power, fans, HDD and VPN card included
 - Hot-swappable interface cards and fans
 - 4 integrated 10/100 and 4 PMC Interface Slots
 - 2 RU large business, data center, SP HA system
 - Disk-based, flash-based or hybrid
- Data Center, Service Provider class system

Nokia IP2255

- 3 RU system for high performance and-robustness
 - Flexible: Four hot-swappable slots for Ethernet and/or crypto acceleration cards
 - Reliable: Flash-based platform with dual power supplies and redundant cooling
 - High port density: Up to 32 10/100 Ethernet or 8-Gigabit Ethernet with 4 integrated 10/100 Ethernet management ports
- Highest Performance Enterprise and Service Provider class system

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