PI-CONNECT 1000
Datasheet

Hardware Support

PI-OS is fully compatible with Piscis Networks hardware it comes preinstalled on. It can also be run on 3rd party devices if they meet the following requirements:

- i386 compatible architecture
- SMP – multi-core and multi-CPU compatible
- Minimum 32MB of RAM, since PI-OS v7 there is no more maximum RAM.
- IDE, SATA, USB, and flash storage medium with a minimum of 64MB of space
- Network cards supported by Linux kernel (PCI, PCI-X)
- Switch chip configuration support

Installation

- Netinstall: Full network-based installation from PXE or EtherBoot enabled network card
- CHR: PI-OS version intended for running as a virtual machine
- CD-based installation

Configuration

- Webfig - advanced web-based configuration interface
- Powerful command-line configuration interface with integrated scripting capabilities, accessible via local terminal, serial console, telnet and ssh
- API - the way to create your own configuration and monitoring applications

Backup/Restore

- Binary configuration backup saving and loading
- Configuration export and import in human-readable text format

Firewall

- Stateful filtering
- Source and destination NAT
- NAT helpers (h323, pptp, quake3, sip, ftp, irc, tftp)
- Internal connection, routing and packet marks
- Filtering by IP address and address range, port and port range, IP protocol, DSCP and many more
- Address lists
- Custom Layer7 matcher - IDS/IPS
- IPv6 support
- PCC - per connection classifier, used in load balancing configurations
- RAW filtering to bypass connection tracking.

Routing

- Static routing
- Virtual Routing and Forwarding (VRF)
- Policy based routing
- Interface routing
- ECMP routing
- IPv4 dynamic routing protocols: RIP v1/v2, OSPFv2, BGP v4
- IPv6 dynamic routing protocols: RIPng, OSPFv3, BGP
- Bidirectional Forwarding Detection (BFD)

MPLS

- Static Label bindings for IPv4
- Label Distribution protocol for IPv4
- RSVP Traffic Engineering tunnels
- VPLS MP-BGP based autodiscovery and signaling
- MP-BGP based MPLS IP VPN

VPN

- IPSec – tunnel and transport mode, certificate or PSK, AH and ESP security protocols.
- IKEv2 support
- AES-NI hardware acceleration support for IPSec
- Point to point tunneling (OpenVPN, PPTP, PPPoE, L2TP, SSTP)
- Advanced PPP features (MLPPP, BCP)
- Simple tunnels (IPIP, EoIP) IPv4 andIPv6 support
- 6to4 tunnel support (IPv6 over IPv4 network)

- VLAN – IEEE802.1q Virtual LAN support, Q-in-Q support
- MPLS based VPNs
- WireGuard
- ZeroTier

DHCP

- Per interface DHCP server
- DHCP client and relay
- Static and dynamic DHCP leases
- RADIUS support
- Custom DHCP options
- DHCPv6 Prefix Delegation (DHCPv6-PD)
- DHCPv6 Client

Hotspot

- Plug-n-Play access to the Network
- Authentication of local Network Clients
- Users Accounting
- RADIUS support for Authentication and Accounting

QoS

- Hierarchical Token Bucket (HTB) QoS system with CIR, MIR, burst and priority support
- Simple and fast solution for basic QoS implementation - Simple queues
- Dynamic client rate equalization (PCQ)

Proxy

- HTTP caching proxy server
- Transparent HTTP proxy
- SOCKS protocol support
- DNS static entries
- Support for caching on a separate drive
- Parent proxy support
- Access control list
- Caching list

Tools

- Ping, traceroute
- Bandwidth test, ping flood
- Packet sniffer, torch
- Telnet, ssh
- E-mail and SMS send tools
- Automated script execution tools
- CALEA
- File Fetch tool
- Advanced traffic generator
- WoL (Wake on LAN) sending

Other features

- Samba support
- OpenFlow support
- Bridging – spanning tree protocol (STP, RSTP), bridge firewall and MAC natting.
- Dynamic DNS update tool
- NTP client/server and synchronization with GPS system
- VRRP v2 and v3 support
- SNMP
- M3P - Piscis Networks Packet packer protocol for wireless links and ethernet
- MNDP - Piscis Networks neighbor discovery protocol, supports CDP (Cisco discovery protocol)
- RADIUS authentication and accounting
- TFTP server
- Synchronous interface support (Farsync cards only) (Removed in v5.x)
- Asynchronous – serial PPP dial-in/dial-out, dial on demand
- ISDN – dial-in/dial-out, 128K bundle support, Cisco HDLC, x75i, x75ui, x75bui line protocols, dial on demand

Kernel version

- PI-OS version 6.x uses 3.3.5
- PI-OS version 7.x uses 5.6.3

Supported Encryptions

PI-OS 7 is used for the management of network (telecommunication) devices.

- PI-OS 7 includes encryption features (components), intended for data (information) security, passed through telecommunication channels and device control channels.
- All encryption features (components) are an integral part of PI-OS 7 and can not be changed by the end-users.
- PI-OS 7 is intended for installation by end-users without significant support from the vendor.
- PI-OS 7 uses the following security protocols:

Supported security protocol	Encryption algorithm	Maximum key length
Supported security protocol	Encryption algorithm	Maximum key length
IPSec	DES	56 bit
	3DES	168 bit
	AES	128, 192, 256 bit
	Blowfish	448 bit
	Twofish	256 bit
	Camelia	128, 192, 256 bit
PPTP (with MPPE)	RC4	128 bit
L2TP (with MPPE)	RC4	128 bit
SNMP	DES	56 bit
	AES	128 bit
SSH	Blowfish	128 bit
	3DES	192 bit

	AES	128, 192, 256 bit
SSTP	AES	256 bit
	RC4	128 bit
Used in WinBox connection (nameless)	AES	128 bit
WEP	RC4	104 bit
WPA-TKIP	RC4	128 bit
WPA2-TKIP	RC4	128 bit
WPA-AES	AES	128 bit
WPA2-AES	AES	128 bit
HTTPS	NULL, RC4, DES, DES40, 3DES, AES	128, 192, 256 bit