



OPNsense A10 Quad Core Rack Series

DEC2640



The **OPNsense A10 Quad Core Rack** secures your network with high-end features such as inline intrusion prevention, virtual private networking, two factor authentication, captive portal and filtering web proxy. The optional high availability setup ensures stable network performance with automatic failover and synchronised states, minimising disruption. **Keep your network secure and the good packets flowing.**



3.800Mbps Throughput
550.000 Packets per Second



487Mbps Inline High Speed
Intrusion Prevention &
SSL Finger Printing



Fast Filtering
45.000 new connections per
second (10 second burst)
Low Latency ~137µS



Hardware Assisted Encryption
950Mbps IPsec (AES256GCM16)



Guard Web Access
Filtering (SSL) Proxy
Captive Portal with Voucher
support



128GB SSD
Offering Sufficient Space for
Logging & Reporting



System wide two-factor
authentication.
Compatible with Google
Authenticator.

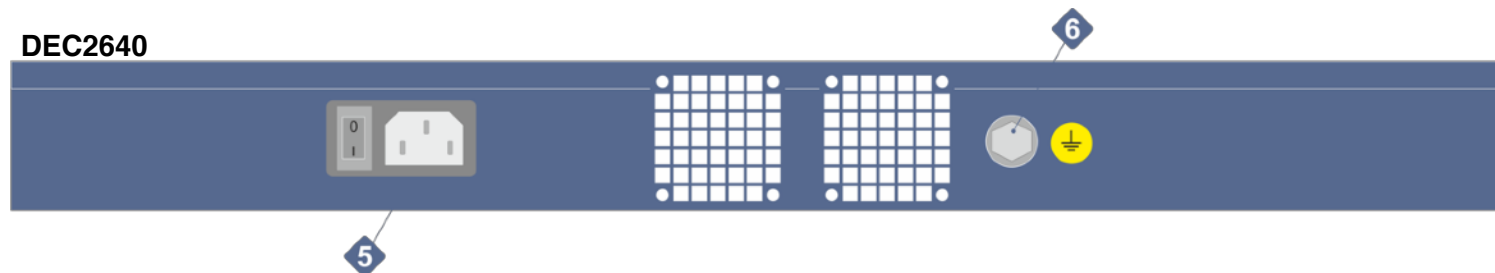
Securing Networks



®

HARDWARE

DUTCH QUALITY - MADE IN THE NETHERLANDS

DEC2640**DEC2640**

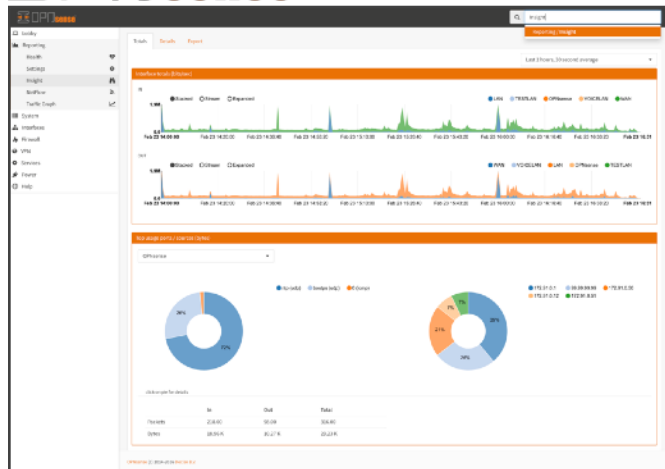
- | | | | | | |
|----------|--------------|----------|----------|----------|-------------|
| 1 | POWER SW/LED | 3 | CONSOLE | 5 | POWER (C14) |
| 2 | USB | 4 | RJ45 GbE | 6 | GROUND |

Securing Networks



SOFTWARE

VERSATILE - OPEN SOURCE - FULLY FEATURED



High-end Security Made Easy™

OPNsense is Deciso's fast growing open source firewall and security platform released under an Open Source Initiative approved license. It's rich feature set is combined with the benefits of open and verifiable sources.

All features can be used from within the easy to use graphical interface, equipped with a build-in search feature for quick navigation. Protecting your network has never been this easy, utilise the integrated intrusion prevention capable of blacklisting based on SSL fingerprints and the two-factor authentication for safely connecting mobile users.

Keep full insight on the traffic flowing through your firewall at all times, with its advanced Netflow capture, aggregate & reporting tool 'Insight'.



Businesses

Protect your business network and secure your connections.

From the stateful inspection firewall to the inline intrusion detection & prevention system everything is included for free. Use the traffic shaper to enhance network performance and prioritise your voice over IP above other traffic. Backup your configuration to the cloud automatically, no need for manual backups.



School networks

Limit and share available bandwidth evenly amongst students and utilise the category based web filtering to filter unwanted traffic such as adult content and malicious websites. It's easy to setup as no additional plugins nor packages are required.



Hotels

Hotels usually utilise a captive portal to allow guests (paid) access to internet for a limited duration. Guests need to login using a voucher they can either buy or obtain for free at the reception. OPNsense has a build-in captive portal with voucher support and can easily create them on the fly.



On the road

Even on the road OPNsense is a great asset to your business as it offers OpenVPN and IPsec VPN solution with road warrior support and two-factor authentication. The easy client exporter makes configuring your OpenVPN SSL client setup a breeze.



Remote Offices & SOHO

Utilise the integrated site to site VPN (IPsec or SSL VPN) to create a secure network connection to and from your remote offices. Enjoy the easy configuration and online searchable documentation with simple how-to type of articles to get you started, quickly.

Securing Networks



SOFTWARE FEATURE OVERVIEW

Stateful firewall

- Filter by
 - Source
 - Destination
 - Protocol
 - Port
 - OS (OSFP)
- Limit simultaneous connections on a per rule base
- Log matching traffic on a per rule bases
- Policy Based Routing
- Packet Normalisation
- Option to disable filter for pure router mode

Policy organisation

- Alias Support
 - IP addresses
 - Port ranges
 - Domain names (FQDN)
 - Geolite2 Country IP
- Interface Groups
 - Create security zones with equal rules
- Rule Category
 - Easy access rule sets

Granular control state table

- Adjustable state table size
- On a per rule bases
 - Limit simultaneous client connection
 - Limit states per host
 - Limit new connections per second
 - Define state timeout
 - Define state type
- State types
 - Keep
 - Sloppy
 - Modulate
 - Synproxy
 - None
- Optimisation options
 - Normal
 - High latency
 - Aggressive
 - Conservative

Authentication

- External Servers
 - LDAP
 - Radius
- Integrated Servers
 - Local User Manager
 - Vouchers / Tickets
 - FreeRadius (Plugin)

Authorisation

- User Interface
 - Local User Manager

Accounting

- FreeRadius (Plugin & External)
- Vouchers / Tickets

2-Factor Authentication

- Supports TOTP
- Google Authenticator
- Support services:
 - Captive Portal
 - Proxy
 - VPN

- GUI
- SSH / Console

Certificates

- Certificate Authority
 - Create or Import CA's
 - Create or Import Certificates
- Let's Encrypt (Plugin)
 - Automated (Trusted) CA

802.1Q VLAN support

- max 4096 VLAN's

Link Aggregation & Failover

- Failover
- Load Balance
- Round Robin
- Cisco Ether Channel (FEC)
- 802.3ad LACP

Other Interface types

- Bridged interfaces
- Generic Tunnel Interface (GIF)
- Generic Routing Encapsulation
- 802.1ad QinQ

Network Address Translation

- Port forwarding
- 1:1 of ip's & subnets
- Outbound NAT
- NAT Reflection

Traffic Shaping

- Limit bandwidth
- Share bandwidth
- Prioritise traffic
- Rule based matching
 - Protocol
 - Source
 - Destination
 - Port
 - Direction

IGMP Proxy

- For multicast routing

Universal Plug & Play

- Fully supported

Dynamic DNS

- Selectable form a list
- Custom
- RFC 2136 support

DNS Forwarder

- Host Overrides
- Domain Overrides

DNS Server

- Host Overrides
 - A records
 - MX records

- Access Lists

DNS Filter

- Supports OpenDNS

DHCP Server

- IPv4 & IPv6
- Relay Support
- BOOTP options

Multi WAN

- Load balancing
- Failover
- Aliases

Load Balancer

- Balance incoming traffic over multiple servers

Network Time Server

- Hardware devices
 - GPS
 - Pulse Per Second

Intrusion Detection & Prevention

- Inline Prevention

- Integrated rulesets
 - SSL Blacklists
 - Feodo Tracker
 - Emerging Threats ETOpen
 - ET Pro Telemetry (Optional / free subscription offered by Deciso)

- SSL Fingerprinting

- Auto rule update using configurable cron

- ET Pro ruleset (paid subscription)

Captive Portal

- Typical Applications
 - Guest Network
 - Bring Your Own Device (BYOD)
 - Hotel & Camping Wifi Access
 - Template Management
 - Multiple Zones

- Authenticators

- All available authenticators
- None (Splash Screen Only)

- Voucher Manager

- Multiple Voucher Databases
- Export vouchers to CSV

- Timeouts & Welcome Back

- Bandwidth Management

- Use Traffic Shaper

- Portal bypass

- MAC and IP whitelisting

- Real Time Reporting

- Live top IP bandwidth usage
- Active Sessions

- Time left
- Rest API

Virtual Private Networks

- IPsec

- Site to Site
- Route based (tunnel)
- Road Warrior

- OpenVPN

- Site to Site
- Road Warrior
- Easy client configuration exporter

- Tinc (Plugin)

- Full mesh routing

- ZeroTier (Plugin)

- VPN, SDN & SD-WAN

- PPTP (Legacy)

- LT2P (Legacy)

High Availability

- Automatic hardware failover

- Synchronised state table

- Configuration synchronisation

Caching Proxy

- Multi interface

- Transparent Mode

- Support SSL Bump

- SSL Domain only (easy filtering)

- Access Control Lists

- Blacklists

- Category Based Web-filter

- Traffic Management

- Auto sync for remote blacklists

- ICAP (supports virus scan engine)

Virus scanning

- External engine support (ICAP)

- ClamAV (Plugin / C-ICAP)

Reverse Proxy

- HAProxy - Load balancer (Plugin)

Online Identity Protection

- Tor - Anonymity online (Plugin)

Backup & Restore

- History & Diff support
- File Backup
- Cloud Backup

SNMP

- Monitor & Traps

Diagnostics

- Filter reload status
- Firewall Info (pfInfo)
- Top Users (pfTop)
- Firewall Tables
 - Aliases
 - Bogons

- Current Open Sockets
- Show All States
- State Reset
- State Summary
- Wake on LAN
- ARP Table
- DNS Lookup
- NDP Table
- Ping
- Packet Capture
- Test Port
- Trace route

- DNS Lookup

- NDP Table

- Ping

- Packet Capture

- Test Port

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Monitoring

- Zabbix Agent (Plugin)
- Monit (Plugin)
 - Proactive System Monitoring

Enhanced Reporting

- Network Flow Analyser 'Insight'
 - Fully Integrated
 - Detailed Aggregation
 - Graphical Representation
 - Clickable and Searchable
 - CVS Exporter
- System Health
 - Round Robin Data
 - Selection & Zoom
 - Exportable
- Traffic Graph
 - Live Traffic Monitoring

Network Monitoring

- Netflow Exporter
 - Version 5 & version 9
 - Local for 'Insight'

Firmware

- Support Virtual Installs
 - VMware tools (Plugin)
 - Xen Guest Utilities (Plugin)
 - Easy Upgrade
 - Reboot warning for base upgrades
 - SSL Flavour selectable
 - OpenSSL
 - LibreSSL
 - Selectable Package Mirror
 - Reinstall Single Package
 - Lock Package (prevents upgrade)
 - Audit Feature
 - Check installed packages for known security vulnerabilities
 - Plugin Support
- ### REST API
- ACL support
- ### Online Documentation
- Free & Searchable

Securing Networks



SPECIFICATIONS PERFORMANCE &



twice the memory
twice the packets per second

(compared to the DEC2630)

DEC2640	
Hardware Specifications	
GbE RJ45 Ports [10/100/1000Mbps]	4
USB Ports	1
Console Port	1
Internal Storage	128GB
Memory	8GB DDR3
CPU Cores	4 (2.0Ghz)
Virtual Interfaces (802.1q VLANs) ¹	4093
System Performance	
Total Firewall Throughput (physical limit)	6600 Mbps (3800Mbps)
Firewall Packets Per Second	550000
Firewall Port to Port Throughput	950 Mbps
Firewall Port to Port Packets Per Second	349000
Concurrent Sessions	7000000
New Connections Per Second	45000
Firewall Latency	~137 uSec
Firewall Policies (Recommended Maximum) ¹	10000
IPsec VPN Throughput (single tunnel)	950 Mbps
IPsec VPN Packets Per Second	80000
SSL VPN Throughput (single tunnel)	240 Mbps
SSL VPN Packets Per Second	20000
Threat Protection Throughput (IPS)	487Mbps
High Availability with State Synchronisation	Requires Two
Dimensions	
Height x Width x Length (mm)	44 x 485 x 335
Height x Width x Length (inches)	1.74 x 19 x 13.2
Form Factor	Rack Mount 1U
Weight (Kg)	3,75
Environment	
Power Requirements	100-240VAC, 50-60Hz
Maximum Current	0.8A
Power Consumption (Typical)	30W
Heat Dissipation	85 BTU/hr
Operating Temperature	0 to +45°C
Storage Temperature	-20 to +70°C
Humidity	10-90% non-condensing
Regulatory Compliance	
FCC part 15 Class A, CE, Rohs	

¹ The user interface is designed for normal business usage, large rulesets, high number of users or interface assignments may be less practical.

Firewall Throughput is the maximum theoretical throughput and is defined as the maximum packets per second under test multiplied with a standard package size of 1.514 bytes. The maximum packets per second is measured using stateless traffic and an internet mix profile (IMIX) with an average packet size of 360 bytes. Latency test is an average at 80% of the maximum port to port traffic with UDP packets of 256bytes after 60 seconds of activity. Connections per second is measured by generating a 10 second burst of TCP connects from simulated clients. The value recorded is the maximum where no connections were dropped. Concurrent sessions are based upon memory available, where one state consumes 1KB of memory and 1GB of memory is reserved for system tasks.

IPS performance is measured using ETPro Telemetry ruleset of march 14th 2019, with all rules enabled and a realistic traffic profile (EMIX) containing stateful traffic, test duration is 100 seconds, average package size after full test is ~700bytes.

IPsec packets per second is measured using AES256GCM16 and the throughput is defined as the maximum packets per second under test multiplied with a standard package size of 1.514 bytes. SSL VPN is measured using AES256CBC.

OPNsense version used for performance tests was 19.1.4.

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