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.**

- **3.300Mbps Throughput**
  - 250,000 Packets per Second

- **327Mbps Inline High Speed Intrusion Prevention & SSL Finger Printing**

- **Fast Filtering**
  - 35,000 connections P/S
  - Low Latency ~1.6mS (with CoDel & Traffic Shaper)

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

- **128GB SSD**
  - Offering Sufficient Space for Logging & Reporting

- **Hardware Assisted Encryption**
  - 600Mbps IPsec (AES256GCM16)

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

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Securing Networks

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HARDWARE
DUTCH QUALITY - MADE IN THE NETHERLANDS

DEC2630

DEC2670

DEC2650

DEC2630 & DEC2670

DEC2650

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

Securing Networks
SOFTWARE  
VERSATILE - OPEN SOURCE - FULLY FEATURED

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 you 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. Its easy to setup as no additional plugins nor packages are required.

Hotels & Campings  
Hotels and campings 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 make 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.
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)
- 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
- Symproxy
- None
- Optimisation options
  - Normal
  - High latency
  - Agressive
  - 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 Overides
- Domain Overides

DNS Server
- Host Overides
- 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
- Fido0 Tracker
- Geolite2 Country IP
- Emerging Threats ETOpen
- SSL Fingerprinting
- Auto rule update using configurable cron

Captive Portal
- Typical Applications
  - Guest Network
  - Bring Your Own Device (BYOD)
  - Hotel & Camping Wi-Fi 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
  - Road Warrior
- OpenVPN
  - Site to Site
  - Road Warrior
  - Easy client configuration exporter
- Transparent
  - IPSec (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 (support virus scan engine)

Viris 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
- SSL Backup
- SNMP
- Monitor & Traps

Diagnostics
- Filter reload status
- Firewall Info (pflinfo)
- 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

Monitoring
- Zabbix Agent (Plugin)
- Monit (Plugin)
- Process & 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

### Hardware Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>DEC2630</th>
<th>DEC2650</th>
<th>DEC2670</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBE RJ45 Ports [10/100/1000Mbps]</td>
<td>4</td>
<td>8</td>
<td>2 x 4</td>
</tr>
<tr>
<td>USB Ports</td>
<td>1 x 1</td>
<td>1 x 1</td>
<td>2 x 1</td>
</tr>
<tr>
<td>Console Port</td>
<td>1 x 1</td>
<td>1 x 1</td>
<td>2 x 1</td>
</tr>
<tr>
<td>Internal Storage</td>
<td>128GB</td>
<td>128GB</td>
<td>2 x 128GB</td>
</tr>
<tr>
<td>Memory</td>
<td>4GB DDR3</td>
<td>4GB DDR3</td>
<td>2x 4GB DDR3</td>
</tr>
<tr>
<td>CPU Cores</td>
<td>4 x 1.6GHz</td>
<td>4 x 1.6GHz</td>
<td>2 x 4 x 1.6GHz</td>
</tr>
<tr>
<td>Virtual Interfaces (802.1q VLANs)</td>
<td>4093</td>
<td>4093</td>
<td>4093</td>
</tr>
</tbody>
</table>

### System Performance

<table>
<thead>
<tr>
<th>Feature</th>
<th>DEC2630</th>
<th>DEC2650</th>
<th>DEC2670</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firewall Throughput</td>
<td>3300 Mbps</td>
<td>3300 Mbps</td>
<td>3300 Mbps</td>
</tr>
<tr>
<td>Firewall Packets Per Second</td>
<td>250000</td>
<td>250000</td>
<td>250000</td>
</tr>
<tr>
<td>Firewall Port to Port Throughput</td>
<td>941Mbps</td>
<td>941Mbps</td>
<td>941Mbps</td>
</tr>
<tr>
<td>Firewall Port to Port Packets Per Second</td>
<td>122000</td>
<td>122000</td>
<td>122000</td>
</tr>
<tr>
<td>Concurrent Sessions</td>
<td>3000000</td>
<td>3000000</td>
<td>3000000</td>
</tr>
<tr>
<td>New Connections Per Second</td>
<td>35000</td>
<td>35000</td>
<td>35000</td>
</tr>
<tr>
<td>Firewall Latency (RRUL test average)</td>
<td>1.6ms</td>
<td>1.6ms</td>
<td>1.6ms</td>
</tr>
<tr>
<td>Traffic Shaper Packets Per Second</td>
<td>240000</td>
<td>240000</td>
<td>240000</td>
</tr>
<tr>
<td>Firewall Policies (Recommended Maximum)</td>
<td>10000</td>
<td>10000</td>
<td>10000</td>
</tr>
<tr>
<td>IPsec VPN Throughput (single tunnel)</td>
<td>600</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>SSL VPN Throughput (single tunnel)</td>
<td>170Mbps</td>
<td>170Mbps</td>
<td>170Mbps</td>
</tr>
<tr>
<td>Threat Protection Throughput (IPS)</td>
<td>327Mbps</td>
<td>327Mbps</td>
<td>327Mbps</td>
</tr>
</tbody>
</table>

### High Availability with State Synchronisation

- Requires Two
- Requires Two
- Yes, External Sync

### Dimensions

<table>
<thead>
<tr>
<th>Feature</th>
<th>DEC2630</th>
<th>DEC2650</th>
<th>DEC2670</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height x Width x Length (mm)</td>
<td>44 x 485 x 335</td>
<td>44 x 485 x 335</td>
<td>44 x 485 x 335</td>
</tr>
<tr>
<td>Height x Width x Length (inches)</td>
<td>1.74 x 19 x 13.2</td>
<td>1.74 x 19 x 13.2</td>
<td>1.74 x 19 x 13.2</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Rack Mount 1U</td>
<td>Rack Mount 1U</td>
<td>Rack Mount 1U</td>
</tr>
<tr>
<td>Weight (Kg)</td>
<td>3.75</td>
<td>3.85</td>
<td>4.90</td>
</tr>
</tbody>
</table>

### Environment

<table>
<thead>
<tr>
<th>Feature</th>
<th>DEC2630</th>
<th>DEC2650</th>
<th>DEC2670</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Requirements</td>
<td>100-240VAC, 50-60Hz</td>
<td>100-240VAC, 50-60Hz</td>
<td>100-240VAC, 50-60Hz</td>
</tr>
<tr>
<td>Maximum Current</td>
<td>0.8A</td>
<td>0.8A</td>
<td>0.8A (2 x)</td>
</tr>
<tr>
<td>Power Consumption (Typical)</td>
<td>20W</td>
<td>25W</td>
<td>20W (2 x)</td>
</tr>
<tr>
<td>Heat Dissipation</td>
<td>85 BTU/hr</td>
<td>85 BTU/hr</td>
<td>170 BTU/hr</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 to +45°C</td>
<td>0 to +45°C</td>
<td>0 to +45°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>20 to +70°C</td>
<td>20 to +70°C</td>
<td>20 to +70°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>10-90% non-condensing</td>
<td>10-90% non-condensing</td>
<td>10-90% non-condensing</td>
</tr>
</tbody>
</table>

### Regulatory Compliance

- FCC part 15 Class A, CE, Rohs
- FCC part 15 Class A, CE, Rohs
- 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.

All measurements are based upon TCP traffic unless stated otherwise. Total Firewall Throughput is calculated based on system utilisation and port-to-port performance test in full duplex. Maximum PPS is measured using 216 byte packets. Latency is Measured using a Real Time Response Under Load test with active Traffic Shaper - shaping up to line speed - and the CoDel scheduling algorithm. IPS performance is measured using a http simulation with random sized small (400-800 bytes) send packages and 1K-8K response packages with 150 simultaneous emulated users and 21000 rules enabled. SSL VPN is measured using AES256GCM16+SHA512 and total throughput is calculated based on system load.Concurrent sessions are based upon memory available, where one state consumes 1KB of memory and 1GB of memory is reserved for system tasks.