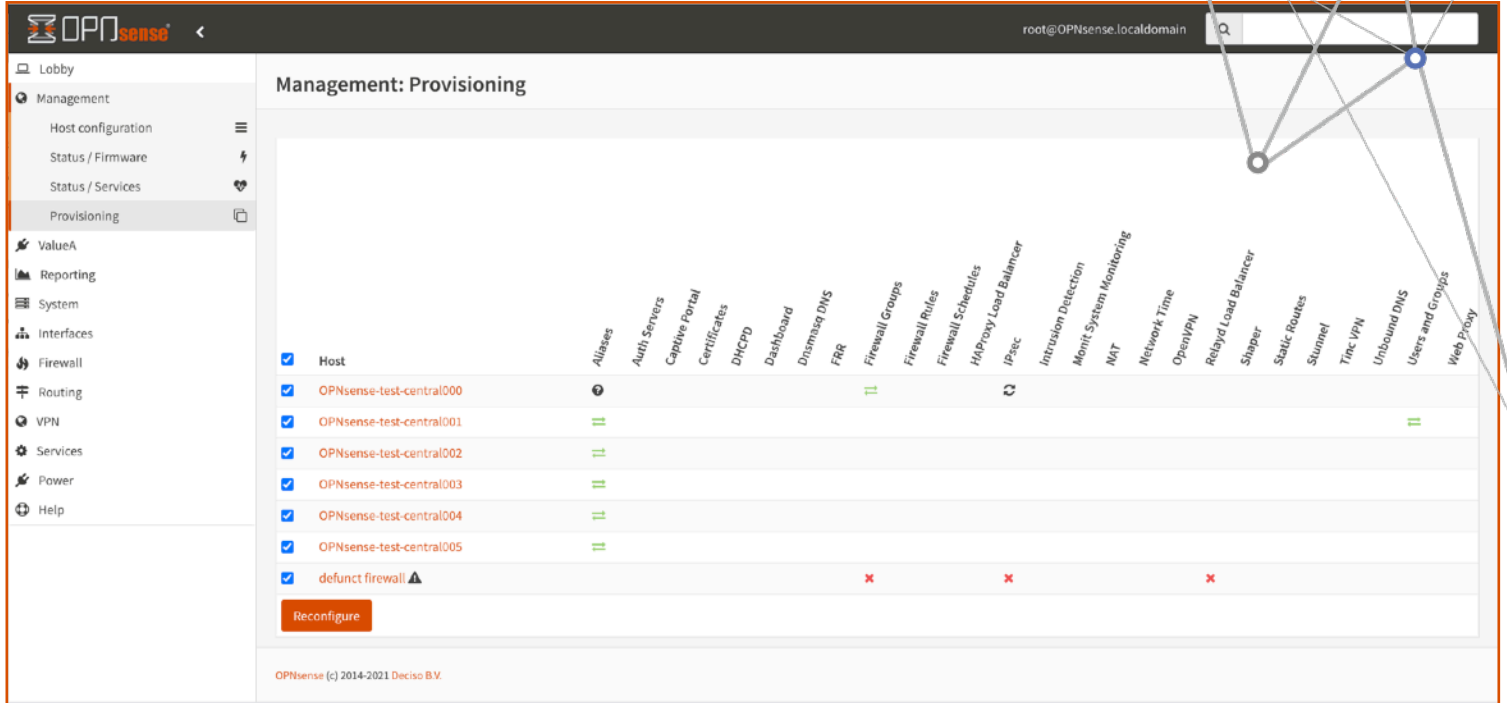


# OPNsense® Business Edition



## A mission critical version of the well known OPNsense firewall

Offering specific business-oriented features and third party security verification. Currently, the only open source LINCE compliant firewall.

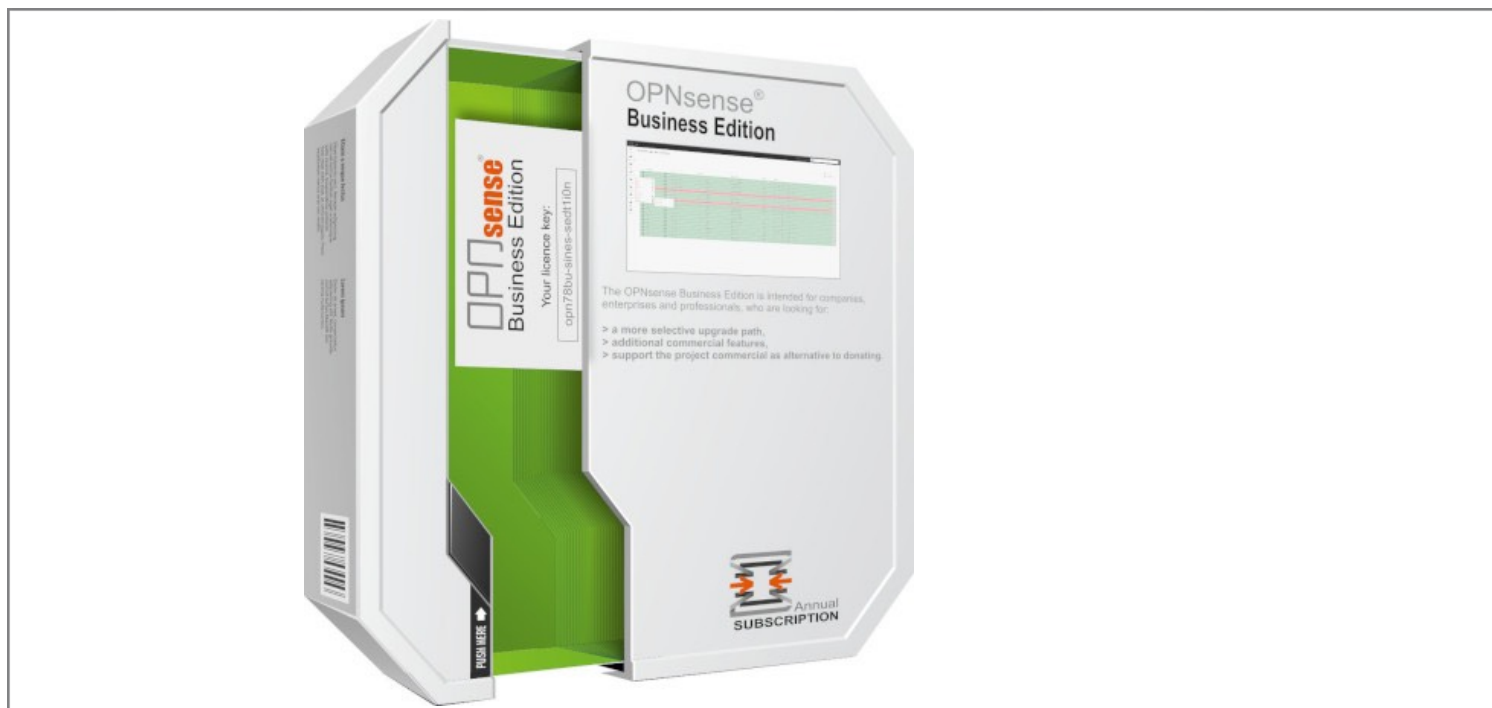
**OPNcentral**  
Central Management

**OPNWAF**  
Web application firewall

**OPNProxy**  
Advanced Proxy



Securing Networks™



## OPNsense® Business Edition

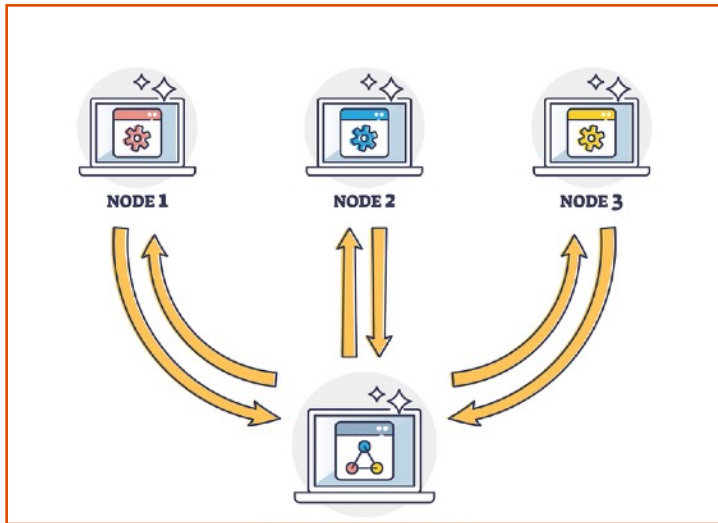
- ✓ **Mission critical**
- ✓ **LINCE compliant** (security verification by trained third party independent professionals)
- ✓ **Commercial firmware repository**
- ✓ **Free GeolP database**
- ✓ **Official OPNsense Open Virtualisation Image**
- ✓ **Central Management Application**
- ✓ **Web Application Firewall**
- ✓ **Advanced Web Proxy** (includes fine grained controls and policies)
- ✓ **Free E-Book ( English & German )**

*“The Business Edition offers additional safeguards where functional changes are being included in a more conservative manner and feedback has been collected from development and community.”*

**Ad Schellevis** - Project Leader



**Securing Networks™**



OPNcentral offers a convenient way to manage all your Business Edition Firewalls.

- ▶ **Manage remote hosts using a secure connection and API secrets**
- ▶ **Machine firmware status & upgrade**
- ▶ **Machine service status and control**
- ▶ **Machine resource status**
- ▶ **Access remote hosts with one click on a simple GUI link**
- ▶ **Provisioning / sharing settings**
- ▶ **Multi Tenancy support using host groups**

Description	Url	Firmware version	State
OPNsense-test-central000	https://opnsense001.local	20.7.8	Ready to upgrade, reboot required
OPNsense-test-central001	https://opnsense002.local	21.1.3	Ready
OPNsense-test-central002	https://opnsense003.local	?	Unable to connect
OPNsense-test-central003	https://opnsense004.local	?	Unable to connect
OPNsense-test-central004	https://opnsense005.local	?	Unable to connect
OPNsense-test-central005	https://opnsense006.local	?	Unable to connect
defunct firewall	https://opnsense007.local	?	Unable to connect

Firmware Status Example

<b>CPU usage</b> 8.70 %	<b>Memory usage</b> 20.00 %	<b>Swap usage</b> 26.70 %	<b>Interfaces</b> 11 up / 0 down High availability status MASTER Root filesystem 57.00 %	<b>Gateway status</b> up #9 loss #0 down #0 Gateway max delay / loss 0.4 ms 0.0 %	<b>State usage</b> 9.70 % Alias usage 39.70 % Source tracking 0.00 %	<b>in 3.30 kbit/s</b>	<b>out 4.70 kbit/s</b>
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Resource Monitor Example



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**OPNwaf**, easily protect web services against all sorts of injection attacks and provides encryption for traffic to and from the outside world..

- ▶ **TLS offloading**
- ▶ **Load balancing**
- ▶ **OWASP ModSecurity ruleset**
- ▶ **Easy setup of Virtual servers/hosts**
- ▶ **Internal or newly generated certificates**
- ▶ **Single click Lets's Encrypt integration**

The **Web Application Firewall** plugin offers some functionality which can also be found in community plugins available, but in a more user friendly manor. It combines the features most commonly used in reverse proxies, such as TLS offloading and load balancing.

To ease maintenance the **OPNwaf** plugin offers usage of both internal certificates or newly generated using the ACME protocol via Let's Encrypt with a single click.

A screenshot of the 'Edit VirtualServer' configuration window. It features a 'full help' link and a 'Clear All' button. The configuration includes: 'Enabled' checked, 'ServerName' set to 'test.opnsense.org', 'Port' set to '8001', 'Certificate' set to 'none', 'Enable ACME' unchecked, and 'Description' set to 'test'.A screenshot of the 'Edit Location' configuration window. It features a 'full help' link and a 'Clear All' button. The configuration includes: 'Enabled' checked, 'Path' set to '/', 'Remote destinations' set to 'https://pkg.opnsense.org/', 'Access control' empty, 'VirtualServer' set to 'test', and 'Description' set to 'pkg.opnsense.org'. There are also 'Clear All', 'Copy', and 'Paste' buttons for the Remote destinations field.

Securing Networks™

### 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
  - Synproxy
  - None
- Optimisation options
  - Normal
  - High latency
  - Agressive
  - Conservative

### Authentication

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

### Authorization

- User Interface
  - Local User Manager

### Accounting

- FreeRadius (Plugin & External)
- Vouchers / Tickets

### 2-Factor Authentication

- Supports TOTP
- Google Authenticator
- Supported 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

### 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
- SSL Fingerprinting
- Auto rule update using configurable cron

### 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
  - Road Warrior
- WireGuard (Plugin)
  - Site to Site
  - Road Warrior
- OpenVPN
  - Site to Site
  - Road Warrior
  - Easy client configuration exporter
- Tinc (Plugin)
  - Full mesh routing
- ZeroTier (Plugin)
  - VPN, SDN & SD-WAN

### 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 (via plugins)

- 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
- Git 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
- **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

