



# Rhinolabs Security Appliance

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RL-IA-3558

# Introducing RL-IA-3558

Rhinolabs RL-IA-3558 is an enterprise grade Edge Security appliance powered by Intel® Atom® (Denverton) processor family.

This new generation platform is able to perform multiple applications within a small form factor at low power and low cost.



RL-IA-3558 appliance is ideal for providing all-inclusive security and network solutions for residential and small and midsize business (SMB).

# Introducing RL-IA-3558

OPNsense® is an open source, easy-to-use and easy-to-build HardenedBSD based firewall and routing platform.

OPNsense includes most of the features available in expensive commercial firewalls, and more in many cases. It brings the rich feature set of commercial offerings with the benefits of open and verifiable sources.

For more information please check <https://opnsense.org>

# Hardware Specifications

Processor	Intel® Atom® C3000 Series 4-8 cores, C3558 2.2 GHz
Memory	ECC DDR4 SODIMM Max support 32 GB
Storage	Onboard EMMC 5.0 16 GB/32 GB 1x M.2 SATA 1x 2.5" SATA 1x 7 PIN SATA
Ethernet	8x1 Gbe 4x1 Gbe C3558 Integrated MAC 4x1 Gbe Intel i210 Support 2 POE+ ports
USB	2 x USB 3.0. Output 2.5 A
Mini PCIe	2 MiniPCIe for WiFi or LTE modules LTE module can support Dual SIM
Miscellaneous I/O Console GPIO I2C TPM	RS 232 RJ 45 4 Input 4 Output GPIO header I2C header TPM Header
Security	TPM Module
Power Supply	DC 12 V
Environmental	Working temperature -10 °C to 60 °C Working Humidity – 20 °C – 70°C
Software BIOS Operating System	AMI UEFI Choice of OS: OpenWRT integrated with DPDK, Snort, HyperScan Debian Linux with DPDK, Snort, Hyperscan Core OS
Form Factor	11"W x 7.2"D x 1.9"H



# Software Support

RL-IA-3558 has many software packages to choose from -

OpenWrt, DPDK, Snort, Debian Linux, Fedora Core OS.

For custom software optimization and support please contact us at [info@rhinolabsinc.com](mailto:info@rhinolabsinc.com)



# Ordering Information

RL-IA-3558

For other SKU's and custom design please contact us at [info@rhinolabsinc.com](mailto:info@rhinolabsinc.com)

# About Us

Rhino Labs Inc. is a leading provider of high-performance networking and data infrastructure solutions.

Our products are used by a growing base of OEM customers in applications focused on Cyber Security, Network Monitoring and Traffic Management.

Our standard and customized products include Intelligent Bypass NICs, Smart NICs, and a variety of network, security, and storage appliances.

We are a privately held company headquartered in Santa Clara, CA with a local engineering and manufacturing facility and a high volume manufacturing facility in Malaysia.

# OPNsense Feature List

## 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
  - 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

## 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
- 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 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

## 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

## 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

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