



# HAProxy ALOHA

## Hardware and Virtual Load Balancers

A simple all-in-one application delivery controller. Robust layer 7 and layer 4 load balancing with an intuitive interface to unlock high availability, scalable application performance, security, and observability.

### Load Distribution

- ▶ Support for all types of protocols
- ▶ Distribution of requests towards specific servers according to their contents (content switching)
- ▶ Cookie-based persistence management and session monitoring
- ▶ TLS termination and offloading
- ▶ Full IP support / IPv6-ready
- ▶ Direct Server Return
- ▶ Numerous load distribution algorithms, applicable per group of balanced servers
- ▶ Support for Web Services and WebSockets
- ▶ URL redirection
- ▶ Distribute client requests across geographically dispersed data centers with Global Server Load Balancing (GSLB)

### High Availability

- ▶ Continuous monitoring of servers
- ▶ Email Alerts as a Lua Module for customizable event monitoring
- ▶ Graceful server shutdown
- ▶ Overload protection
- ▶ Interaction with external routers by route announcement
- ▶ Unlimited number of servers per group
- ▶ Persistence information shared between nodes



## Hardware Benchmarks

Operational mode			ALB 3350	ALB 5350
Layer 7 Proxy	HTTPs 1.1 performance	Requests per second	21K	286K
		Bandwidth	1.0Gbps	25.2Gbps
	HTTPs 2.0 performance	Requests per second	30K	321K
		Bandwidth	1.0Gbps	13.7Gbps
	New TLS keys per second	RSA 2048	0.6K	9.3K
		ECDSA 256	2.3K	35.1K
Layer 4 LB	New connections per second	Destination NAT mode	22K	1.1M
		DSR mode	40K	1.2M
Packet filtering	DDoS attack protection	TCP packet flood	1.4M	up to 32.2M
		Invalid packets	1.4M	39.0M

## Hardware Appliance Licenses

LICENSES	2K	4K	8K	16K	32K	64K
Layer 7 Connections HTTP/s	2K	4K	8K	16K	32K	64K
Layer 7 Concurrent Connections	10K	20K	40K	80K	120K	160K
SSL TPS (TLS 1.2)	600	1,200	2,400	4,000	8,000	16,000
Layer 4 Connections/s	7,500	18,000	40,000	60,000	120,000	200,000
Hardware Type	ALB 3350	ALB 3350	ALB 3350 ALB 5350	ALB 5350	ALB 5350	ALB 5350

## Integration and Administration

- ▶ VLAN support (802.1g), multi-site VPN (IPSec or SSL)
- ▶ Bridging and aggregation of interfaces
- ▶ Integration in transparent proxy mode
- ▶ Advanced monitoring and journaling: status of services and applications, connection details, activity statistics
- ▶ Web or CLI management interface (SSH or serial port access)
- ▶ Tools for malfunction diagnostics
- ▶ Multi-level management (supervision and configuration)
- ▶ Support of Syslog, SNMP, VRRP and NTP standards API
- ▶ Support for scriptable configuration
- ▶ Simplified management and integration of SSL certificates

## Virtual Appliance Licenses

LICENSES	2K	4K	8K*	16K*	30K*	50K*
Layer 7 Connections HTTP/s	2K	4K	8K	16K	30K	50K
Layer 7 Concurrent Connections	10K	20K	40K	80K	120K	160K
SSL TPS (TLS 1.2)	600	1,200	2,400	4,000	8,000	16,000
Layer 4 Connections/s	7,500	18,000	40,000	60,000	120,000	200,000
Recommended Hypervisors	All	All	All	All	Hyper-V vSphere	vSphere
Recommended Memory	2G	2G	2G	2G	4G	8G
Min vCPUs	1	1	2	2	2 to 4	2 to 4

*\*Performance strongly depends on the hypervisor*

## Application Security

- ▶ HAProxy Enterprise WAF
- ▶ DDoS Protection
- ▶ Bot Management
- ▶ Protocol validation
- ▶ Deny-list / allow-list management
- ▶ ACL management
- ▶ Protection of select URLs
- ▶ Prevention of information leaks
- ▶ Filtering of HTTP/HTTPS requests and responses
- ▶ SSL information available via HTTP headers
- ▶ Management of SSL client certificates
- ▶ Behavioral analysis
- ▶ Protection against brute force attacks

## Application Performance

- ▶ Unlimited number of servers per virtual service
- ▶ Management of server logs in offload mode
- ▶ TCP/HTTP acceleration by means of buffering
- ▶ Dynamic control of connections open to a server
- ▶ Management of connections open to a server
- ▶ Filtering of useless HTTP requests
- ▶ Quick release of connections
- ▶ HTTP compression for requests and responses
- ▶ Advanced reporting of response times per server and application
- ▶ Automated OCSP stapling