

# HAProxy ALOHA

## Hardware and Virtual Load Balancers

The HAProxy ALOHA Load Balancer Rackmount Appliances are designed for companies looking for a dedicated system to ensure efficient load distribution of application streams and to guarantee the availability of their critical or strategic servers.



### Load Distribution

- ▶ Broad protocol support, including HTTP/3 over QUIC
- ▶ Distribution of requests towards specific servers according to their contents (content switching)
- ▶ Cookie-based persistence management and session monitoring
- ▶ SSL 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



### High Availability

- ▶ Continuous monitoring of servers
- ▶ 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        |
| PacketShield™ 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<br>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<br>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

- ▶ WAF with OWASP CRS mode and Zero-Trust mode using a positive model
- ▶ DDoS Protection
- ▶ Bot Protection
- ▶ Protocol validation
- ▶ Allowlist and denylist 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
- ▶ Advanced reporting of response times per server and application