

# HPE Load Balancer

For Fast, Scalable,  
Resilient Applications

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*Our business is always growing, and as such we're likely to add more off-site servers for greater capacity and resiliency.*

*Edgenexus will enable us to expand our requirements both quickly and cost effectively.*

*Addison Lee*

## Advanced Load Balancing Delivered on Leading HPE Servers

The HPE load balancer is powered by Edgenexus Application Delivery Control technology to improve the performance, scalability and reliability of applications for a superb end user experience.

This powerful load balancer is feature-rich yet cost-effective, giving you the comprehensive tool-set you need to overcome real-world application delivery challenges.



## Features

Functionality presented simply and effectively to deliver a feature-rich, supportable and scalable load balancer that is incredibly easy-to-use.

## User Central

Edgenexus User Central is a one-stop knowledge base for everything Edgenexus.

Discover how to deploy and configure Edgenexus in minutes and troubleshoot support issues with ease.

- |  |   |
|--|---|
|  Pre-Authentication           |  Web Application Firewall  |
|  Layer 4-7 Load Balancing     |  Compression and Caching   |
|  Server Health-Checking       |  Web Acceleration          |
|  Reverse Proxy                |  Traffic Management        |
|  SSL Offload                  |  Clustering                |
|  Global Server Load Balancing |  Intuitive GUI             |
|  Automatic Configuration      |  Unprecedented Ease-of-Use |

Download a free trial of the Edgenexus ALB-X software here

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Having technically reviewed the solutions available in the market place, we felt that Edgenexus hit all the functionality of the big players, at a very reasonable price point for the feature set available. **UNITE**

Tried and Tested for your Applications

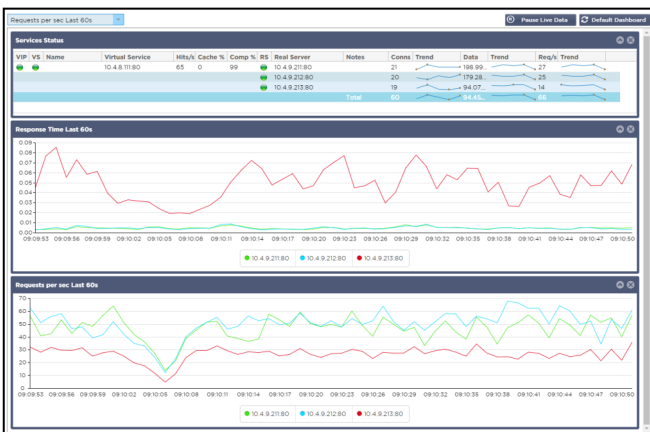


Edgenexus has experience across a broad range of applications and an understanding of their unique requirements. From household names such as MS Exchange and Lync, to self service websites and browser-based services, through to specialist applications like Electronic Patient Record Systems or E-Learning platforms like Moodle and Blackboard.

*“The Edgepack deployment template meant that the system was up and running within minutes rather than hours; ensuring minimal impact on business operations.” Addison Lee*

## Easy to Deploy, Manage and Support

Configuring HPE Load Balancers is a fast, painless experience for experts and novices alike and day-to-day management tasks are a breeze.



Mode	VSP	VS	Enabled	IP Address	Subnet Mask / Prefix	Port	Service Name	Service Type
Active				10.4.9.101	255.255.255.0	80	HTTP	Layer 4 TCP
Active				172.16.102.1	255.255.255.0	80	HTTP	Layer 4 TCP
Active				172.16.102.1	255.255.255.0	4443	Sprint-SSL-Offload	Layer 4 TCP
Active				172.16.102.1	255.255.255.0	80	HTTP	Layer 4 TCP
Active				10.4.9.101	255.255.255.0	80	HTTP	Layer 4 TCP
Active				10.4.9.101	255.255.255.0	80	HTTP	Layer 4 TCP

Group Name	Server Group	Address	Port	Weight	Calculated Weight	Notes
Online	Online	10.4.9.212	80	100	100	Web Server 2
Online	Online	10.4.9.213	80	100	100	Web Server 3

- Configure in minutes
- Intuitive user interface
- Real time status updates
- Drag and drop functionality
- GUI wizard & auto-complete
- Simple navigation
- Custom dashboards
- Configurable widgets
- Historical graphing

*“Edgenexus is extremely intuitive, requiring very little expert knowledge to get up and running yet there are a host of advanced features to enhance service delivery.” digdat™*

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## Platform Availability

Edgenexus has an OEM partnership with HPE to deliver advanced load balancing and ADC (Application Delivery Control) technology on leading HPE servers. Combining the innovative load balancing capabilities of Edgenexus with the power and flexibility of HPE servers, this new agreement enables HPE customers to deploy a fully integrated, scalable and highly efficient hardware ADC solution to improve the performance, scalability and reliability of applications for a superb user experience.



## Why HPE and Edgenexus?

- Best-of-breed integrated solution
- All HPE stack
- Powerful solution for the most demanding workloads
- Unrivalled global support by HPE
- Outstanding performance
- Industry standard servers to guarantee resiliency for mission critical applications

Tech Specs	ALB-X H1	ALB-X H2	ALB-X H3-10	ALB-X H4-10
Chassis	1U Half Depth	1U Full Depth	1U Full Depth	1U Full Depth
CPU Cores - Hyper Threading - Threads - Processor Base Frequency - Max Turbo Frequency - Cache	4 Yes 8 3GHz 3.50 GHz 15 MB SmartCache	6 Yes 12 3.40GHz 3.70 GHz 20 MB SmartCache	8 Yes 16 3.20GHz 3.60 GHz 25 MB SmartCache	12 Yes 24 3.00GHz 3.50 GHz 30 MB SmartCache
Memory	8 GB	16 GB	16 GB	16 GB - 384 GB
Network Interface	2 x 1 GbE	4 x 1 GbE Optional 2 x 10GbE	4 x 1 GbE & 2 x 10 GbE	4 x 1 GbE & 2 x 10 GbE
Storage	80 GB SSD	120 GB SSD	120 GB SSD	180 GB SSD
Power Consumption	70W Peak	148W Peak	148W Peak	148W Peak
Power Redundancy	No	Yes	Yes	Yes
HTTP Max Throughput	3 Gbps	6 Gbps	10 Gbps	20 Gbps
Layer 7 - HTTP RPS	120,000 rps	130,000 rps	140,000 rps	150,000 rps
SSL Transactions Per Second*	Up to 2500 tps	Up to 5000 tps	Up to 5000 tps	Up to 5000 tps

\* Not limited by licence

## Integrated Lights Out for Remote Management

The integrated lights out (iLo) functionality enables out of band remote management of the HPE Hardware.

- Superb support and remote troubleshooting functionality
- Remote fix and restore to daily backup configuration
- A replaced hard drive can be restored from an overnight backup remotely

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## Features

### SERVER LOAD BALANCING

- Layer 4 - 7 Load Balancing
- Layer 7 Application Persistence (aka. Persistence / Sticky Sessions / Cookie Based)
- Manual Server Weighting
- Automatic Server Weighting
- Reverse Proxy
- UDP Full Proxy
- Layer 7 Content Switching
- Active - Passive High Availability Mode
- Active - Active High Availability Mode
- Cross Data Centre Redundancy
- N+X Clustering
- Connection Draining
- Standby Server (aka Server of Last Resort)

### LOAD BALANCING METHODS

- Fastest Server
- Least Connections
- Round Robin
- IP Bound
- IP List Based
- Cookie Based
- Customisable Cookie
- Classic ASP Session Cookie
- ASP.NET Session Cookie
- JSP Session Cookie
- JAX-WS Session Cookie
- PHP Session Cookie
- Weighted Round Robin
- Weighted Least Connections

### SERVER HEALTH CHECKING

- Customisable Health Checks
- Simple HTTP
- Full HTTP (Layer 7)
- TCP Connect
- Out of Band Health Check
- DICOM
- RDP
- Ping
- Multiple Server Health Checks Per Service
- New HTTPS Health Check
- Redis Health Check (*via App Store*)
- DNS Health Check
- Upload Custom Health Checks
- Extra Setting for Custom Health Checks

### NETWORKING

- IPV6 Support
- IPV6 > IPV4 Proxy
- VLAN Support
- Single or Multi Interface Configuration
- Choice of Interfaces (from 4x1GbE up to 4x10GbE or 8x1GbE)
- Support for S-NAT, NAT and PAT
- Static Routing With Default Gateway
- Unrestricted Interfaces (*Virtual*)
- High-Performance Virtual Network Drives (*Virtual*)
- Multiple DNS Server Support

### LINK INTERFACE BONDING

- 802.3ad
- Round Robin
- Active / Passive
- Broadcast
- Adaptive
- Transmit
- Balance-XOR

### CONNECTIVITY METHODS

- Reverse Proxy
- High Performance Layer 4 Load Balancing
- Direct Server Return

### GLOBAL SERVER LOAD BALANCING

- (Additional Licence)
- Disaster Recovery for your data centers
- Active-Active:
- Round Robin
- Weighted
- Geo-Location
- Custom Location

### SSL

- High-Performance, Unrestricted SSL Offload
- Easy-to-Use SSL Management
- AES Hardware SSL Acceleration
- SSL Pass-Through
- SSL Re-Encryption
- Certificate Signing Request (CSR) Generation and Renewal
- Simple Certificate Import / Export inc PKCS12
- Self-Signed Certificate Creation
- Support For Multiple Keys Inc: 1024, 2048, 4096
- Intermediate Certificate Support

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- Support for Server Alternative Names
- Support for Wildcard SSL Certificates
- SSL Certificate Chaining
- Support for TLS 1.2
- Customisable Ciphers
- Full Support for Server Name Indication (SNI)
- Multiple Certificates Per Service for SNI

## SECURITY

- Web Application Firewall (Additional Licence)
- Pre-Authentication
- NTLM / Basic Support
- Form or Basic Authentication
- Single Sign On (SSO)
- Microsoft TMG Replacement
- Upload Custom Forms From GUI
- Custom Login with Configurable Welcome Message
- Authentication Protocol LDAPS Servers
- Security Logging
- Login Timeout
- Multiple Conditions

## TRAFFIC MANAGEMENT (flightPATH)

- HTTP / HTTPS Traffic Manipulation
- Intuitive, Simple To Use
- Drag & Drop Rule Builder
- Layer 7 Content Switching
- Dynamic Routing
- Content Filtering
- Fully Customisable / Configurable
- Pre-Defined Rule Base
- Log and Alert
- Geo Location
- Selectable, Simple Match Conditions (inc does / does not: 'start with', 'end with', 'contain', 'equals') or
- Powerful Regular Expression Engine
- Extract Response Cookie Value

## Examples:

- Block IPs / Networks
- Redirect to Secure Website
- Rewrite URLs
- Replace Sensitive Info (Blank Credit Card Details)
- Browser Detection
- Device Detection
- Body Rewrite
- Prevent SQL Injections
- Prevent Cross-Site Scripting
- Add Google Analytics
- Redirect User Based on Country
- Certified for Key Applications

## CLOUD BASED SERVICES \*\*\*

- Secure Interface From ALB-X to Cloud Services
- Check Cloud & Download for Software Updates
- Check Cloud for Support

- Check Cloud for Licence Information
- Check Cloud for New Security Rules

## ACCELERATION

### Compression

- Dynamic HTTP Compression
- Configurable Rule Base

### Caching

- RAM-Based Caching with Disc Backup
- Automatic and Configurable Client-Side Caching
- Multiple Caching Profiles
- Auto-Detect and Prioritise Popular Content
- Simple Editing of Cache Rulebase
- Fully Configurable via GUI

### Connection Management

- Connection Pooling / Multiplexing
- Connection Limiting
- Customisable Server Too Busy Page

## MANAGEMENT & REPORTING

### GUI and Configuration

- Secure Web-Based GUI
- Customisable Dashboard
- Configurable Widgets
- Automatic Edgenexus Device Discovery
- jetPACK Application Templates (Auto-configuration)
- Clone Services
- Auto Complete
- Support for Slash Notation
- Configuration Back Up

### Software Updates

- Check Cloud Service for Software Updates
- Encrypted Software Updates
- Simple Software Update Via GUI

### Management and Monitoring

- Selectable SSL Certificate & Secure Port
- Full SNMP Monitoring (V1,2 &3)
- Command Line Interface (CLI)
- Email Alerting
- Real Time Stats
- Status Page with Live Individual Server Connections
- Historical Graphing
- Server Response Time Graphing
- Additional Services CPU Management
- Layer 4 Transaction Logs
- Remote Syslog Server
- Client IP x forwarding (X-Forwarded-For)
- Automatic Remote W3C Log Storage
- Secure SSH & HTTPS for Remote Access Admin
- Online User Central Support