# EDGENEXUS

# HPE Load Balancer

## For Fast, Scalable, Resilient Applications

**Hewlett Packard Enterprise**

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## 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.

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### HPE Load Balancer

**Hewlett Packard Enterprise**    (intel)


Service Resilience


Application Acceleration


Seamless Scalability


Unprecedented Ease-of-Use

## Features

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


Pre-Authentication


Web Application Firewall


Layer 4-7 Load Balancing


Compression & 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

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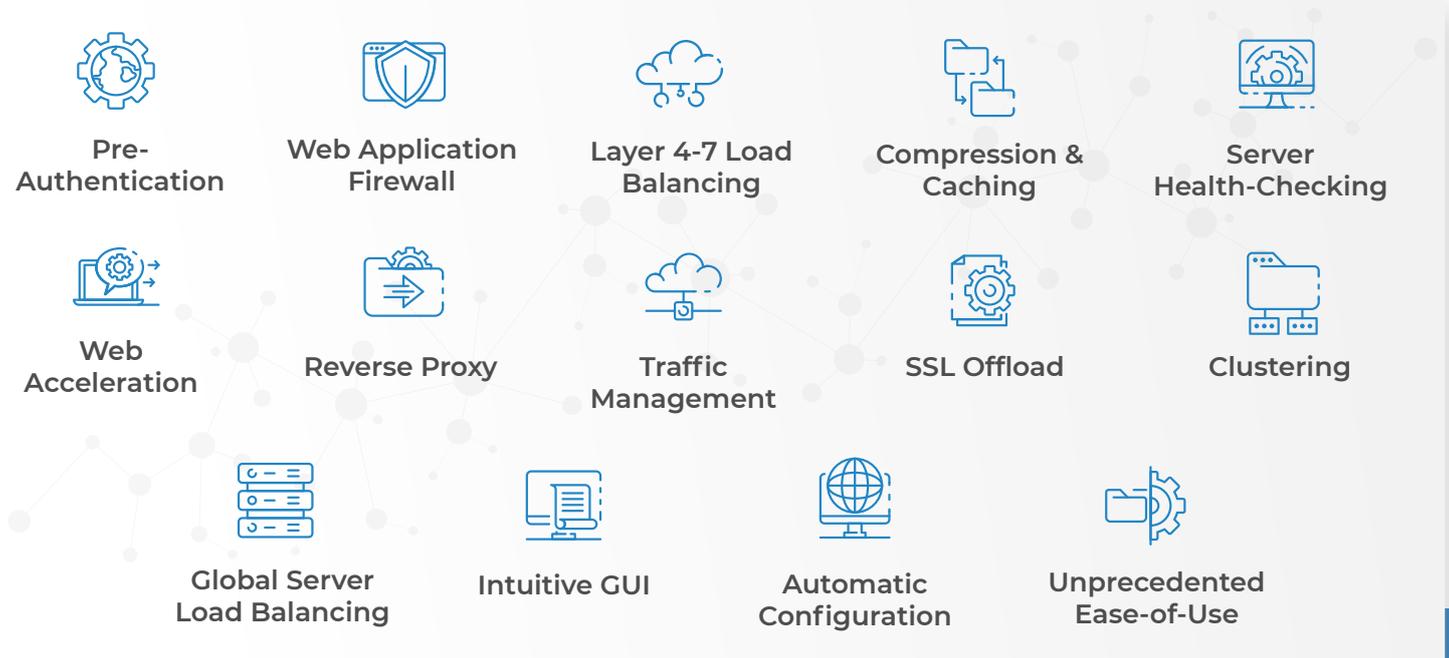
## User Central

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.

**Download a Free Trial of the Edgenexus ALBX - VA software here**

> 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**

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**Hewlett Packard Enterprise**
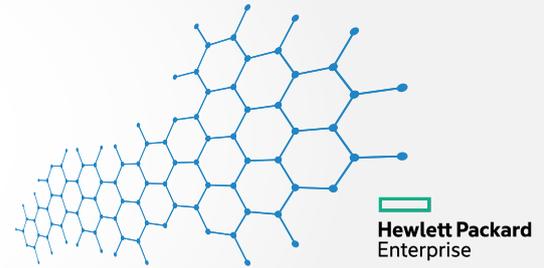
## Tried and Tested for your Applications

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

**vmware** Horizon View

**E3 Exchange**

**Microsoft Dynamics**

**S> SharePoint**

**ORACLE**

**S> Skype for Business**

" The Edgenexus 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, Simple to Manage, Straight Forward to Support

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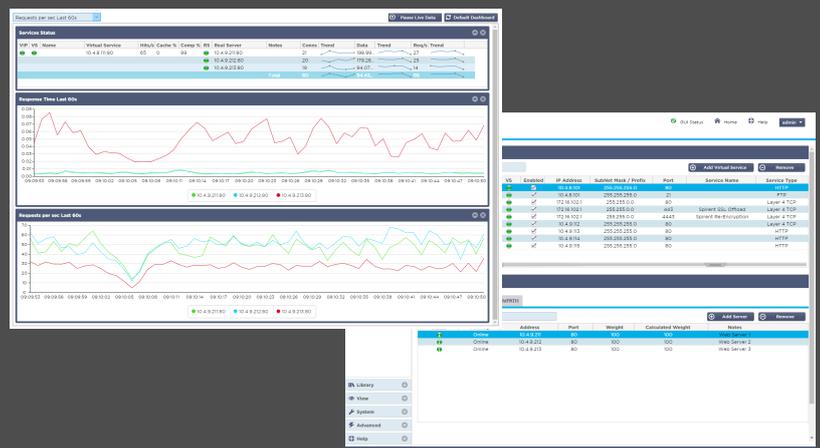
### Quick Features:

- 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 ™**

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**

# EDGE NEXUS

# HPE Load Balancer

## For Fast, Scalable, Resilient Applications

**Hewlett Packard Enterprise**
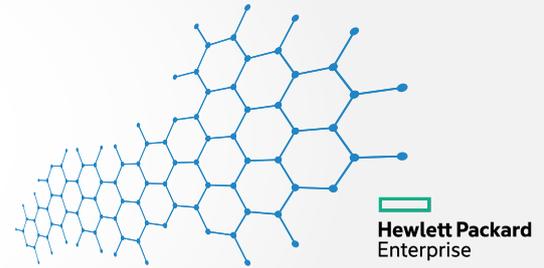
## Platform Availability

**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

**Hewlett Packard Enterprise**

**OEM**

| 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<br>- Hyper Threading<br>- Threads<br>- Processor Base Frequency<br>- Max Turbo Frequency<br>- Cache | 4<br>Yes<br>8<br>3 GHz<br>3.50 GHz<br>15MB Smart Cache | 6<br>Yes<br>12<br>3.40 GHz<br>3.70 GHz<br>20 MB Smart Cache | 8<br>Yes<br>16<br>3.20 GHz<br>3.60 GHz<br>25 MB Smart Cache | 12<br>Yes<br>24<br>3.00 GHz<br>3.50 GHz<br>30 MB Smart Cache |
| 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

**Hewlett Packard Enterprise**
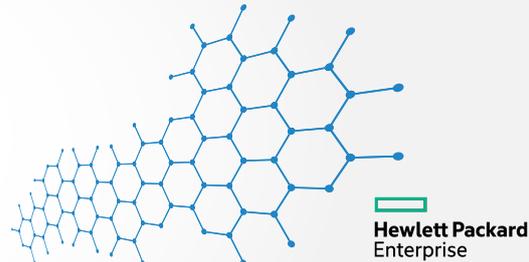
## SERVER LOAD BALANCING

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
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
EDGEnexus 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