The leader in **advanced featured load balancers** and **application delivery controllers** built for medium and small enterprise

Equalizer®

DATASHEET AND PRODUCT GUIDE

Achieve non-stop availability and higher application performance with Coyote Point's award-winning Equalizer application delivery solutions

Since 1999 Coyote Point has set the standard in load balancing and application delivery solutions at price points most organizations can easily afford. From simple server load balancing to enterprise-grade global traffic management, Coyote Point can meet the needs of almost any web-based application. You can find Coyote Point solutions in companies of any size, up to the largest of Fortune 500 firms including USA Today, Motorola and Comcast.

The entire Equalizer line-up of hardware and virtualization solutions meets or outperforms competitive products costing up to 3 times as much. You pay for what you need and don't have to buy option after option to get a solution that fits your business requirements. The award-winning Equalizer product line has long been recognized for its rock-solid reliability, ease of setup and intuitive management tools. Plug in an Equalizer and it provides years of worry-free service.

FEATURES

▌ Basic load balancing through advanced L7 traffic management

▌ Hardware and virtual appliance options to meet your needs

▌ Full support for Microsoft®, VMware® and most standard business applications

▌ Class-leading SSL acceleration and data compression

▌ Advanced Global Server Load Balancing for seamless disaster recovery

▌ Smart Event Automation for virtual and physical resource control

▌ Full IPv6 support, including 6-in-4 Tunneling to ease the transition to IPv6

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Items followed by **(AF)** are **advanced features** that are designed for complex application environments.

If you need more information on any of the items presented in this document or would like more information on load balancing and application delivery concepts, please visit **www.coyotepoint.com** or call us at **(877) 367-2696**.

Envoy SAE with SNMP health checking provides global server load balancing in mixed vendor environments and supports up to 10 data centers with just one appliance.

Reliable and robust load balancing and application delivery

At its heart, the Equalizer is a tried-and-true load balancer that can support almost any web-based application. From simple L4 TCP and UDP to advanced L7 HTTP and HTTPS, Coyote Point can provide basic load balancing to precise content switching with L7 **Match Rules (AF)**. Equalizer gathers real-time information about a server's status using ICMP Probes, TCP Probes, Active Content Verification (ACV) and Server Agents to route traffic based on easily configurable business rules. All Equalizers support persistence using either cookies or IP addresses to reliably maintain server connections for your more advanced applications.

In the event that servers in a server pool are unable to satisfy a client's request, **Responders (AF)** can be assigned to L7 Match Rules to redirect users to another URL or display a custom message.

High Availability for 100% application uptime

Mission-critical applications need mission-ready solutions. Coyote Point's 3-tier approach to application uptime means your applications are up and running with 5-nines reliability. The first tier is a server or application failure. If a server or application fails or becomes overloaded, Equalizer routes traffic automatically to healthy servers. For the second tier, Equalizer supports failover options to cover you should an Equalizer go down. Finally, the third level provides routing to an alternate data center(s) should your primary data center suffer a catastrophic or planned outage (see the "Disaster recovery with Global Server Load Balancing" section for more information on multiple data center traffic management).

Equalizer supports Active/Passive, Active/Active, N+1 or N+M failover configurations. Coyote Point's **Multi-Active N+M Failover (AF)** allows a cluster of active Equalizers to share the workload for a large application data center. Instead of requiring idle spares in standby mode as in other failover methods, Multi-Active N+M Failover puts all the Equalizers to work load balancing and delivering applications. If an Equalizer in the N+M cluster should fail, the others seamlessly pick up the workload until you or your team can get the failed Equalizer back online.

Disaster recovery with Global Server Load Balancing

Envoy Global Server Load Balancing (GSLB) makes your network reliable and available by scaling applications across multiple data centers for disaster recovery or to improve application response times. Administrators can set up rules that direct traffic based on site availability, data center performance and network latency.

Coyote Point offers three options for Envoy. You can choose a software module for Equalizer, a standalone hardware appliance or a standalone virtual appliance. Envoy SAE, the standalone hardware or virtual appliance, offers additional features not available in the Envoy software module. It is designed to accommodate complex network structures including resolution directly to local or host-based application servers. Using **SNMP health checking (AF)**, Envoy SAE fully integrates with ADCs from other manufacturers including F5, Citrix and A10 Networks.

Advanced networking support

Coyote Point's Equalizers use Network Address Translation (NAT), Source NAT, Outbound NAT and spoofing to effectively and efficiently route traffic between clients and servers. With support for direct server return, **Multi-Gateway (AF)** and **Multi-Netting (AF)**, IPv6 routing, NTP and **tagged VLAN support (AF)** for up to 4094 802.1Q VLANs, you get the flexibility you need as your network topology evolves without having to buy new equipment.

Are you ready for the transition to IPv6? Coyote Point can make it easier with **6-in-4 Tunneling (AF)** supported on all Equalizers. Through the use of a tunnel broker, you can assign IPv6 addresses to your server clusters making them available to any client on an IPv6 network.

Equalizer provides the ability to configure routing to match network topologies from the simplest to the very complex through **Policy-based Routing (AF)**. You can define routing behavior for each subnet, based on either destination IP address or source IP address of packets traversing Equalizer.

Blazing fast SSL offloading and compression

All Coyote Point Equalizers support SSL offloading to relieve your servers from the computational workload of SSL/TLS session negotiation, encryption and decryption, letting them instead focus on the applications they were meant to serve. Some models come equipped with hardware-based acceleration that can handle upwards of 14,000 HTTPS transactions per second.

Not all applications were written with SSL in mind and many scale poorly when SSL is enabled. Coyote Point's SSL offloading eliminates these problems with an easy to deploy acceleration solution. Processing is moved from your servers to Equalizer making applications significantly faster and secure without software or other intrusive changes.

Coyote Point incorporates a dedicated hardware-based Gzip HTTP compression processor into some models that offers up to 1 Gbps of compression for content-rich applications. You can compress server generated data up to 5 times before it's delivered to a client using any modern web browser saving you bandwidth costs and improving response times to your users.

Automate routine tasks to take control of your applications

Equalizer's Smart Control framework with **Smart Control Automation (AF)** manages notifications, logging and corrections to your application environments.[1] Intuitive construction of graphical or CLI-based rule sets let you configure responses to almost any condition including resource management to power up or power down IPMI-compliant servers in response to changes in demand.

Virtual platform support

If you're looking for a comprehensive set of tools to manage your VMware environment, Coyote Point has you covered. Every Coyote Point Equalizer supports VMware load balancing using VMware's management API to retrieve real-time virtual server availability and resource utilization from a VMware vCenter console. With Coyote Point's **Smart Control Automation (AF)** you get even deeper integration into VMware with the ability to load balance based on VM CPU and VM RAM and spin-up or spin-down VMs in response to demand.

Coyote Point's OnDemand product line-up offers virtual versions of Equalizer and Envoy SAE for load balancing and GSLB. You get to choose either hardware or virtual appliances for 100% flexibility to fit your needs. All our virtual products are available for a free 30-day trial to let you test them in your environment before you buy.

Features to keep your applications safe and secure

Equalizer intelligently controls your SSL traffic with advanced features like **SSL Certificate Revocation Lists (AF)**, **Global Object SSL Certificate Storage (AF)**, outbound HTTP to HTTPS URL rewriting and Cipher Suite Control.

Guaranteed application support

From basic static websites to enterprise Microsoft® Exchange installations, Coyote Point's Equalizer can support virtually any internet-based application. Easy to follow deployment guides are available for the top Microsoft® applications including Exchange, SharePoint® and Outlook Web Access.

## Included Global Server Load Balancing (GSLB)

All Equalizer load balancers and application delivery controllers include Coyote Point's Envoy Global Server Load Balancing. Using DNS-based resolution, Envoy routes multiple data center traffic based on network latency, server health, traffic volumes or with custom business rules.

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1   Smart Control Automation is currently available with EQ/OS v.8.X.

Smart Control Automation manages your applications 24/7 letting you focus on more important tasks.

Microsoft® recommends hardware load balancing for Exchange installations with over 200 users. Coyote Point has been tested and approved by Microsoft®.

Flexible management and comprehensive reporting

Do you prefer a command line or an intuitive graphical user interface? Either way Coyote Point provides the tools you need to easily manage your Equalizer. The context sensitive CLI provides complete control of every aspect of your Equalizer, not just a subset of functions like some other manufacturers. Even if you're a CLI-jockey, you'll appreciate the thought-through layout and features of our graphical user interface for most tasks from setting up server pools to running sophisticated traffic reports.

Equalizer's **Role-based management (AF)** gives you the flexibility to establish multiple users and groups allowing it to be managed by one or more data center personnel. As the administrator, you can assign read, write, create and delete permissions to individual users or groups to give as little or as much control over your Equalizer to fit the needs of your organization.
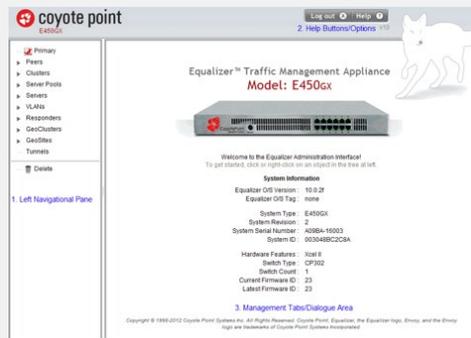
Equalizer GUI Welcome Screen

Sample of a TCP Cluster Configuration Summary Screen

Equalizer Products/Platforms

Equalizer load balancing and application delivery products are built with the needs of small and medium enterprises in mind to offer you the performance and features you need at a value that can't be matched. Coyote Point's solutions range from entry-level load balancing to multi-site enterprise-grade traffic management.

E250**GX**

Reliable and affordable L4-7 server load balancing

Ideal for small and medium businesses, the E250GX delivers 100% uptime for mission critical applications while staying within your budget.

- 1.2 Gbps throughput, 32K L7 requests/second
- L4 and basic L7 load balancing
- Supports high availability deployments
- Affordable for almost any business

E370**LX**

Intelligent, high performance L4-7 traffic management

Coyote Point's workhorse ADC for organizations that value performance and reliability. Great for Microsoft Exchange and SharePoint deployments.

- 4.8 Gbps throughput, 75K L7 requests/second
- Robust L4 and L7 load balancing
- Advanced L7 application management
- Software based SSL offloading up to 7,500 TPS

E470**LX**

NEW

The secure applications powerhouse

The E470LX was built with e-commerce and secure applications in mind. With advanced SSL features, you can dramatically reduce SSL certificate costs and management.

- 8.0 Gbps throughput, 179,000 L7 requests/second
- SSL hardware acceleration to 29,000 TPS
- Optimized for e-commerce and secure applications
- Great for secure Microsoft environments

E670**LX**

NEW

Enterprise-grade performance, Coyote Point Value

With best-in-class performance, the E670LX leads the pack with features like hardware-based SSL acceleration, and HTTP Gzip compression.

- 12.0 Gbps throughput, 336,000 L7 requests/second
- SSL hardware acceleration to 42,000 TPS
- 2.5 Gbps Gzip HTTP hardware compression
- Great for enterprise departmental applications

E970**LX**

NEW

Built for the Data Center, Priced for the Finance Department

A data center grade ADC with blazing fast performance. With features like hardware based SSL acceleration, HTTP Gzip compression, dual hot-swappable power supplies and fans, the E970LX great for hosting and enterprise applications.

- 15.0 Gbps throughput, 420,000 L7 requests/second
- SSL hardware acceleration to 56,000 TPS
- 4.0 Gbps Gzip HTTP hardware compression
- Hot-swappable power supplies and fans, lights-out management

Equalizer **OnDemand**

EQUALIZER

An enterprise-grade virtual ADC when you need it

A software-based virtual appliance deployed as a single virtual server instance dedicated to load balancing and application delivery.

- Same features as hardware Equalizer appliances
- Optional VLB Advanced and Envoy GSLB
- Runs on VMware ESX/ESXi v4.X
- Free 30 day trial

Equalizer Product Line Comparison

	E250**GX**	E370**LX**	E470**LX**	E670**LX**	E970**LX**	**On**Demand
PERFORMANCE						
L7 Requests/second	31,500	75,000	179,000	336,000	420,000	50,000
Maximum Throughput	1.2 Gbps	4.8 Gbps	8.0 Gbps	12.0 Gbps	15.0 Gbps	1.0 Gbps
SSL						
Type	Software	Software	Hardware	Hardware	Hardware	Software
2048 SSL TPS	90	2,000	17,000	25,000	33,000	1,800
1024 SSL TPS	325	7,500	29,000	42,000	56,000	3,000
SSL Throughput (1024)	0.1 Gbps	1.5 Gbps	2.2 Gbps	2.8 Gbps	3.3 Gbps	0.4 Gbps
COMPRESSION						
Type	N/a	N/a	N/a	Hardware	Hardware	N/a
Throughput	N/a	N/a	N/a	2.5 Gbps	4.0 Gbps	N/a
SERVER POOLS						
Server Pools	256	256	256	256	256	256
Servers per Server Pool	512	512	512	512	512	512
LOAD BALANCING						
Protocols	L4 TCP/UDP, L7 HTTP/HTTPS					
L7 Match Rules	Yes	Yes	Yes	Yes	Yes	Yes
Envoy GSLB	Included	Included	Included	Included	Included	Included
Smart Control Automation	Included	Not available	Not available	Not available	Not available	Not available
NETWORKING						
Untagged/Tagged (802.1Q) VLANs	2/4094	6/4094	8/4094	10/4094	10/4094	Varies/4094
Direct Server Return	Yes	Yes	Yes	Yes	Yes	Yes
Outbound NAT	Yes	Yes	Yes	Yes	Yes	Yes
Policy Based Routing	Yes	Yes	Yes	Yes	Yes	Yes
IPv6 Tunneling	Yes	Yes	Yes	Yes	Yes	Yes
Multi-netting	Yes	Yes	Yes	Yes	Yes	Yes
Multi-gateway	Yes	Yes	Yes	Yes	Yes	Yes
HIGH AVAILABILITY						
Failover	Active/Passive, Active/Active, Active N+1 and Multi-Active N+M					
Responders	N/a	Yes	Yes	Yes	Yes	Yes
HARDWARE						
CPU	Single core	Dual core	Dual core	6 core	8 core	N/a
Memory	512 MB	2 GB	2 GB	4 GB	4 GB	N/a
Hard Drive	512 MB CF	120 GB SSD	120 GB SSD	120 GB SSD	120 GB SSD	N/a
Gigabit Ethernet (RJ45 Cu)	2	6	8	8	8	N/a
Gigabit Fiber SFP + (10 GB)	0	0	0	2	2	N/a
Power	110 VAC/29W 220 VAC/40W 50/60 Hz	120 VAC/84W 220 VAC/90W 50/60 Hz	120 VAC/123W 220 VAC/130W 50/60 Hz	120 VAC/140W 220 VAC/145W 50/60 Hz	120 VAC/306W 220 VAC/310W 50/60 Hz	N/a
Dimensions (WxHxD)	17.25x1.75x10.5" 438x45x267 mm	17.25x1.75x12" 438x45x305 mm	17.25x1.75x18.25" 438x45x464 mm	17.25x1.75x18.25" 438x45x464 mm	17.25x1.75x21" 438x45x534 mm	N/a
Weight	7 lbs. (3.2 kg)	11 lbs (5 kg)	15.5 lbs (7 kg)	15.5 lbs (7 kg)	18 lbs (8.2 kg)	N/a
Operating Temperature	40-105 F, 5-40 C					N/a
Operating Rel. Humidity	5-90%, non-condensing					N/a
Warranty	1 year					
Support Included	90 days FortiCare Enhanced 8x5					
Certifications	FCC, CE, RoHS					N/a
Additional Certifications	N/a	UL/cUL, VCCI, CB, C-tick	UL/cUL, VCCI, CB, C-tick	UL/cUL, VCCI, CB, C-tick	UL/cUL, VCCI, CB, C-tick	N/a

Envoy SAE and Envoy OnDemand SAE

Based on Coyote Point's Envoy GSLB module for Equalizer, Envoy SAE and Envoy OnDemand SAE offer a standalone GSLB appliance to bridge multiple sites for disaster recovery.

❚ Full SNMP-based interoperability with 3rd party ADC manufacturers

❚ Direct server resolution

❚ Up to 10 GeoSites on one Envoy SAE appliance

PERFORMANCE	
DNS Throughput (lookups/second)	10,000
DNS	
Record Types	A, AAAA, MX, PTR
Standards	RFC1035, RFC1912, RFC3364, RFC3596
HIGH AVAILABILITY	
Failover	Active/Passive
HARDWARE (Envoy SAE Only)	
Gigabit Ethernet	2
Power	110 VAC/29W 220 VAC/40W 50/60 Hz
Dimensions	17.25x1.75x10.5" 438x44.4x267 mm
Weight	7lbs. (3.2kg)
Operating Temperature	40-105 F, 5-40 C
Operating Rel. Humidity	5-90%, non-condensing
Warranty	90 days
Support Included	90 days Basic
Certifications	FCC, CE, RoHS.

Equalizer and Envoy SAE OnDemand Information

Equalizer and Envoy SAE OnDemand run as a guest VM under any VMware Hypervisor™ that supports Version 7 virtual machines. They have been tested on the following VMware products:

❚ VMware ESX 4.1

❚ VMware ESXi 4.1, 5.0

❚ VMware Fusion 3.1.2, 3.1.3

❚ VMware Player

Each instance of Equalizer or Envoy SAE OnDemand requires the following hardware resources:

❚ 1GB RAM (in addition to RAM required for the host platform)

❚ 1GB free disk space

❚ 1 VMware supported 10/100/1000Gb Network Adapter

❚ Internet connectivity for license validation

See VMware's specific requirements for the VMware product you are using.

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