



# Geographic Load Balancing

## Product Brief

**Achieve the same level of fault tolerance on the Public side of the Internet, that you have on your private network !**

TZO's existing customer base is spread across 70 countries. The commercially proven Domain Name Server infrastructure, TZO-NET is a redundant, fully meshed world-wide infrastructure residing at only A1 rated co-location facilities such as Savvis.

### Geographic Load Balancing

Geographic load balancing deployed entirely as a service has revolutionized the global load balancing industry. With no hardware to deploy and no software to configure, TZO-GEO offers a level of simplicity and cost reduction which has never been available for global traffic management.

## Global Traffic Management

### Global Awareness

With "N" number of participating server/s or IP addresses, as an inbound DNS query comes in to the TZO DNS infrastructure, we lookup the Source IP address of the DNS query. We then match that source IP to a database of IP addresses and geographic longitude and latitude definitions. When a geographic location is found for the source DNS query IP address, we then calculate which of the participating servers is closest in proximity to the originating DNS query. This all happens in milliseconds and poses no detectable latency to the standard DNS query.

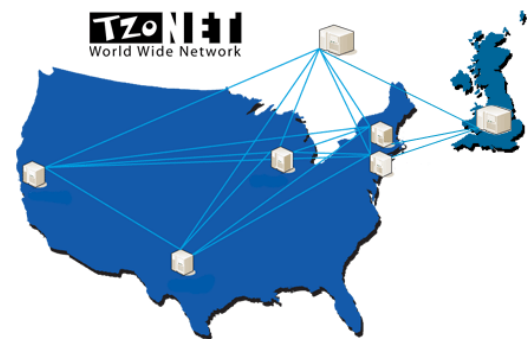
**No Hardware to Deploy**

**No Software to Configure**

**It's a Service – Turn it on,  
And it Works!**

- Global Load Balancing
- Geographical Awareness
- Degraded Server Awareness
- Guaranteed SLA's
- Session Based Persistence
- Immediate Notification
- Web Based Control Panel

**TZO-HA eliminates typical DNS propagation delay!**



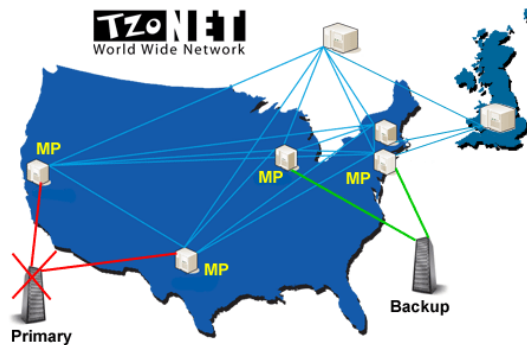
TZO maintains six redundant DNS server locations across North America and Europe. These sites are connected through six different major Internet backbones. This ensures that all DNS records are protected against any geographic disruption and against the failure of any one primary Internet backbone.

## A Fraction of the cost of HW based Load Balancers

TZO-GEO performs many of the same functions of hardware devices costing 20 to 80 times more. Because it's a service TZO-GEO does not require the same level of training and cost of maintenance that a hardware or software implementation requires.

## TZO-GEO provides for various notification mechanisms

Notification of a server outage is immediate, and can be delivered in a number of formats. For any TZO-GEO action, many notification options are available. Standard Email, Pager, text message, or what ever makes sense for the implementation.



TZO-MPM™, Multi Point Monitoring, allows for the definition of 1, 2, 3 or more monitoring locations all testing the availability of a defined server. **Multiple monitoring points (MP's)** are crucial for highly available environments.

## Session Based Persistence

Session based persistence is a methodology that ensures when a session is started and is directed to a participating server and the session will remain on that server as long as that server is operational. When session based persistence is enabled, new sessions or transaction that first enter the DNS load balancing arbitrator will resolve to one of the participating load balanced servers, for example, mydomain.com 1.1.1.1. MyDomain.com will also need to have defined a sub-domain for the purposes of web forwarding. For example,

xyz.MyDomain.com 1.1.1.1. As additional DNS queries occur throughout the session, they will be directed to this record, thereby resolving to the original server, 1.1.1.1.

## Degraded Server Action

TZO-GEO has the ability to detect a server in a degraded state. Our monitoring function can also calculate round trip time and time of execution for the monitor agent. A base line can be established, whereby if a monitoring process for a given server exceeds a pre-configured number, the server can be defined as in a degraded state. TZO-GEO can notify on this event as well as apply a preconfigured number to reduce the amount of traffic being sent to the degraded server while still allowing it to participate in the Load Balancing scheme.

## Browser Based Control

A secure web-based Control Panel allows complete control over the TZO-GEO service. A version of the Control Panel runs on any hand held PDA with Internet access and a web browser supporting SSL for remote access to the TZO-GEO controls.

## TZO-GEO complements existing load balancing devices.

If you're using a load balancing device at one or more of your installations, TZO-GEO can balance the load among your locations while your load balancing device can balance the load within each location. Using TZO-GEO to augment your hardware load balancing devices protects against failure of the load balancing device and protects against the loss of connection to one or more of your installations.

## Protocol Monitoring

TZO-HA can monitor many different protocols, HTTP, HTTPS, SMTP, FTP, TELNET, PING (ICMP) and POP3. By request other protocols can be added.

TZO.com  
78 Main Street  
Pepperell, MA 01463  
Phone (978) 433-6865  
Email: [Sales@tzoha.com](mailto:Sales@tzoha.com)  
URL: [www.autofailover.com](http://www.autofailover.com)