



Product Brief



TZO-HA is a hosted service that uses dynamic DNS to achieve fault tolerance for Internet bound servers.

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

Tzolkin Corporation has been a leading provider of commercial grade, reliable, Dynamic DNS services for almost 10 years.



Tzolkin'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 Navisite™.

AutoFailover

TZO-HA is the next generation AutoFailover and load-balancing service which raises the bar for fault tolerance and high availability for all Internet bound servers.

**Disaster Recovery
Disaster Prevention**

Deployed entirely as a service, TZO-HA provides unprecedented uptime for your servers and your business. TZO-HA can be used to automatically fail over from primary to secondary servers. For example, in the case of 2 servers or server farms, a typical implementation may have one server defined as primary or active and the second as

**A Low Cost Solution
For
High Availability**

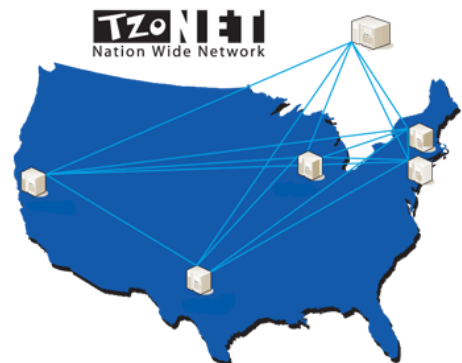
- No Hardware to Deploy
- No additional single point of failure
- No operational learning curve
- No Network Management Issues
- No Fork Lift Upgrades

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

backup. When the primary server becomes unavailable, TZO-HA identifies the outage and immediately changes the appropriate DNS records to reflect the correct IP address of the backup server/s. This change is then propagated across the entire TZO-NET DNS infrastructure in seconds and then to the entire Internet. Total propagation time can be as low as 30 to 45 seconds.

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

From single server environments to multiple geographically dispersed cluster farms, TZO-HA provides fault tolerance on the Public side of the Internet.



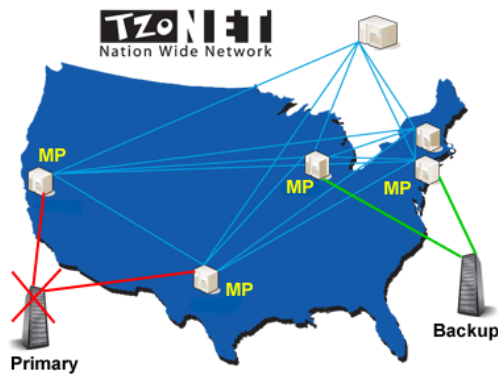
Tzolkin maintains six redundant DNS server sites located across North America and Europe. These sites are connected through six different major Internet backbones. This

ensures that all DNS records are protected against any geographic disruption and against the failure of any one primary Internet backbone.

Notification that the AutoFailover process has taken place is immediate, and can be delivered in a number of formats.

TZO-HA provides for various notification mechanisms

For any TZO-HA action, many notification options are available. Standard Email, Pager, cell phone or what ever makes sense for the implementation. TZO-HA can also be used to load balance across the 2 links.



TZO-HA makes use of TZO-MON, a newly designed monitoring suite made up of the following features:

MPM, Multi Point Monitoring. TZO-MPM™ 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.

Only with TZO-MPM can false positive server down messages be correctly identified. With TZO-MPM, server down messages need to be reported from all participating monitoring locations, in order for the Autofailover action to initiate.

PMA, Persistent Monitoring Agent, TZO-PMA™ actually enables the regeneration of any individual monitoring point. With these new capabilities, if any type of monitor agent

failure occurs or if any problem at a particular monitoring location is encountered, PMA will automatically regenerate each of individually effected TZO-MON monitoring agents at a pre-defined alternate TZO-NET location.

TZO's Domain Name Server Infrastructure

The TZO DNS system is proprietary and is not susceptible to the same attacks that have disrupted DNS servers running other DNS software.

Unprecedented Low Price Point!

TZO-HA performs many of the same functions of hardware devices costing 20 to 80 times as much. Because it's a service TZO-HA does not require the same level of training and cost of maintenance that a hardware device requires. TZO-HA for "Single Server" starts at \$69.95 a month. A secure web-based interface makes it easy to administer your TZO-HA account.

Scalability

TZO-HA can support up to 10 different server locations. The locations can be geographically dispersed and can be connected through different backbones. TZO-HA can also support a wide array of server configurations at each of these locations. There are also many options that can increase TZO-HA's functionality.

Browser Based Control

A secure web-based Control Panel allows complete control over the TZO-HA 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-HA controls.

Load Balancing

TZO-HA can also be configured to provide load balancing between a number of servers. Even if they are in different geographic areas, TZO-HA can distribute the traffic across the server farms.

Weighted Server Priority

You can specify that each server handle a certain percentage of server requests, directing more requests to the more robust servers.

"Intelligent" round robin

When a server fails, TZO-HA removes it from the rotation however it continues to monitor all the servers. When the server is back online TZO-HA automatically returns it to the rotation and restores your originally specified weight to each server.

Servers may be in geographically dispersed areas

By placing the servers in different geographic areas you can protect against regional disruptions yet continue to balance the load among the active server locations.

Using different Carrier backbones for your servers reduces the risk of failure due to the failure of one or multiple Internet backbones.

TZO-HA complements existing load balancing devices.

If you're using a load balancing device at one or more of your installations, TZO-HA can balance the load among your locations while your load balancing device can balance the load within each location. Using TZO-HA 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.

Customizable Actions

Action is taken ONLY if both/All monitoring agents report a failure.

At each polling interval the agents compare results and takes action only if both/all agents detect a failure. Redundant monitoring prevents a notification and a failover from occurring unnecessarily.

Protocol Monitoring

TZO-HA can monitor different protocols, HTTP, HTTPS, SMTP, FTP, TELNET, PING

(ICMP) and POP3. By request other protocols can be added. If TZO-HA detects a failure by monitoring one of these protocols, you have the options of failing over just that protocol or failing over the entire domain.

Set Up Time

Enabling the TZO-HA service takes minutes to configure and turn up. Just a few minutes of configuration and a level of high availability protection is making sure your Internet bound servers are always available.

Volume Based Service

TZO-HA is a volume based service. Volume is based on QPM (queries per month). TZO-HA \$99.95 allow for 75,000 QPM. For specific pricing for higher volume implementation please call (978) 433-6865 x 307 or email Sales@TZOHA.com

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