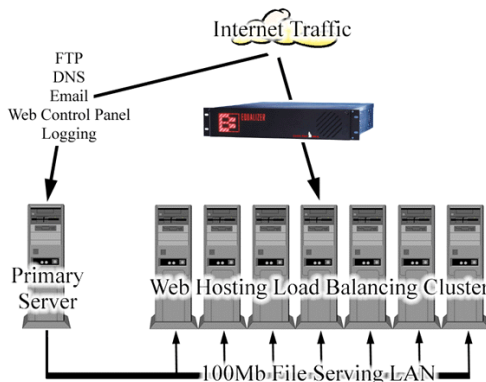


Paving the Road for Growth, ISP Shanje Deploys Equalizer

Expanding to meet demand

Shanje has expanded to allow for the hosting of considerably more web sites, while increasing the speed of the services. Throughout the years, more features have been added at Shanje. As a result of a low, flat rate pricing structure, and an abundance of features, Shanje is hosting literally thousands of domains. No other host provides unlimited domains, unlimited ftp accounts, and unlimited POP accounts for US\$25 per month. That is why Shanje is quickly gaining speed as one of the respected leaders in Windows NT based web hosting solutions.

While past years were clearly for adding additional features, now is the time for increasing speed and uptime. We (Coyote Point Systems) have implemented off the shelf load distribution technology and developed custom server configuration mirroring software that fuel these exciting speed improvements. The traditional methods for increasing the speed of the overall hosting solution were to upgrade the main server and add additional machines to handle dedicated tasks. The solution we have deployed goes beyond the old approach by setting up an organized method for automatically balancing all of the domains hosted at Shanje across a cluster of web servers. Our load balancing system is completely transparent to the end user who is surfing the Internet and completely transparent to the webmasters who create and maintain the websites. With only a few minor exceptions, Shanje's customers can view the entire array of servers as one giant virtual machine, since the balancing and mirroring is handled automatically on the server side. The following picture gives an overview of the traffic flow at Shanje.



Details on the configuration mirroring system

The configuration mirroring system that they are using is actually a custom software package that we have developed specifically for the servers at Shanje. This system will not be sold to other hosts, since it is custom in-house package that directly targets the needs at Shanje. The web control panel still resides on our primary server. When edits (such as adding a new domain) occur on the web control panel, these edits only take place on the primary server. Then our custom software mirrors all of the changes to all of the machines in the load balancing cluster. This lets us manage one large virtual machine, instead of trying to manually manage each machine individually.

Details on the file storage system

FTP edits do not need to be mirrored, since all of the machines will interface a file server directly. Databases, CGIs, graphics, HTML, and all of the other types of online content are kept on our dedicated file server. This dramatically simplifies management, since webmasters will only need to worry about one group of files regardless of the number of servers in the load balancing cluster. To protect against possible performance bottlenecks, the file server is



connected to the load balancing cluster using a dedicated 100Mb full duplex LAN that is separate from the WAN interface. Every server now has two Ethernet cards instead of one to allow for this multiple network approach. When a webmaster uses FTP to upload changes to a website, the files are uploaded to the file server. When end users view the site through their browsers, the browsers connect to servers within the load balancing cluster and then those machines load the requested files from the file server.

Details on the load distribution system

The load balancing cluster distributes the web traffic using a Coyote Point Equalizer intelligent router. It routes each web request to the server that is responding fastest at the time the request arrives. This means that traffic always goes to the machine that is most ready to handle the request. Additionally, if a machine is down for any reason, the Coyote Point Equalizer does not route any traffic to the downed machine. This means traffic flow is not interrupted even if a server is down. It makes it easy for us to power down servers for repairs and upgrades without taking any sites offline.

Increasing Performance

The main reason to implement this new system is to dramatically increase performance. By splitting the web traffic among several machines, each machine in the cluster will be able to respond quicker. The load balancing system is dramatically more effective during peak Internet hours. During peak hours, web traffic is considerably higher compared to other hours of the days. With the load balancing approach, we can handle peak hours very efficiently. All of the sites we host load blazing fast, even during extremely high levels of load.

Increasing Uptime

Splitting the load across multiple servers increases uptime as well as speed. The Coyote Point Equalizer routes traffic to the machines best able to handle the traffic and only sends traffic to servers that are able to respond to traffic. This technology gives us the stability and flexibility needed to achieve high levels of uptime. Our goal is to obtain an average uptime of more than 99.9% on web services, and our load balancing cluster gives us the technology to maintain this high level of uptime. If a server crashes or is brought offline for upgrades, the traffic simply reroutes to other servers within the load balancing cluster. We are currently averaging 99.96% uptime using this load balancing solution.

Conclusion

We now have the technology in place to scale our services to meet increased demand. For the most part, our clients can think of Shanje as one giant virtual server. Our clients can manage their accounts using the web control panel, and let the automated systems spread the traffic across all of the servers in our load balancing cluster. With a powerful centralized management system and a reliable distributed processing system, Shanje will continue to grow well into the next millennium.

About Coyote Point Systems

Coyote Point Systems, Inc. is a leading provider of server management devices for enabling scalable, highly-available server clusters. Recognized for intuitive configuration and low maintenance, price/performance and superior trending analysis, Coyote Point's Equalizer ensures fast connections and fail-safe 24x7 access to web sites and other critical Internet and intranet applications. Envoy, a software add-on, enables Equalizer to direct online traffic across multiple server clusters located anywhere in the world. Coyote Point solutions support all Internet protocols and accommodate all operating systems. The company is headquartered in San Jose, CA and can be contacted directly at 650-969-6000 or on the web at www.coyotepoint.com