Back-End Forwarding Scheme in Server Load Balancing using Client Virtualization

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Authors:
Shreyansh Kumar
Parvathi. R

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Abstract

Load balancing can be done at two levels, the HTTP level and the network level. It refers to the distribution of the HTTP request made by the user across the web server in a server cluster and is achieved by various algorithms such as Random Selection, Round Robin, weighted Round Robin etc. At the network level load balancers are used for the purpose of balancing the load. The approach such as DNS forwarding and spraying the load across the servers is very useful and effective at the network level [11][12]. The load balancers receives the request and proxies the destination ip for forwarding the request to the less utilized servers in order to gain better performance. This paper proposes a server load balancing scheme mainly for the webservers by making the limited number of clients to work as a virtual server which are called virtual clients in the webserver network. This approach is done at the HTTP level by forwarding the HTTP request to the nearest and less loaded virtual client. The HTTP request is only forwarded to get the static content in order to save the current bandwidth utilization of the web server and process more dynamic request on the server side. The daemon routine controls the whole process of web server load balancing but it only processes the HTTP requests. The daemon routine only resides on the web server backend. The client virtualization provides a new anti-overloading technique to reduce the access time of the server and to utilize the server resources without any additional cost. The Client Virtualization also provides a better way to
utilize the system bandwidth in web server network.

References

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Index Terms

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Keywords

Virtual Clients  dynamic load balancing  daemon routine(process)