

How do I access application efficiently by maintaining the queues at virtual server layer in NetScaler ADC?

Use Case

How do I access application efficiently by maintaining the queues at virtual server layer so that excessive or inappropriate demand for resources are treated appropriately?

Introduction

NetScaler always maintained and worked with various queues in core framework while from beginning these queues were maintained for every server resource independently. Which means that every server/service would have its own queue and actions taken would impact the specific server/service only. With the recent releases, we have introduced new queuing mechanism, used for various queuing and protection features, which maintains the queue at virtual server layer. As an end user, you will not figure out the much difference from the outside since everything is handled internally. This article lists down the advantages of queuing at virtual server layer.

Handling queuing using AppQoE feature efficiently.

Let's understand the difference between queuing handled at service layer vs queuing at virtual server layer using simple example. When a client connection reaches to NetScaler, based on the load balancing logic NetScaler will hand them over to the service selected. What will happen when the service gets overloaded or the backend server is not able to process any more traffic? Then the client connections will start queuing up the service and the queue starts to grow. Even protection features applied at service layer will differ on service to service basis. It is very difficult to know the state of each and every service layer while making the load balancing decision.

To overcome the above problems, managing queuing at virtual server layer is very important and following benefits can be achieved: -

- It will be single point of control to manage all ingress traffic.
- Deals with different queue size at virtual server layer.
- Accurate prioritization of application traffic across services.
- Service selection mechanism will be more effective.
- Queued connections do not drop if the service goes down.
- Better service resource utilization at virtual server layer.
- Protection features such as Layer 7 DoS (Denial-of-Service) protection, Priority queuing and Surge Protection will be managed more appropriately.

On NetScaler ADC, virtual server level queuing can be done with AppQoE feature. Queuing at virtual server level controls the distribution across all the services and protection features as expected will be delivered.

AppQoE policies which are bound at virtual server level will be evaluated even before load balancing decision is taken for client request.

Better security and more scalability can be achieved by handling different queues on virtual server layer and supporting queuing at virtual server layer will detect and divert unwanted incoming requests from the load balancer before sending it to back-end services.

The queuing mechanism at virtual server layer has to use strict enqueue and dequeue logic such that it controls the unified distribution across all the services and also ensures the protection features work as expected.

To know more about the how to configure AppQoE for your environment visit [How to guide on: - 'How to protect back-end servers from DOS using AppQoE'](#).