Array Networks Blog

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10 Steps To A Smoother ADC Deployment (Plus A Bonus)

POSTED IN ADC, APPLICATION DELIVERY CONTROLLERS, GLOBAL SERVER LOAD BALANCING, LINK LOAD BALANCING, SERVER LOAD BALANCING, VIRTUAL ADC BY VICTOR MARTE

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According to Wikipedia, application delivery controllers (a.k.a. load balancers) began to hit the IT market around 2004. Array was founded in 2000; as company legend has it, one of our earliest engineers became frustrated at the lack of server resources to demonstrate a project he was working on – as a startup, budgets were pretty tight back then.

Determined to achieve his goals, the engineer came at the problem from a different angle, and developed a method convert a large number of short connections into just a few connections that needed more throughput, thus maximizing server performance. This capability was dubbed connection multiplexing, and led to a new product class – a traffic manager, a.k.a. load balancer – which became the precursor to today's modern ADC.

Given our long history and experience with load balancing and ADCs, we talked with our tech support team about what they see as the most important 'gotchas' when customers deploy our APV Series application delivery controllers. Support team members came up with three key deployment scenarios, and a number of things to watch out for on each:

Server Load Balancing (SLB) is by far the most common deployment case for Array's ADCs; this capability distributes workloads evenly across services while maintaining session persistence and a seamless user experience should one or more servers become overburdened or unresponsive. In addition, SLB provides scalability and high availability for applications, web sites and cloud services by monitoring the health of servers and distributing workloads accordingly.

1. All real services for an individual virtual service must run the same web application
2. Determine if the web application requires session persistency. If it does, you'll need to set the SLB overload setting to prevent the SLB cookie methods from being restricted by the maximum connection number of the real service.
3. The method by which clients access the SLB virtual service can greatly affect the load distribution among the SLB real services. If clients are accessing the virtual service through a mega proxy, for example, then SLB persistent IP will have a poor distribution among the real services.
4. The SLB virtual service and real service must be configured with the same underlying protocol (http/https, ftp/ftps, tcp/tcps, etc.).
5. Setting the SLB protocol as HTTP/HTTPS will allow more functionality and control through the Array appliance. Supported features with HTTP protocol, for example, are compression, caching, http redirect, http rewrite, etc.
6. Ensure that your backend real service can handle the maximum load defined from the SLB real service setting.
7. The appropriate health check type needs to be selected to match the type of service from the real server.

Global Server Load Balancing (GSLB) is used to load balance traffic across geographically dispersed offices or data centers. Array ADCs with the GSLB feature option can intelligently direct traffic based on server location, load and health to enable faster application response times and provide multi-site failover in the event that one or more data centers become unavailable or unresponsive.

8. GSLB requires that each geographical location has an Array appliance to properly manage the smart DNS calculation.
9. GSLB setup requires that Non-Authoritative DNS forwards DNS requests to the Array appliance for GSLB DNS decision making.
10. It is not recommended to use the Array APV Series appliance as your main authoritative DNS server. The Array DNS service can only perform limited functionality to support GSLB.

Link Load Balancing (LLB), while less commonly deployed than the previous two use cases, provides a vital service in situations where multiple WAN connections are required – oftentimes in remote or branch offices. Array's LLB implementation provides advanced failover and bandwidth management for multiple internet connections, allowing business operations to continue even if one or more ISP links becomes slow to respond or unavailable.

11. To avoid a mismatch between the connection request and respond between the returning path with link load balancing, you can use the Array Return to Sender (RTS) feature.

These are just a few simple tips that were top-of-mind among the tech support team. If you're looking to deploy ADCs/load balancers, we hope you find these tips helpful. Array's sales engineers and tech support team are always available if you have questions about your own ADC deployment.

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