BOOST SPEED AND SECURITY BY LAYERING F5 AND NGINX LOAD BALANCERS

Augment your enterprise-wide BIG-IP load balancer with NGINX load balancers to deploy apps faster.

According to Forrester, 50% of organizations are implementing DevOps practices to speed time to market (high feature velocity) and improve stability (lower incidence of outages and faster resolution of issues). DevOps adoption is pervasive as both technology-forward enterprises and traditional ones apply agile methodologies to app deployment and maintenance. Amazon, for example, deploys code every 11.7 seconds, and Nordstrom, a large U.S. retailer, has increased its deployments for its mobile apps from twice per year to once a month.

Alongside the growth of DevOps practices, enterprises are modernizing their apps using microservices. According to a recent user survey conducted by NGINX, 65% of applications in an enterprise portfolio are monolithic, where all of the application logic is packaged and deployed as a single unit.

However, the majority of new app development uses microservices architectures, where different applications are broken up into discrete, packaged services. Nearly 10% of apps are built net new as microservices, while the 25% in between are hybrid applications (monolithic with attached microservices, sometimes referred to as "miniservices").

Both these trends are having a profound impact on all aspects of application development and infrastructure:

People

Control shifts from infrastructure teams to application teams. To achieve speed to market, DevOps wants to have control over the infrastructure that supports the apps they develop and maintain.

Process

DevOps speeds provisioning time. Modern app infrastructure must be automated and provisioned orders of magnitude faster—or you risk delaying the deployment of crucial fixes and enhancements.

Technology

Infrastructure decouples software from hardware. Software defined infrastructure, infrastructure as code, and composable infrastructure all describe new deployment architectures where programmable software runs on commodity hardware or public cloud computing resources.

While these trends affect all aspects of application infrastructure, they specifically change the way enterprises deploy load balancer technology as the load balancer is the intelligent point of control that sits in front of all your apps. However, different teams in your organization need to access load balancing technology in different ways.

THE DIVISION BETWEEN NETOPS AND DEVOPS PRACTICES SLOWS YOU DOWN

Enterprises employ a central load balancer with advanced features to manage all application traffic, improving deployment throughput and stability. The F5 appliance sitting at the front door of your environment does the heavy lifting—providing advanced application services like local traffic management, global traffic management, DNS management, bot protection, DDoS mitigation, SSL offload, and identity and access management.

But DevOps teams often need to implement changes to the load balancer in order to introduce new apps, add new features to existing apps, or improve scale. In traditional processes, DevOps has to rely on infrastructure and operations (I&O) teams to modify the configuration of the load balancer and redeploy it in production.

I&O teams typically take a cautious approach as they have to support hundreds to possibly thousands of applications using a centralized load balancer. Any errors could potentially have disastrous performance and security implications across the enterprise's entire app landscape. As a result, the I&O team makes changes in test environments first—and then eventually rolls them out in production.

IMPROVE THE VELOCITY OF
SOFTWARE DELIVERY AND
OPERATIONAL PERFORMANCE
WITH LIGHTWEIGHT, FLEXIBLE
LOAD BALANCERS.

While these operations procedures help ensure that changes don't negatively affect your application portfolio, following them can slow the pace of development and innovation.

BRIDGE THE DIVIDE BETWEEN NETOPS AND DEVOPS BY AUGMENTING BIG-IP WITH NGINX LOAD BALANCERS

You can improve the velocity of software delivery and operational performance by deploying lightweight, flexible, load balancers that can be easily integrated with your application code closer to your apps. F5's cloud-native ADC solution, NGINX, is a software load balancer that can help you bridge the divide between DevOps and NetOps.

NGINX automatically provisions each app instance

HARDWARE LB

BIG-IP Platform

BIG-IP Platform

app

app

Clients
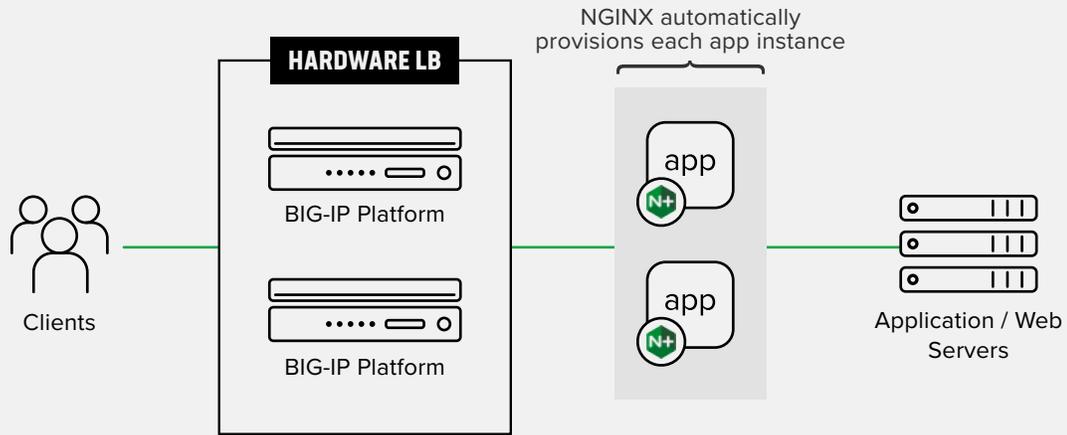
Application / Web Servers

Figure 1: The lightweight NGINX load balancer consumes few compute resources.

There are three common deployment models for augmenting your F5 BIG-IP infrastructure with NGINX:

- Deploy NGINX behind the F5 appliance to act as a DevOps friendly abstraction layer.
- Provision an NGINX instance for each of your apps, or even for each of your customers.
- Run NGINX as your multi cloud application load balancer for cloud native apps.

Because the programmable NGINX load balancer is lightweight, it consumes very few compute resources and imposes little or no additional strain on your infrastructure.

CONCLUSION

The practices of continuous integration, continuous delivery, and continuous deployment offer the promise of safer, faster, and more efficient software development. Critical to realizing this promise is the integration of application delivery and security services into the development and deployment workflows.

F5 offers the platform, the integration, and the training to insert industry-leading application protection and optimization services into workflows so that software can be built, tested, and deployed with the services it needs to be secure, fast, and available.