Accelerate your deployment velocity with NS1

DevOps is Foundational to Digital Transformation
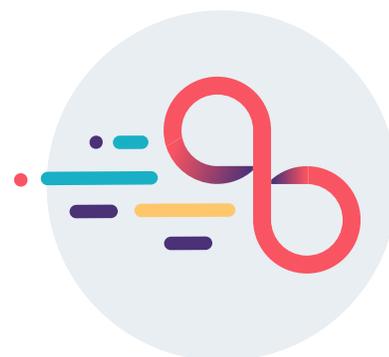
Applications drive our new, "experience economy." Whether an organization's revenue is derived directly from applications and sites, or these support critical business operations, leaders everywhere are focused on increasing the velocity at which applications are deployed and their real-time performance. There are many technology and process-related variables that impact deployment and performance, which are the focus of "DevOps" initiatives. DevOps enables enterprises to deliver features faster, empowers teams to innovate, reduces time spent on fixes, and results in more stable operating environments. In fact, according to the 2019 State of DevOps report, high-performing DevOps organizations deploy software over 200x more often and are able to recover over 2,600 times faster from incidents compared to their lower-performing peers.

Legacy DNS, DHCP, and IP Address Management Encumber DevOps Velocity and Scalability

DevOps agility extends beyond the application development teams. Modern network teams are also challenged to build and deploy network infrastructure that meets the needs of modern applications, meaning that networks are scalable, automated, and can intelligently deliver application traffic.

Application teams driving DevOps initiatives and their networking partners all depend on DNS, DHCP and IP Address Management for application deployment and delivery critical processes.

However, the trio of DNS, DHCP, and IP Address Management, often referred to as DDI, is one of the last remaining groups of foundational technologies that has not been modernized. This causes significant problems:

Loss of agility

DevOps has to rely on Network Operations teams to obtain these services for their applications. This usually entails submitting support tickets and waiting for a long time - sometimes many weeks - as Network Operations teams use appliances that prevent them from being agile.

Slow and limiting APIs

Legacy DDI providers do not offer a comprehensive set of APIs and APIs' performance is limited. Their APIs may be exposed, yet they are not performant; it can take hours to execute an API call so they are unsuitable for integrating with CI/CD pipelines. Finally, because data ingest and change propagation is limited, they cannot support modern, distributed microservices applications that require frequent updates to DNS/IPAM databases as well as fast change propagation.

Heavy footprint

Furthermore, these appliances have a large footprint and cannot be deployed on containers making them unfit for application and infrastructure modernization efforts.

NS1.

NS1's DDI Solution Integrates Seamlessly with DevOps Toolchain and CI/CD Pipeline

NS1 provides a modern DNS/DHCP/IPAM solution that empowers DevOps to drive deployment and feature velocity with a cloud-native, API-first architecture. **Key capabilities include:**

Robust and comprehensive APIs that cover every function - from creating and managing networks, managing scopes, leases and reservations to creating DNS zones and records.

Performant APIs that are 10x faster than legacy solutions. High-performance APIs minimize downtime and poor performance of applications as changes to infrastructure that inform traffic steering and DNS responses can be propagated instantly, reflecting realtime infrastructure conditions. Metadata updates such as availability/latency of web servers or load balancers can be executed in real-time improving application performance and reliability.

Advanced traffic steering with our patented point & click Filter Chain capability accelerates application performance. Complex traffic shaping algorithms can be configured based on location, weights, availability, stickiness and load.

Small footprint allows deployment of DDI even on a Linux switch. This improves performance by enabling delivery of DNS/DHCP services closest to the edge/client. NS1's lightweight DDI solution is ideal for providing network services in remote locations with minimal IT footprint.

Platform agnostic so it can be deployed on any platform including bare metal, VMs, public cloud, private cloud and containers. This flexible and portable characteristic combined with highly performant APIs makes NS1's DDI platform tailor made for DevOps and modern apps based on microservices.

DevOps toolkits   NS1 integrates with Ansible, Jenkins and Terraform. These integrations enable DevOps teams to automate the provisioning and deployment of DNS/DHCP/IP Address Management with CI/CD pipelines without reliance on IT.

Kubernetes   NS1 integrates with the Kubernetes External DNS incubator project, which monitors the ingress/services for updates coming from the web application service and then sends the information as a DNS record to the NS1 platform.

Consul   With the Consul integration, NS1's management portal becomes a single pane of glass for Consul services, allowing for automated record generation and the use of NS1's Filter Chain technology to load balance across Consul instances.

Alerting   NS1 integrates with a variety of alerting and collaboration tools such as Grafana, Pagerduty, Slack and ServiceNow. Leveraging NS1 alerts helps improve communication so issues can be resolved quickly - before they result in service degradation and outages.

Load balancing   NS1 ingests relevant health metrics from load balancers to drive global steering decisions in order to optimize end-user experiences, security and uptime.

Monitoring   These integrations allow you to forward metrics from monitoring solutions so that you can automate real-time traffic management.

Drive Success with NS1

NS1 is in the critical path of application deployment and delivery for the largest trafficked sites on the internet and the most trusted brands worldwide. NS1's clients are on the DevOps continuum; some are masters and concerned about scaling these initiatives and some are getting started automating critical processes. In any case, they report dramatic increases in deployment velocity by modernizing their delivery of network services using a platform agnostic, API-first solution. They have also achieved significant improvement in application performance using NS1's advanced traffic steering capabilities. Join these high-performance organizations that innovate faster and deliver new capabilities at a rapid pace using NS1 DDI.

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