Automate Network Services with NS1

The Drive Towards Network Agility

To support critical business operations that drive revenue and productivity or deliver outstanding user experiences, organizations need the agility to quickly and frequently make changes to their infrastructure. Applications are constantly being deployed and scaled. Underlying network infrastructure is always evolving, such as with the adoption of cloud and edge. Network performance needs to be constantly tuned in order to outpace the requirements of all users who depend on the network and the traffic it supports. In many instances, network infrastructure management activities are done manually: network engineers deploy and configure physical or virtual appliances and use CLIs to operate them. These manual processes cause delays and introduce potential for costly errors. Taking weeks to install a DNS server at the edge to support a new application or branch location can even impact revenue. How can organizations get control? Quite simply, through network automation.

Automation: The Future of Network Management

To speed up network provisioning and management, network engineers have begun to embrace automation. According to Gartner, Inc., "organizations that automate more than 70% of their network change activities will reduce the number of outages by at least 50% and deliver services to their business constituents 50% faster." By adopting modern practices such as Infrastructure-as-code (IaC) using APIs, network engineers are able to rapidly provision new networks, balance traffic, and scale according to the needs of the applications and users they support. Automation drives efficiency and accelerates release/ deployment velocity by eliminating manual errors and enabling seamless integration with CI/CD frameworks.

A Basic Overview of NS1 DDI Capabilities

With a robust suite of APIs and an intuitive GUI, organizations can automatically assign new IPs to devices, create new networks on the fly, allocate and update IP addresses, update DNS entries, and more. NS1 Enterprise DDI streamlines network service workflows. And because it's lightweight with an API-first architecture, DNS and DHCP can be deployed at the network edge, closest to end users, and in a footprint small enough to fit on a Linux switch. To learn more about NS1 Enterprise DDI, download the datasheet or visit the NS1 website.

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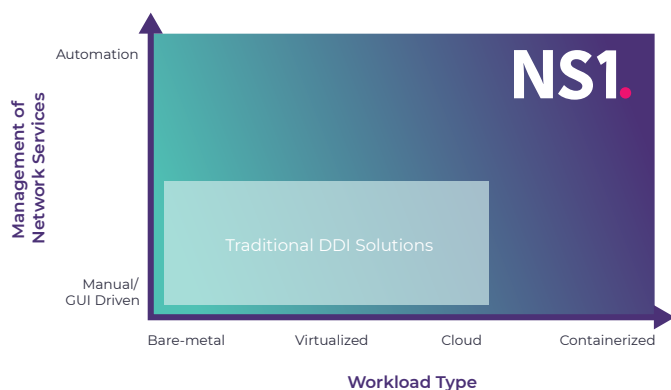
NS1: Making Automation Easy

NS1 has modernized the familiar and universal foundations of all network and internet services: DNS, DHCP, and IP Address Management. NS1's solution, Enterprise DDI, is a flexible and powerful platform that unlocks unprecedented automation, visibility, and control to support a variety of use cases:

Rapidly provision network services: As a containerized solution that can be managed using comprehensive and performant APIs, network engineers can quickly deploy new services to support business growth and accommodate application traffic or development initiatives. That means no more time spent on procuring new appliances, waiting to receive these appliances, and finally deploying and managing them.

Unified Service Management: Network operations teams need visibility. Whether it's into network services or the IP space, a lack of visibility can hamper efficiency. However, monitoring and managing network services across different clouds or physical locations can demand significant resources. The problem worsens as network complexity grows, eventually becoming almost impossible to manage. NS1 Enterprise DDI provides a path to unification, from the IP address space to services that span multiple providers, which significantly reduces complexity and provides network engineers with a single tool to manage a variety of services.

Network Services that meet the needs of any application: The application landscape in a typical enterprise spans the entire range from legacy to modern, cloud-native applications based on microservices. Rather than managing physical and virtual appliances or deploying custom network services across multiple cloud providers to support these applications, NS1 Enterprise DDI enables network operations teams to turn up the optimal network services for these applications in minutes rather than weeks.

NS1 Enterprise DDI provides powerful benefits:

Minimize complexity Many organizations have embraced a hybrid-cloud environment. Yet cloud providers' services are fundamentally designed to work in that provider's environment. Replicating services across multiple clouds adds substantial costs as well as management overhead. As a container-based solution, the NS1 Enterprise DDI platform significantly reduces complexity by deploying network services, such as DNS, across any provider while enabling network engineers to manage each instance centrally.

Enable elasticity Utilization is one of the main issues with provisioning network services as individual appliances or servers. It's very common for infrastructure to be deployed for very short periods - sometimes for just minutes to support test/development/sandbox environments or for days to handle a surge in traffic. With NS1 Enterprise DDI, network teams can spin new instances up or down based on what's needed in the moment. The infrastructure exists only when needed.

Reduce costs   NS1's Enterprise DDI solution is so lightweight that it could even be deployed on a Linux switch. This dramatically saves costs in remote locations and branch offices that usually have minimal IT footprint - just a WiFi router and a switch. NS1 Enterprise DDI does not require Network Operations teams to ship an appliance to remote locations and allocate a resource to deploy and manage them. Furthermore, NS1's small footprint improves application performance by enabling delivery of DNS/DHCP services closest to clients at the edge.

Achieve agility   The role of DevOps has become increasingly important. Application teams not only develop the software critical to business operations, they often assure application availability and performance. It is critical for network infrastructure teams to meet the demands of DevOps-driven applications by empowering DevOps teams and making sure that networks underpinning applications are optimized. Application deployment processes are dependent on DNS, DHCP and IP Address Management because every application deployment requires a DNS update and IP address, and if they aren't provided and discovered quickly, application services break. But, manually provisioning a required network service, like a DNS server will adversely impact time-to-market, and revenue. NS1 DDI empowers network engineers to spin-up required services quickly.

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Process automation is critical to achieving agility. Provisioning network services with legacy DNS, DHCP, and IP Address Management hardware or virtual appliances slows application and network deployment velocity, makes it harder to scale network services to meet the organization's network access and application performance needs. NS1 Enterprise DDI empowers network engineers to adopt and scale new network architectures, automate repetitive tasks, manage traffic across hybrid cloud environments, reduce costs, and quickly deploy network services with automation workflows.