FAQ
Citrix NetScaler and Kubernetes Integration

What's new?

You can now use NetScaler CPX as an Ingress controller in Kubernetes clusters to load balance the north-south traffic to your Kubernetes services from clients outside the Kubernetes cluster. This is in addition to the previously announced capability of NetScaler CPX handling east-west traffic for app-to-app communication.

What is Kubernetes?

Kubernetes is an open-source platform designed to automate deploying, scaling, and operating application containers.

What functionality is supported with this integration?

You can leverage all existing NetScaler CPX functionality with this integration, such as:

- Load balancing
- SSL offloading
- Layer 7 policies, such as rewrite, responder, rate limiting, layer 7 DDoS, redirect, content switching/URL routing
- Monitoring and logging
- Advanced analytics through NetScaler Management and Analytics System (MAS)
- Nitro API

How does Citrix NetScaler integrate with Kubernetes?

Citrix integrates all NetScaler form factors (containerized CPX, VM-based VPX, MPX, and SDX appliances) as application delivery controllers for Kubernetes clusters. As a Kubernetes Ingress controller, NetScaler exposes applications to external clients aggregating services into common virtual IP addresses, with content switching, SSL offload using the most stringent ciphers, DDoS protection, optimization, load balancing, and application health analytics. Tied to this solution, NetScaler Management and Analytics System (MAS) allows cloud digital teams and IT network operations teams to troubleshoot apps and remediate, especially hard-to-detect trouble spots, through machine-guided analytics.

Why does this integration matter to NetScaler customers?

Cloud digital teams, IT network operations teams, and application developers can get many benefits from this integration, such as:

- **More flexible options for north-south traffic handling:** You now have even more form factors to choose from for your application delivery—the high-performance, multi-core containerized platform (CPX), a virtual-machine-based solution (VPX), or your existing MPX and/or SDX appliance inventory. All options run the same code base, API, and layer 7 security measures to provide a consistent application delivery experience across all application workload types.

- **High-performance SSL and TLS:** SSL/TLS data encryption has become the universally accepted standard for securing sensitive data in transit across the internet. NetScaler transparently accelerates the SSL transactions by offloading SSL processing from the application servers and doing it with most stringent ciphers.

- **End-to-end visibility and analytics:** NetScaler MAS provides centralized network management, analytics, automation, and orchestration to support applications deployed across hybrid, multi-cloud, and containerized infrastructures. In conjunction with NetScaler MAS, NetScaler CPX enables enterprises and service providers to deploy microservices and containerized apps at scale, receive immediate feedback, and troubleshoot user experience issues. For the enterprise, the combination of NetScaler CPX and NetScaler MAS enables a common layer 4 to layer 7 service infrastructure across hybrid clouds, on-premises data centers, and public clouds. This results in OPEX savings as well as improves their ability to innovate in transforming their business operations.

NetScaler Management and Analytics System (MAS) provides hybrid-cloud traffic visibility and application-centric infrastructure management. It provides a simple indicator to administrators with application health scores that summarize how well an application

is performing based on industry-standard APDEX scoring of user satisfaction. The app-health measurements are based on machine-guided learning that spots anomalies with data coming directly from all NetScaler appliances. In addition, the same data sets provide performance metrics and assessment of security threats.

- **Comprehensive layer 7 capabilities (content switching, rewriting, rate limiting, and responder) in a common layer:** NetScaler has a rich layer 7 feature set that can be applied across ingress and egress HTTP/S traffic. As you migrate your monolithic workloads to a microservices architecture, you'll need the layer 7 flexibility available from NetScaler to run your applications in production.

What are the target use cases for this integration?

This integration enables enterprises and cloud service providers to use NetScaler CPX as part of their PaaS infrastructure for developing, testing, and delivering microservices applications at scale.

- In this architecture, NetScaler CPX can now be used for both north-south traffic scenarios (external traffic coming from the Internet such as client-server communication) as well as east-west traffic scenarios (app-to-app communication).
- NetScaler CPX can protect app boundaries through ACLs, layer 7 DDoS, and SSL, and to implement high availability.
- NetScaler Management and Analytics System (MAS) includes a NetScaler Ingress controller for the Kubernetes cluster. The NetScaler Ingress controller and the NetScaler CPX instances deployed in the Kubernetes cluster together can enable you to handle Ingress traffic in a Kubernetes environment.

What is unique and different about this integration that other vendors can't provide?

NetScaler CPX acts as an **application control point** in a microservices infrastructure. With its rich layer 7 capabilities, app developers can deploy a layer 7 infrastructure in Kubernetes instead of building these capabilities with the microservices or containerized app. These capabilities include HTTP rewrite, URL routing (content switching), responding on behalf of the app, layer 7 DDoS, and rate limiting. NetScaler CPX keeps track of rich metrics sets that are streamed to NetScaler Management and Analytics System (MAS) for analytics and visibility.

Many open-source products don't have a management, analytics, and orchestration platform, and most mainstream ADC vendors don't have a containerized ADC with a simplified architecture that can function independent of hardware. Unlike the competition, Citrix NetScaler provides the complete stack.

Is the NetScaler 12.0 release required?

Yes.

How can I get more information about this integration?

You can either contact your Citrix sales representative or try it free today. Simply download NetScaler CPX Express with Kubernetes from the [Docker App Store](#) and try it in your environment. You can also [download](#) and try Citrix Management and Analytics System (MAS).