F5 Container Connector

DATASHEET

What's Inside

Dynamic Application Services Integration for Containerized Environments

More organizations are adopting containerized environments to develop and package applications. These organizations also use management and orchestration frameworks to coordinate provisioning and automation of containers. In order to meet user demands and reduce operational expenses, developers must be able to easily configure application services in containerized environments. According to a Container Management and DevOps report from EMA, the top three use cases for containers noted by respondents are: modernize existing apps (45%), build cloud-native apps (39%), and lift-and-shift traditional apps unchanged (16%).

F5® Container Connector is a container integration open-source solution that helps developers and system teams manage Ingress HTTP routing, and load-balancing, and application services in container and Platform as a Service (PaaS) deployments. Container Connector integrates with native container environments such as Kubernetes and Mesos, and PaaS container orchestration and management systems, such as RedHat OpenShift and Pivotal Cloud Foundry. It also offers integrated automation of application performance, routing, and security services during development for a faster time to market. Container Connector provides self-service selection across the network with F5 BIG-IP® solutions. BIG-IP provides a rich set of network and app stats for data stream export to visibility and observability solutions for tracing and root cause analysis.

Key benefits

Dynamic application services for PaaS and containers

Container Connector integrates with container environments such as Kubernetes and Mesos, and PaaS container systems such as RedHat OpenShift and Pivotal Cloud Foundry for managing container application services.

Self-service selection and automated event discovery

Container Connector enables self-service Ingress HTTP routing and app services selection. It subscribes to events and automatically configures performance, routing, and security services on BIG-IP. In addition, it enables greater flexibility and usability with pre-existing policies and profiles for OpenShift Routes, and annotations to rewrite target URLs for Kubernetes Ingress.

Scalability and security with app services insertion

Integrate Container Connector with the BIG-IP platform to scale apps for availability, and enable app services insertion. In addition, integrate with the BIG-IP system for Ingress load balancing and app protection services.

Faster deployment and end-to-end visibility

Speed deployments with predefined BIG-IP templates and obtain visibility, observability, and analytics through data stream export to third-party solutions for fast resolution of anomalies and on-demand statistics.

Ingress or ingress: What's the difference?

Ingress can refer to HTTP Routing or a collection of rules to reach the cluster services and ingress also refers to inbound connections, app load balancing, and security services.

Containerized Environments Offer Agility

Developers and system teams are turning to container frameworks for greater agility and flexibility, while using agile methodology to code apps at a faster pace. Architects need to deliver a better user experience, and are looking for efficient deployment and code fixes. A Portworx Survey asked IT professionals about the main business benefits of container technology. Respondents chose greater agility (75%), lower cost (52%), and higher performance (40%). System teams, app developers, and network operations want more agility and lower costs, and need container services solutions to deliver flexible deployments and reduce the amount of resources utilized.

Dynamic Application Services for PaaS and Containers

Container Connector allows containerized environments to leverage the industry-leading BIG-IP platform to enable Ingress control services—including app routing, URI routing, and API versioning—in PaaS frameworks such as RedHat OpenShift and Pivotal Cloud Foundry, and Container environments such as Kubernetes and Mesos/Marathon. Container Connector integrates the BIG-IP platform with the container management and orchestration system control plane. System teams, app developers, and network operations now have automated Ingress load balancing integrated into the orchestration environment.

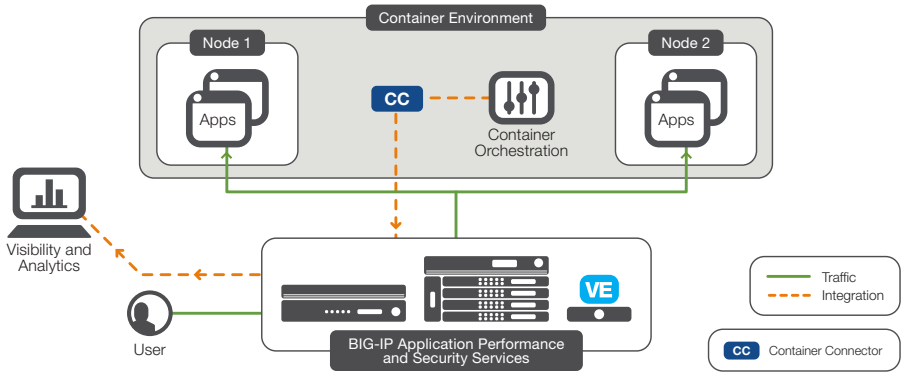

Figure 1: F5 Container Connector deploys in container environments, enables self-service selection in orchestration, and subscribes to events to create, scale, and remove app services. You can also export your data streams for more in-depth visibility, observability, and analytics.

Self-Service Selection and Automated Event Discovery

Scale your container architectures to meet application demands. Container Connector allows you to deploy self-service Ingress control for system and app development teams within PaaS and container environments. Your DevOps process teams can subscribe to events to create, scale, and remove application services. For instance, teams can be notified of an event; tag their app with F5 performance, routing, and security services within the GUI or API; and add an additional label to their app for services insertion. Container Connector enables Blue/Green deployments in RedHat OpenShift for multiple app versions in production at the same time for scaling and moving to newer applications. In addition, it provides A/B management in OpenShift of two or more app versions for development and testing at the same time. Finally, Container Connector enables greater flexibility and usability with pre-existing policies and profiles for OpenShift Routes, and annotations to rewrite target URLs for Kubernetes Ingress.

Container Connector Features

- Runs in Kubernetes, Red Hat OpenShift, Pivotal Cloud Foundry, and Mesos.
- Subscribes to PaaS and container events to create, scale, and remove app services.
- Enables Ingress HTTP and URI routing for application services selection along with mapping rules, and health monitoring.
- Simplifies deployment and policy management with predefined templates.
- Dynamically configures and manages the virtual server, pool members, health monitoring, Ingress load balancing, and other app services on the BIG-IP platform.
- Enables Blue/Green and A/B traffic management for multiple app versions.
- Attach pre-existing policies and profiles for OpenShift Routes.
- Allows ingress annotations to rewrite target URLs in Kubernetes.
- Showcases Helm chart consumption simplifying Kubernetes application deployments and upgrades.
- Exports data-stream metrics to third-party solutions for on-demand analytics.

Container Connector open-source software is available at no charge as a downloadable container at DockerHub. Container Connector is available for download on GitHub.

With self-service application routing and security enabled, BIG-IP app performance and security services are easily implemented—with an additional label within the container UI for app scale, availability, and security. Automated event discovery occurs when the app is created and a virtual server and pool are automatically added to the BIG-IP platform—in the system team or app developer partition for Ingress control.

Scalability and Security with App Services Insertion

Container Connector integrates to your container orchestration and F5 application performance and security services—helping you scale out apps through PaaS and containerized environment integrations, automate discovery of app instances, and add app services insertion for workloads. This improves the developer and user experience through integration with native application deployment workflows. It also allows you to deploy a broader set of F5 application services into new distributed architectures.

Faster Deployment and End-to-End Visibility

F5 offers faster application deployments with predefined BIG-IP templates for simplified policy management. Easily configure PaaS and container integrations with Ingress control services using standardized templates, delivering consistent policies across established and emerging app architectures. BIG-IP allows you to achieve complete visibility and observability of all container traffic and enhance app insights through data-stream export to analytics platforms such as Splunk. They deliver a rich set of L4–7 stats in a third-party-compatible and SIEM format for timely export and analytical reporting.

You can deploy Helm charts for Container Connector consumability that showcase a way to package, version, and consume Kubernetes resources. This simplifies application deployments, upgrades, composability, and deployment reproduction. Finally, F5 enables easy integration into overlay technology such as OpenShift SDN, Flannel VXLAN and Host-GW, and Calico for fast cluster networking. This offers a fast selection of connector options to meet your container overlay requirements.

F5 Global Services

F5 Global Services offers world-class support, training, and consulting to help you get the most from your F5 investment. Whether it's providing fast answers to questions, training internal teams, or handling entire implementations from design to deployment, F5 Global Services can help ensure your applications are always secure, fast, and reliable. For more information about F5 Global Services, contact consulting@f5.com or visit f5.com/support.

DevCentral

The F5 DevCentral™ user community of more than 300,000 members is your source for the best technical documentation, discussion forums, blogs, media, and more related to app services.

More Information

To learn more about Container Connector, use the search function on f5.com to find these and other resources.

Web page

Container Connector

Datasheet

BIG-IP Local Traffic Manager

Articles

Open Source Spotlight: F5 Enables A/B Testing and Blue/Green Deployments with Red Hat OpenShift

Proxy Models in Container Environments

Speed and Scale: F5 BIG-IP as Ingress Control for Kubernetes

The New OSI Network Stack: Containers and Half-Layers

How Container Orchestration Environments Impact Health Monitoring

F5 Container Connector: Now with Ingress Control, RedHat OpenShift, and Pivotal Cloud Foundry

Ingress Controllers: New Name, Familiar Function

White paper

Using Docker Container Technology with F5 Products and Services

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