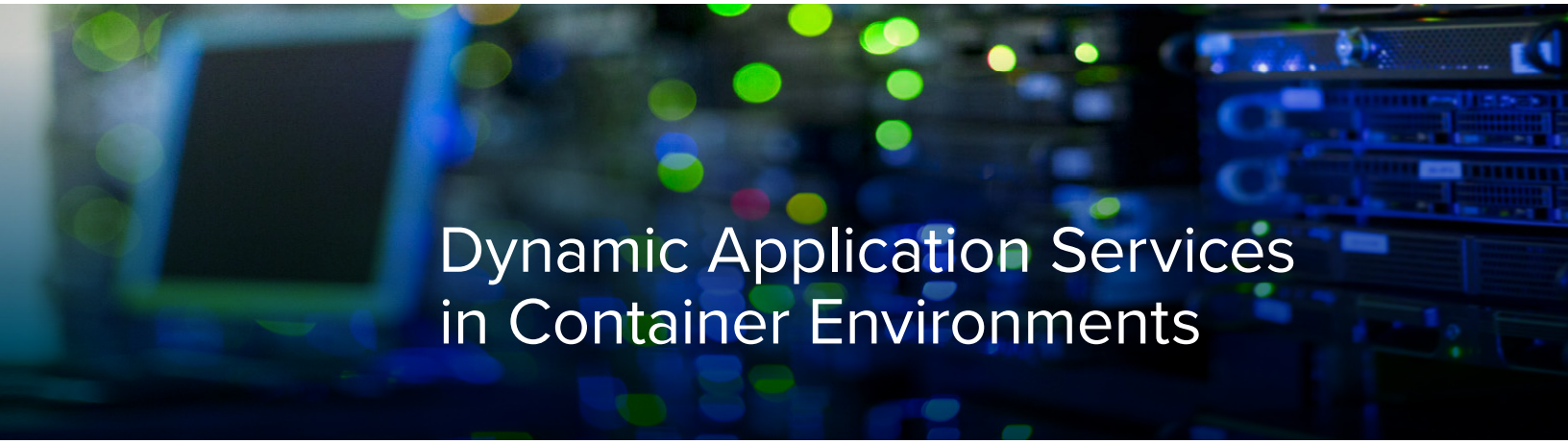

Dynamic Application Services in Container Environments

KEY BENEFITS

- Enable app services through native container integrations and automatically scale apps for agility.
- Spin up or spin down app services in seconds with self-service selection.
- Automate app services insertion based on event discovery.
- Greater Ingress flexibility from traffic customization to OpenShift apps.
- Achieve end-to-end app traffic visibility, observability, and analytics for fast issue resolution.
- Deploy Ingress control, app load balancing, and performance services faster with predefined policy templates.
- Easy integration into overlay technology such as OpenShift SDN, Flannel VXLAN and Host-GW, and Calico for fast cluster networking.

F5 Container Connector is open source and available as a free, downloadable container at DockerHub or GitHub.

Organizations are increasingly moving to containerized environments for developing and deploying applications. Container environments offer a system of application development in logical units for a faster time to market, to meet business demands, process automation, achieve greater agility and efficiency, and reduce operational costs. Enabling application delivery services and consistent configurations can change from development to production, but F5® container solutions simplifies the process.

Challenge

According to the 2017 Container and Cloud Orchestration report from SDxCentral, organizations deploy container technologies for multiple reasons. 62 percent cite faster spin up and down capabilities, 58 percent want to lower perceived overhead compared to virtual machines, and 47 percent chose containers for ease of management. However, as more architectures are supported, the DevOps landscape is growing more complex with a wide variety of container models. Application developers and network architects are tasked with managing and developing container apps, using microservices, and configuring traffic.

Solution

You can address challenges and complexity with scale and automation by deploying F5 container solutions with application performance and security services. This enables advanced application services and native, self-service Ingress control. F5 container solutions scale out apps in containerized environments with orchestration solutions for developers, system teams, and operations.

F5 open-source container solutions offer speed and agility when deploying application performance and security services on premises and across multi-cloud services. You can also dynamically configure Ingress control HTTP routing, and load balancing within the container or Platform as a Service (PaaS) orchestration environment.

Finally, F5 delivers a rich set of network and application metrics in a data-stream format for export to third-party analytics such as Splunk.

KEY FEATURES

- Supports container integrations:
  - Kubernetes
  - Mesos/ Marathon
  - Red Hat OpenShift
  - Pivotal Cloud Foundry
- Provides advanced app performance and security services:
  - Ingress control HTTP routing and load balancing with high availability and performance
  - App and DDoS protection services
  - Encryption and access control services
  - A rich set of L4–L7 stats in data-stream format for export to Prometheus, Splunk, or SIEM
  - Configuration management on the BIG-IP platform via predefined policy templates for ease of deployment
- Attaches pre-existing policies and profiles for OpenShift Routes.
- Allows Kubernetes Ingress annotations to rewrite target URLs.
- Showcases Helm chart consumption simplifying Kubernetes application deployments and upgrades.
- Subscribes to events to automatically create, modify, and remove app services.
- Enables self-service selection of app performance and security capabilities.
- Easily deploys Blue/Green and A/B traffic management for multiple app versions in dev and test or production.

Enable Application Services for Container Environments

When deploying applications into a container environment, F5 solutions natively integrate into the management and orchestration system via Container Connector. This enables automation of Ingress control HTTP routing and load balancing configurations to provide advanced app performance and security services with the F5 BIG-IP® platform.

You can deploy apps in container environments such as Kubernetes, Mesos/Marathon, Red Hat OpenShift, and Pivotal Cloud Foundry with advanced application performance and security services, using the BIG-IP platform for scale, availability, or security. When you deploy apps in production, many of your configurations remain for consistency. With these container architectures, self-service or automated deployment enables maximum flexibility for wherever your app resides.

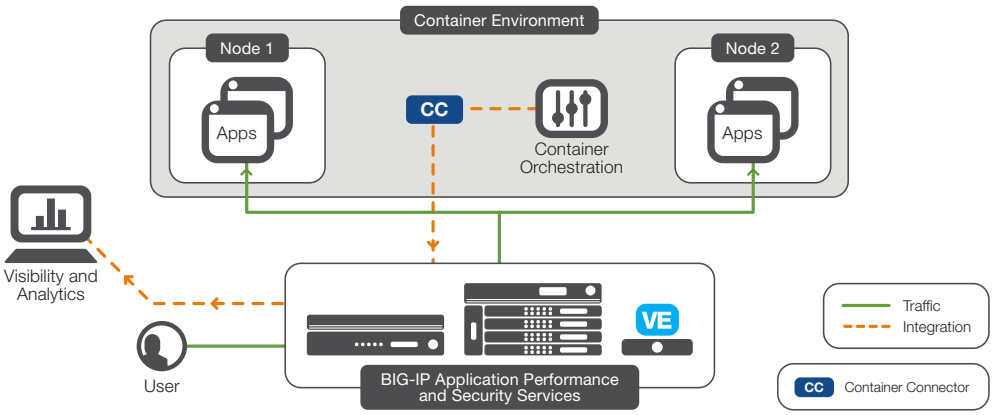

Figure 1: Container Connector integrates with container environments on premises or in the cloud. It subscribes to events to create, modify, and remove app services and enable Ingress HTTP routing and load balancing for app performance and security with the BIG-IP platform. You can also export your data streams for more in-depth visibility, observability, and analytics.

Gain End-to-End Application Traffic Visibility

F5 container solutions allow you to achieve complete visibility and observability of all container traffic and enhance app insights through integration with analytics platforms such as Splunk or SIEM solutions. Container solutions deliver a rich set of L4–7 stats in a data-stream format for timely export and analytical reporting. Use the Splunk templates for end-to-end application performance aggregation in analytics and for fast resolution of container traffic anomalies.

Summary

With F5, it's easy to integrate Ingress routing and load balancing for application performance and security for container apps. In addition, you can enable self-service selection or automate app services based on event discovery. This helps you to scale out and secure your apps for consistency in development and production.

For more information on how F5 container solutions enable your business, visit the F5 Container Integrations page.

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