Application Ingress Automation with F5 in an OpenShift Environment

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Technical Solutions Architect

Agenda

- OpenShift/K8s Refresher
  - Overview
  - The Challenges
- The Integration
  - Architecture
  - How Does it
  - F5 Container Ingress Services(CIS)
- Demo

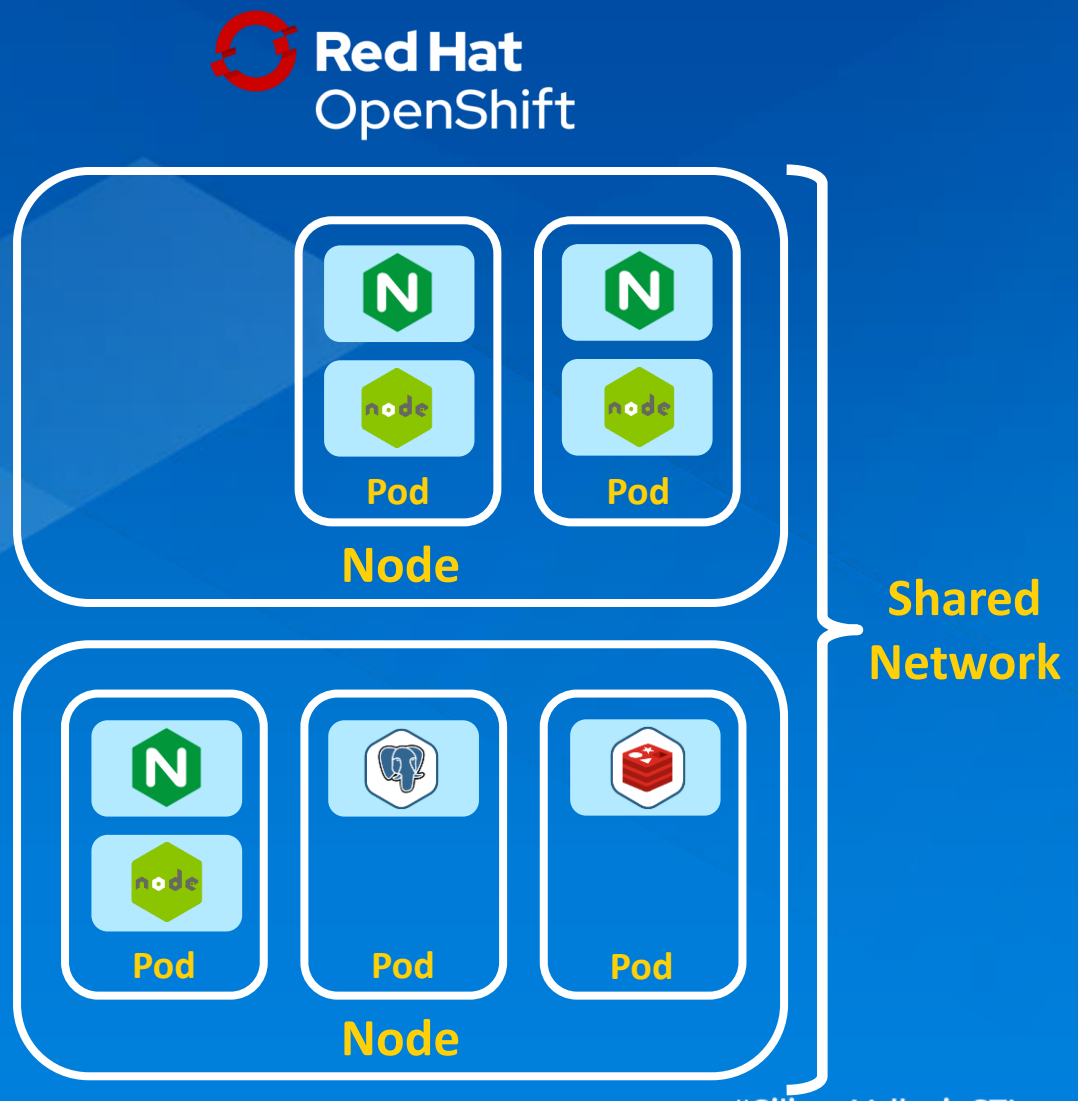
OpenShift Refresher

Red Hat OpenShift is an enterprise-ready Kubernetes container platform with full-stack automated operations to manage hybrid cloud and multicloud deployments.

OpenShift Refresher

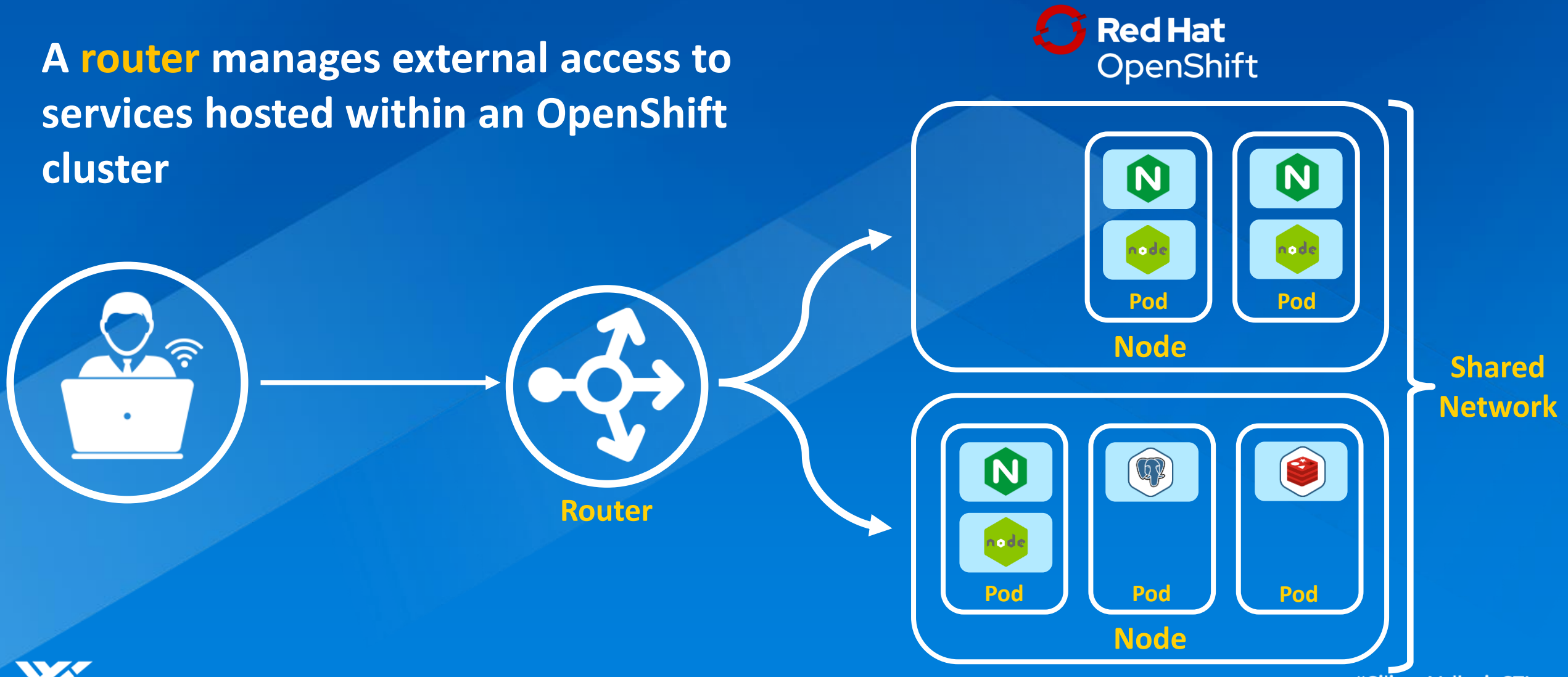
A **node** is a worker machine in Kubernetes and provides the runtime environment for containers

A **pod** is one or more closely related containers deployed to one host

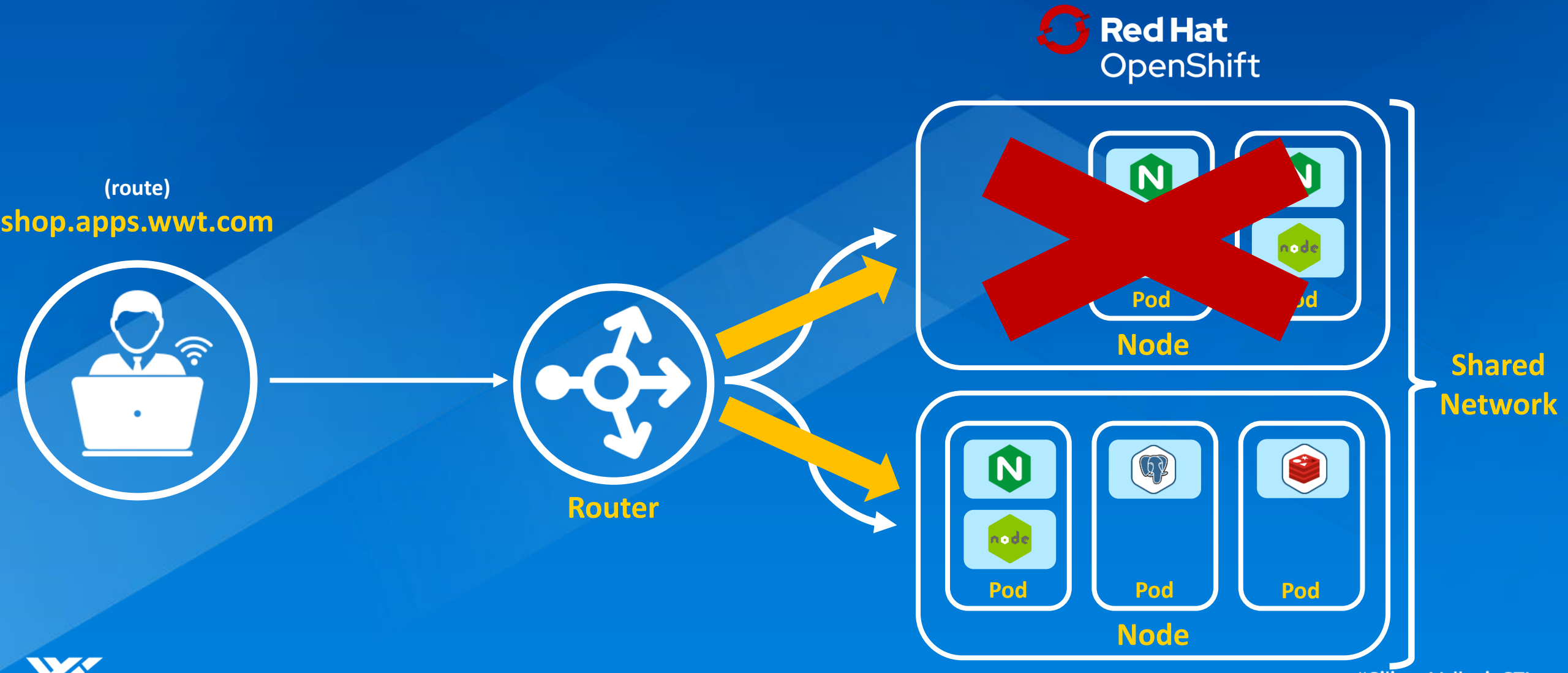


OpenShift Refresher

A **router** manages external access to services hosted within an OpenShift cluster



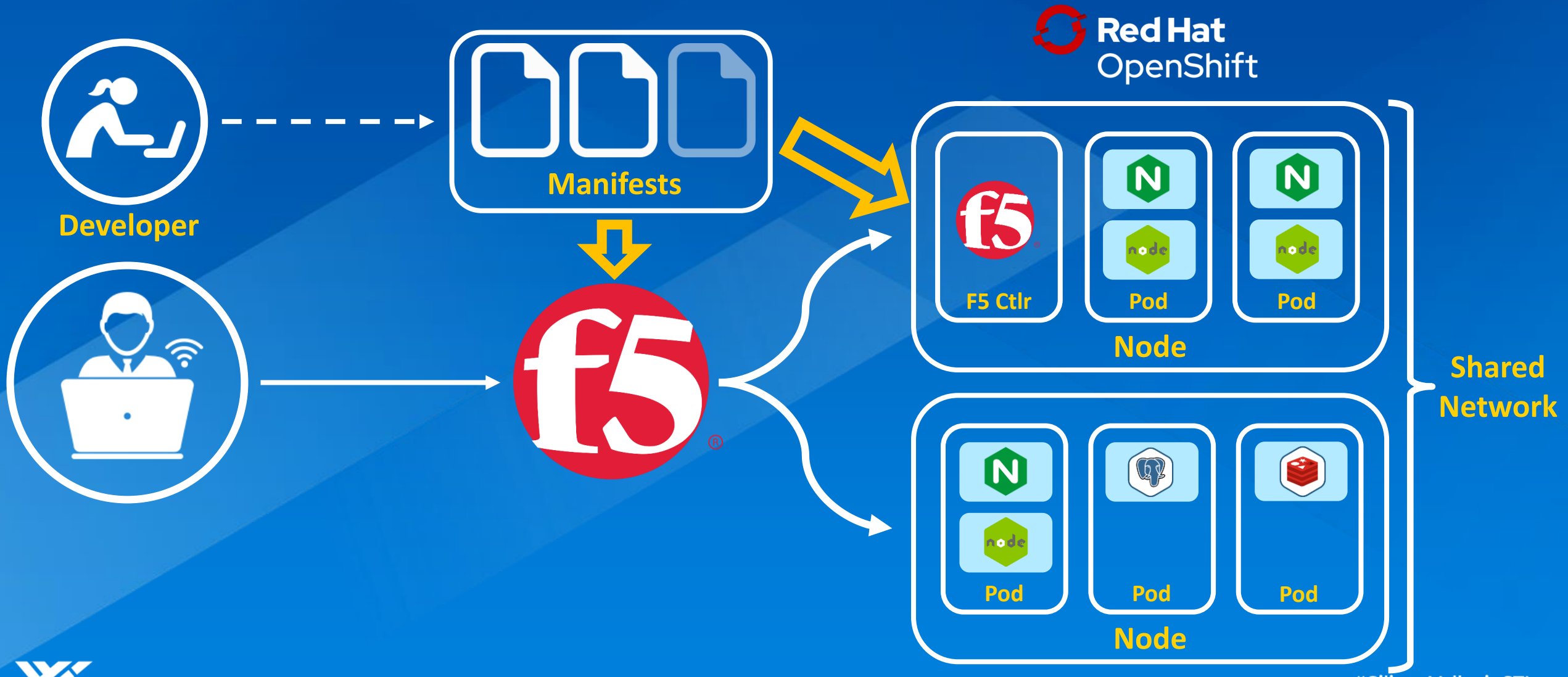
OpenShift Refresher



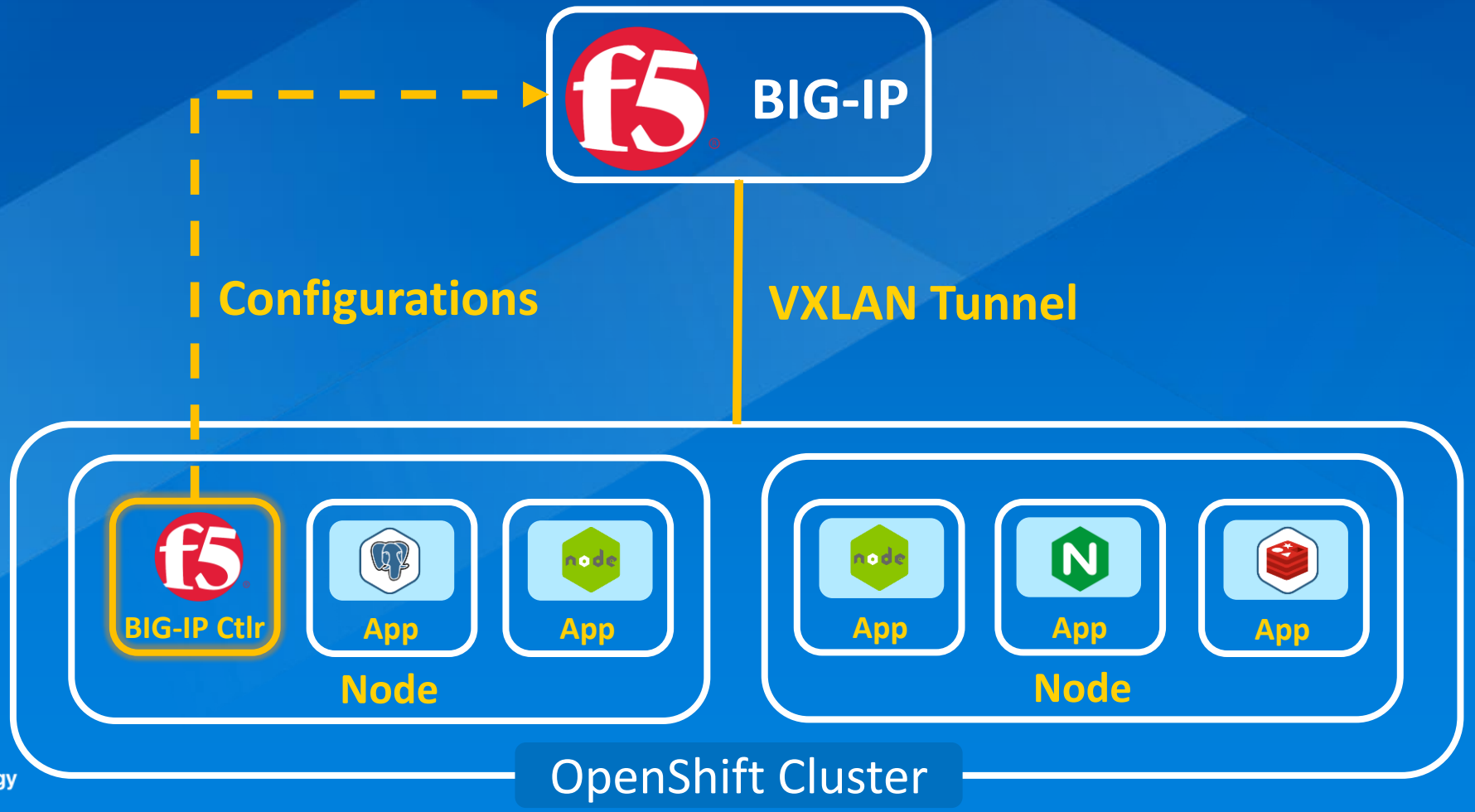
Container Ingress Services

F5 Container Ingress Services (CIS) integrates with container orchestration platforms to dynamically create L4/L7 services on F5 BIG-IP

Simplified Deployments



CIS Components

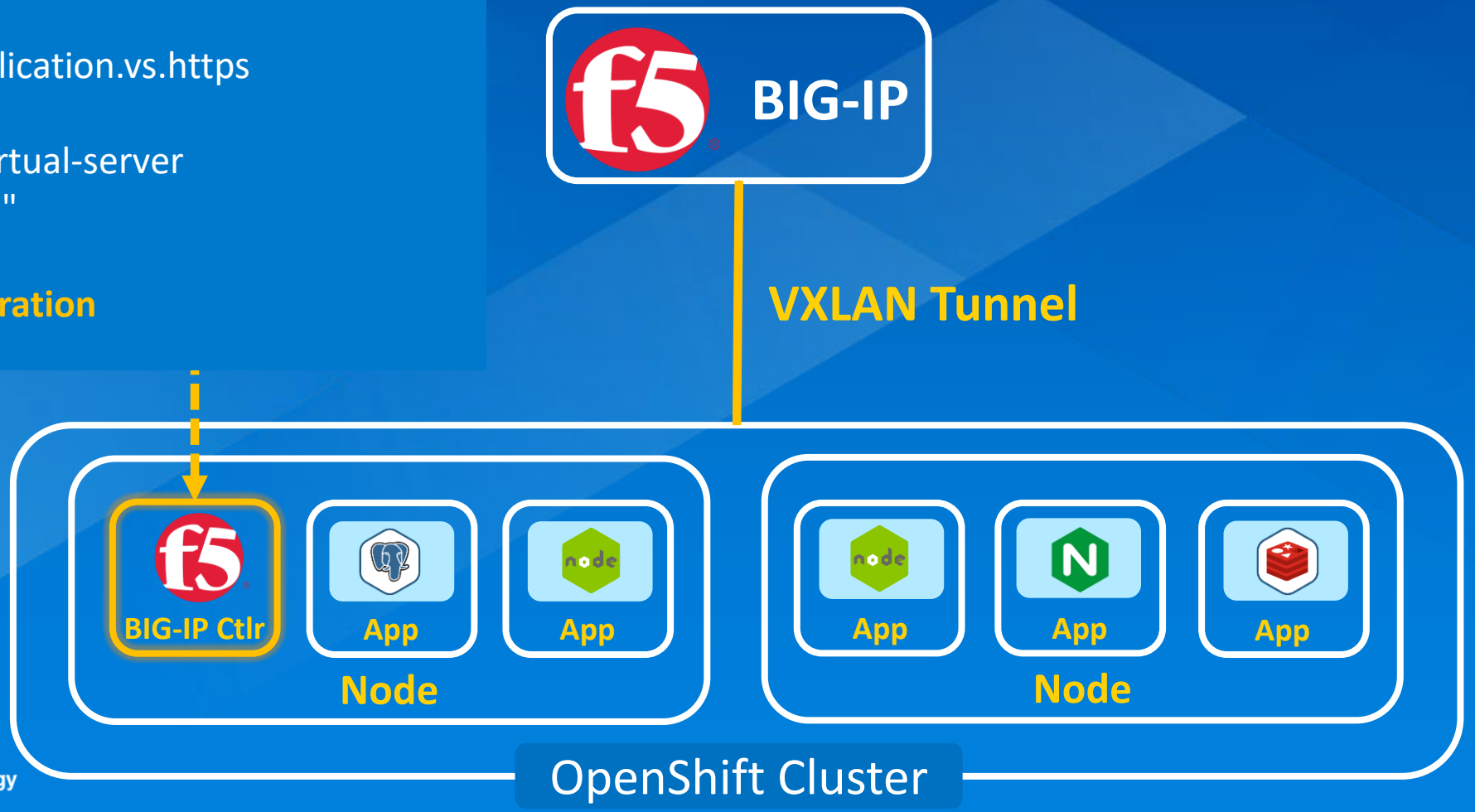


CIS Components

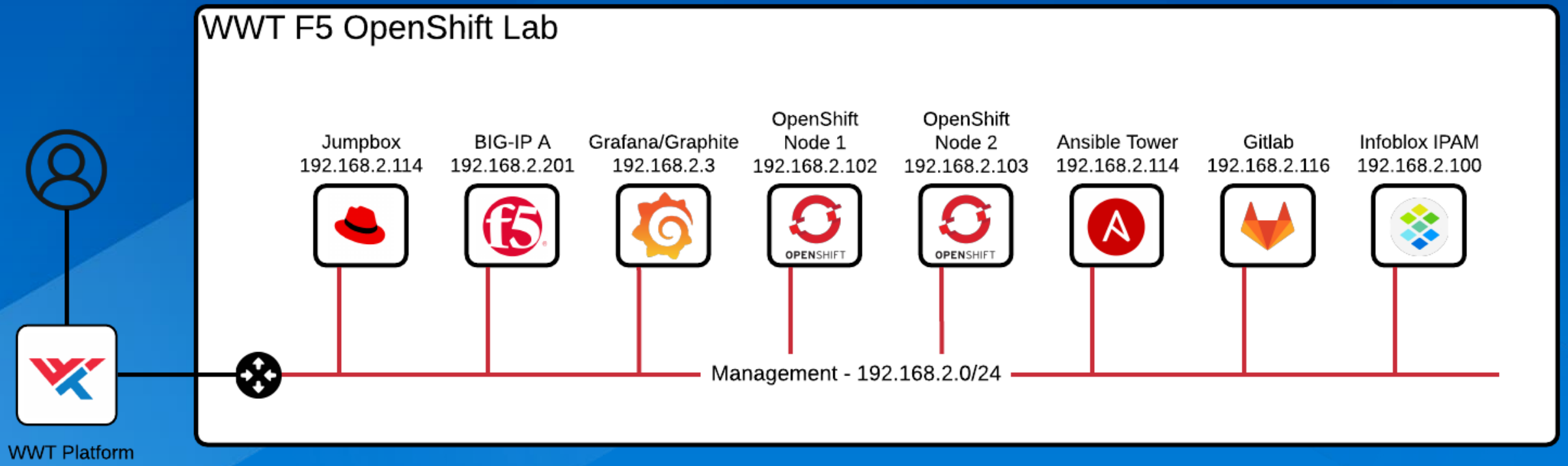
Configmap

```
kind: ConfigMap
apiVersion: v1
metadata:
  name: application.vs.https
  labels:
    f5type: virtual-server
    as3: "true"
data:
```

AS3 Declaration



Demo


WWT F5 OpenShift Lab
Jumpbox
192.168.2.114
BIG-IP A
192.168.2.201
Grafana/Graphite
192.168.2.3
OpenShift
Node 1
192.168.2.102
OpenShift
Node 2
192.168.2.103
Ansible Tower
192.168.2.114
Gitlab
192.168.2.116
Infoblox IPAM
192.168.2.100
OPENSHIFT
OPENSHIFT
Management - 192.168.2.0/24
WWT Platform

WWT Resources

Where to find us

WWT Platform & WWT ATC - https://www.wwt.com/

Explore → Networking → Application Delivery Controllers

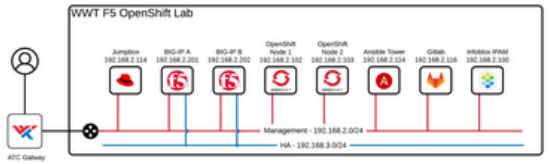
F5 Red Hat OpenShift Lab

Bookmark **52** people launched

Solution Overview

The way applications are being built and deployed is in a state of change. Previously, monolithic applications were converted to containerized microservices, leading to higher efficiency and flexibility of resources. Now there is a new set of challenges around migrating applications to containers.

This lab demonstrates how F5 Container Ingress Services integrated with Red Hat OpenShift can provide security, scalability and availability of containerized applications in an enterprise environment.



LAUNCH LAB

WWT Resources

Where to find us

github.com/tylerhatton/f5-openshift-webinar

ansible-tetration

Ansible interface to Cisco Tetration Network Policy Publisher

This solution exposes the security policy generated from Tetration Analytics Application Dependency Mapping (ADM) Network Policy Publisher to data center switches, firewalls, load balancers and other network devices supported by the Ansible network modules. Ansible playbooks can call the module `tetration_network_policy` to retrieve policy from the Tetration Kafka broker. The module returns the policy to the playbook as *ansible_facts* - which can be referenced by subsequent tasks to apply the policy to devices, write it to a file, or load it to CMDB for reference.

DevNet Code Exchange

This repository is featured on the Cisco DevNet Code Exchange.

DEVNET published

Articles and Blogs

Cisco has featured this solution in several blog posts published in the developer section of blogs.cisco.com and in ComputerWeekly.com leading to DevNet Create 2019.

- Introducing Cisco DevNet Exchange
- Using Tetration for Application Security and Policy Enforcement
- Coders and developers: The new heroes of the network?
- Interview with DevNet Creator – Joel W. King

Questions?

World Wide Technology