



# K8s and F5 BIG-IP DNS Integration

## CHAPTER 5

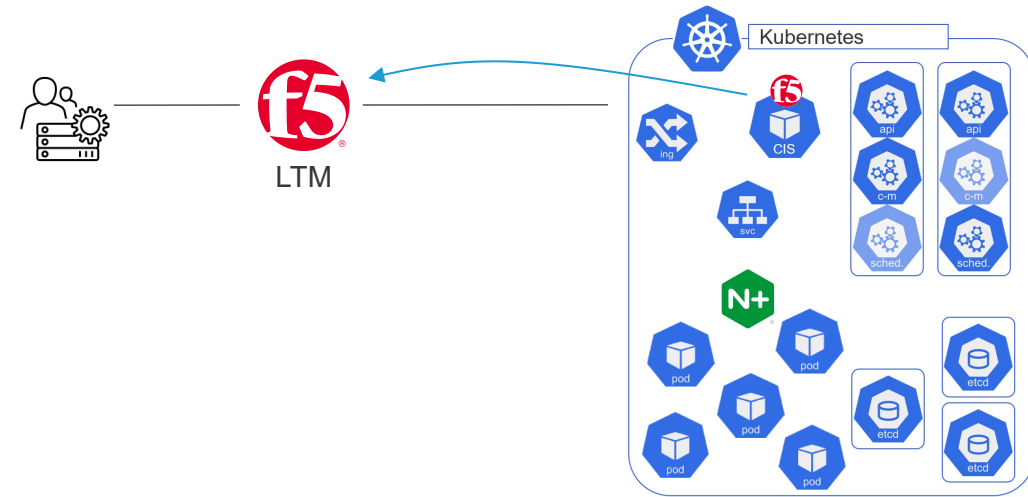


# What's Inside This Chapter?

- Quick Recap
- Challenges in Managing Virtual IP Address
- F5 CIS IPAM Overview
- F5 DNS Solution
- F5 DNS Integration using CIS ExternalDNS
- F5 CIS ExternalDNS Overview

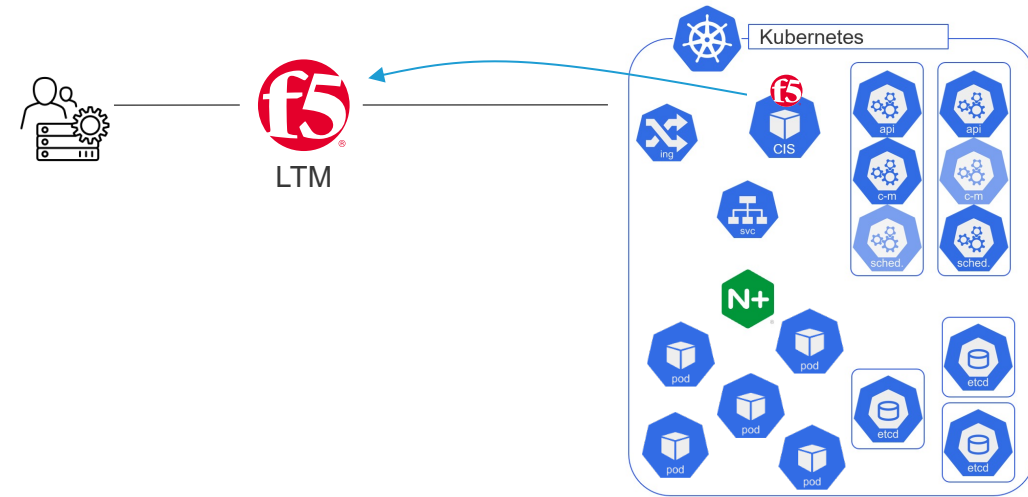
# What Have Been Done So Far

Integrate K8s and F5 LTM with F5 CIS.



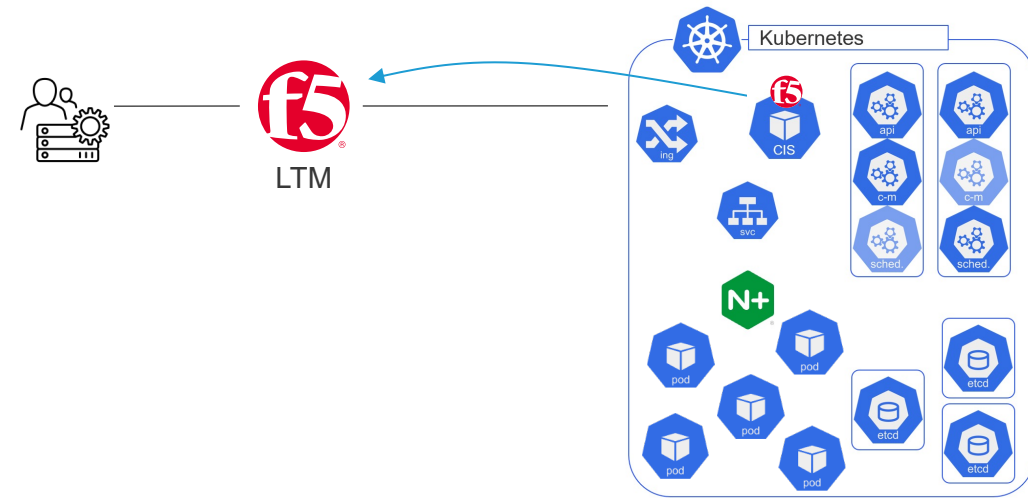
# What Have Been Done So Far

Do you notice a component  
not-yet-explained?



# Virtual IP Address

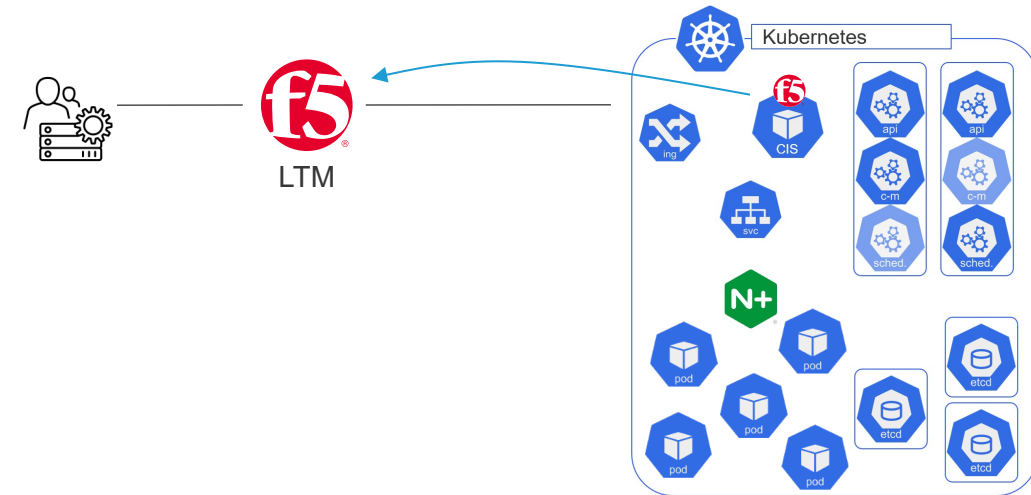
How does CIS get the virtual IP address to be used in creating a virtual server?



# Virtual IP Address

How does CIS get the virtual IP address to be used in creating a virtual server?

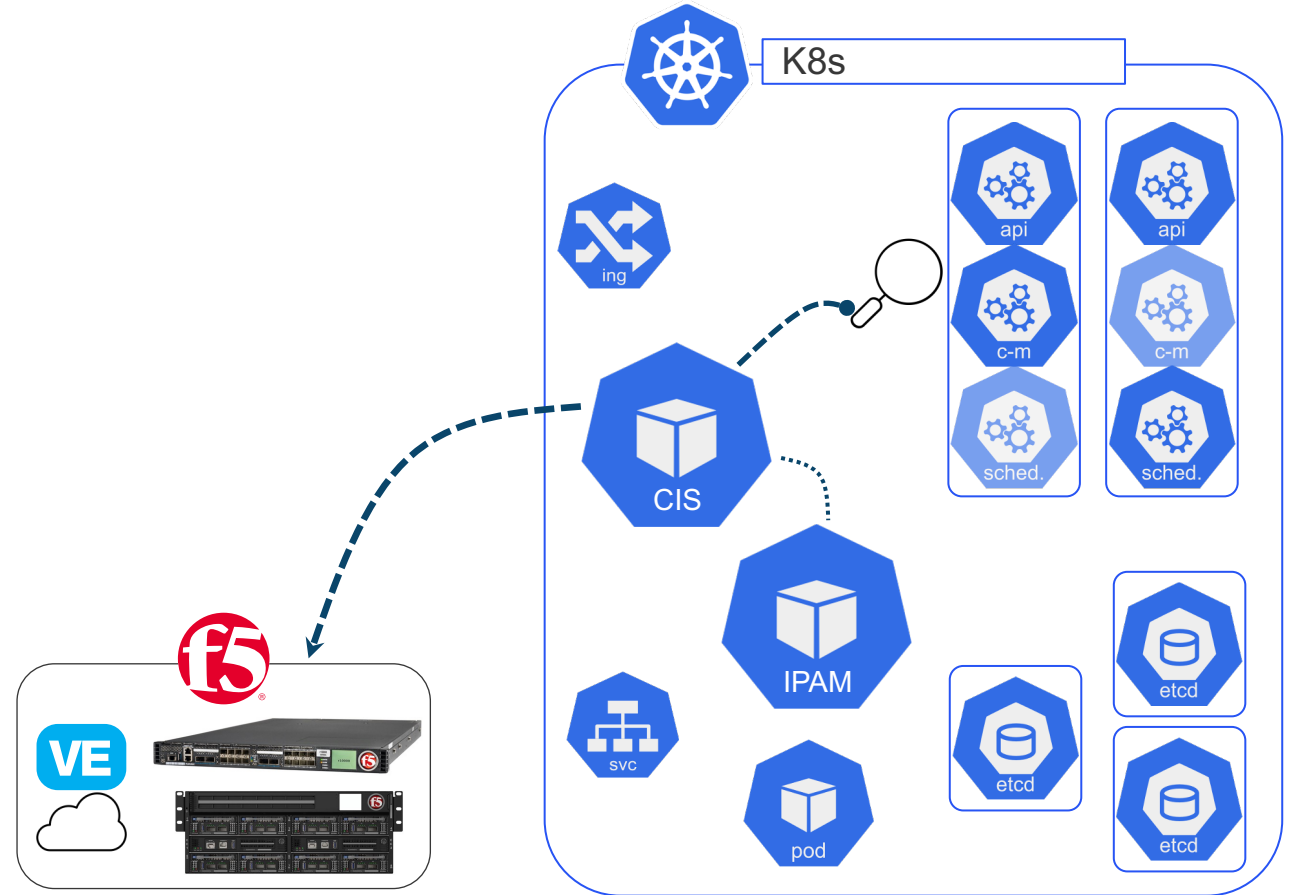
CIS works with IPAM pod!



# F5 CIS IP Address Management (IPAM) Overview

F5 CIS IPAM is a K8s pod that is responsible for:

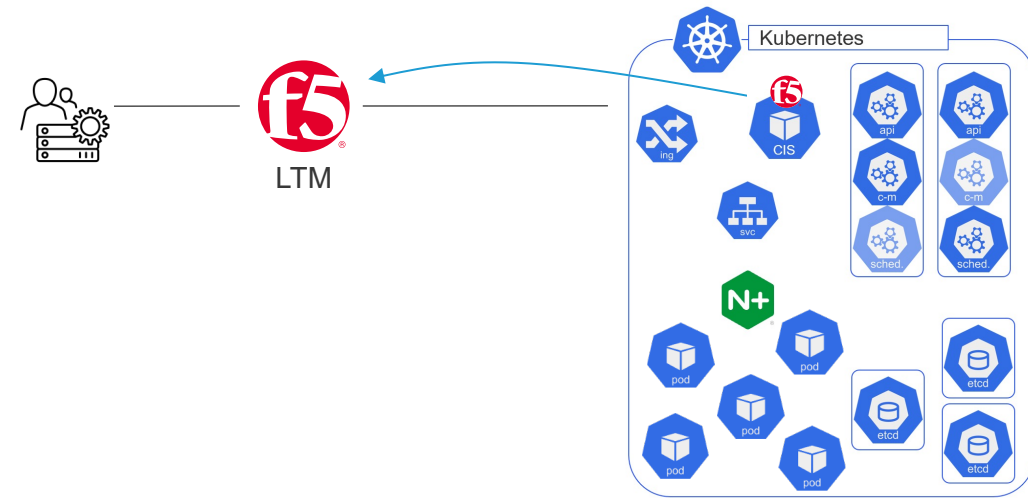
- Listen to IP address request from CIS.
- Get an IP address from the IP address pool.
- Manage the IP address pool.
- Listen to IP address return from CIS.
- Return the IP address to the IP address pool.



# What Is Next?

Human prefers FQDN than IP address.

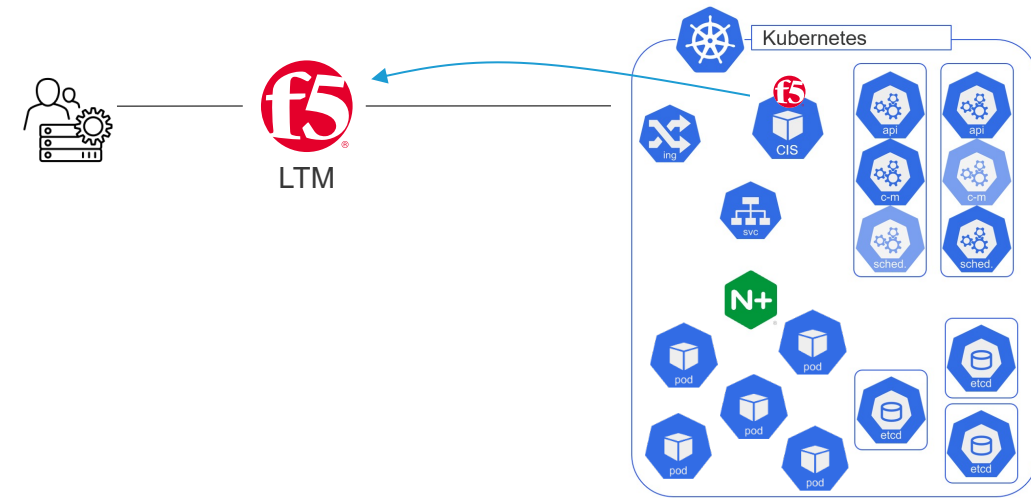
"api-1.corp1.com" vs "10.244.7.93"





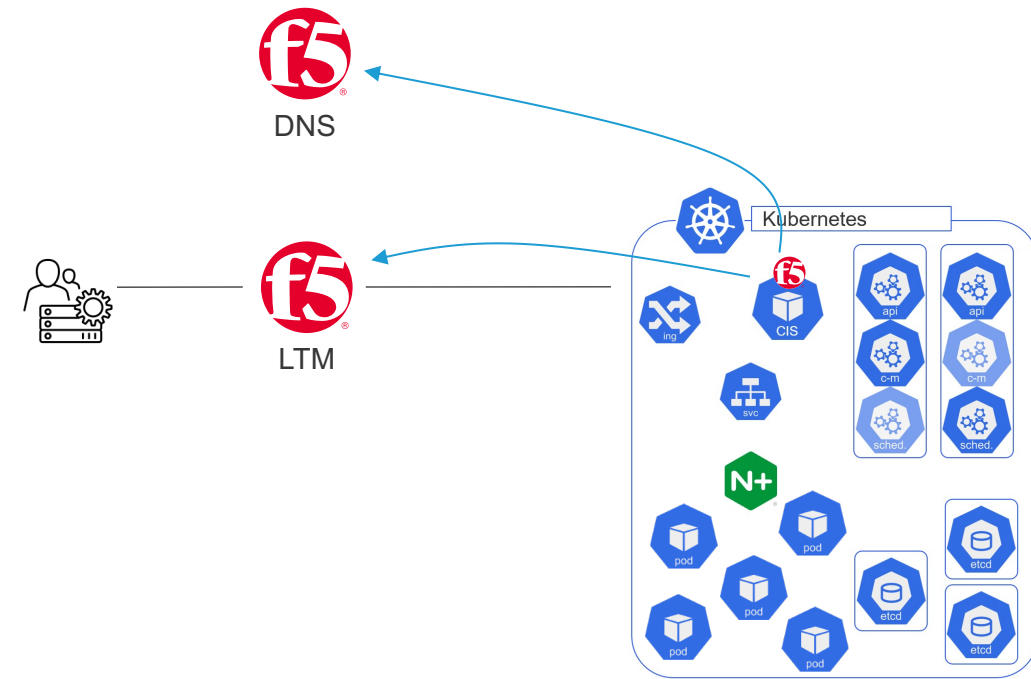
# What Is Next?

We need a DNS server which can be automated to follow pod lifecycle.



# F5 DNS, Here It Comes...

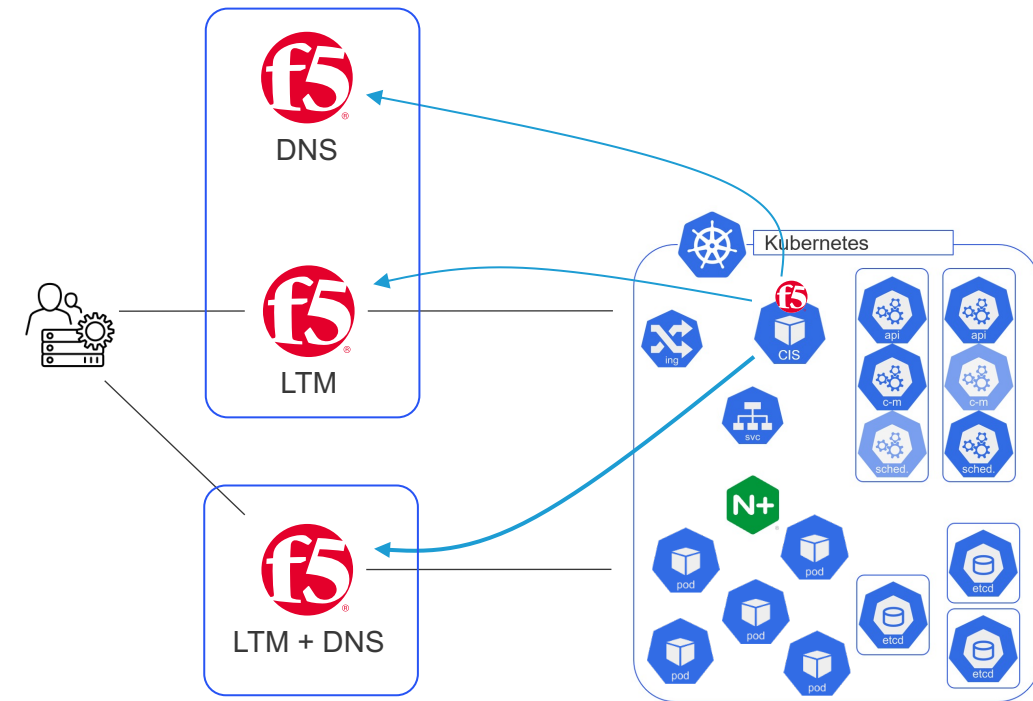
F5 provides DNS module as part of GSLB feature and can be automated as well.



# F5 DNS Deployment Options

F5 DNS can be deployed as standalone or can be deployed as add-on on top of LTM license.

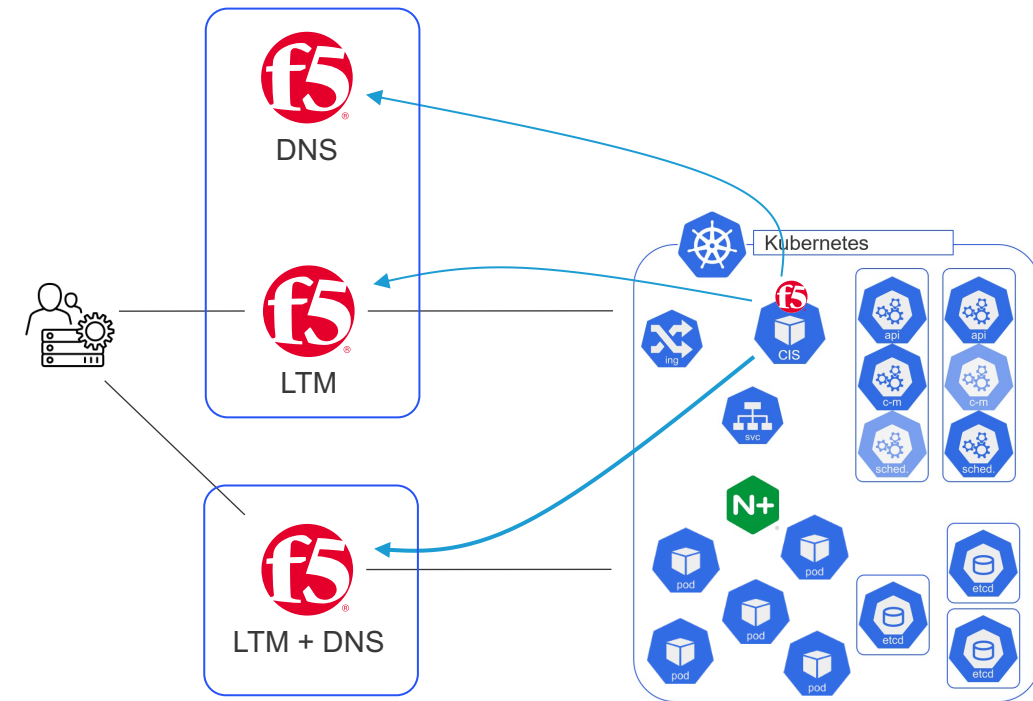
This depends on the overall network architecture.



# Automating F5 DNS using F5 CIS ExternalDNS

F5 CIS comes with internal component to handle DNS called ExternalDNS

F5 CIS ExternalDNS manage the F5 DNS entries in GSLB mode.

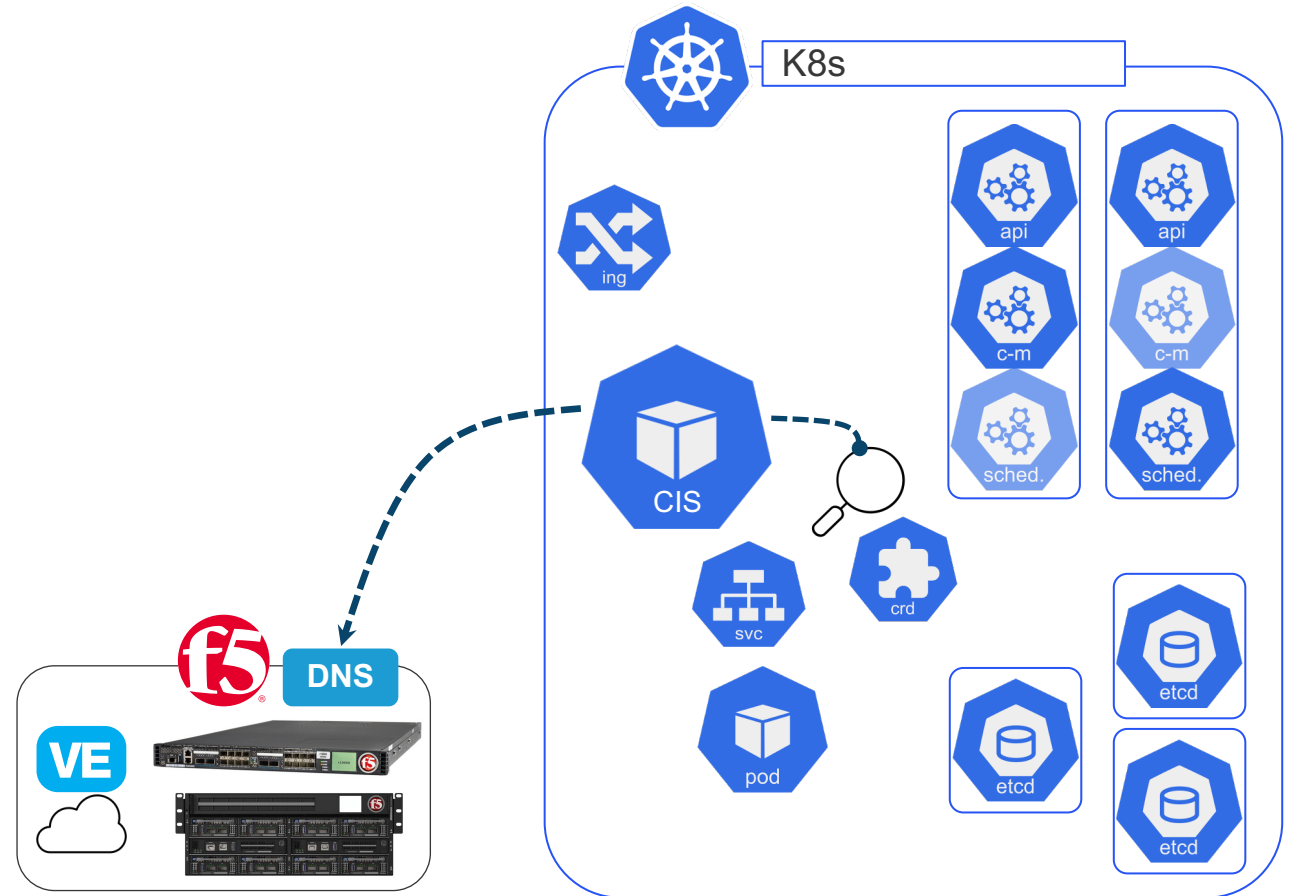


# F5 CIS ExternalDNS

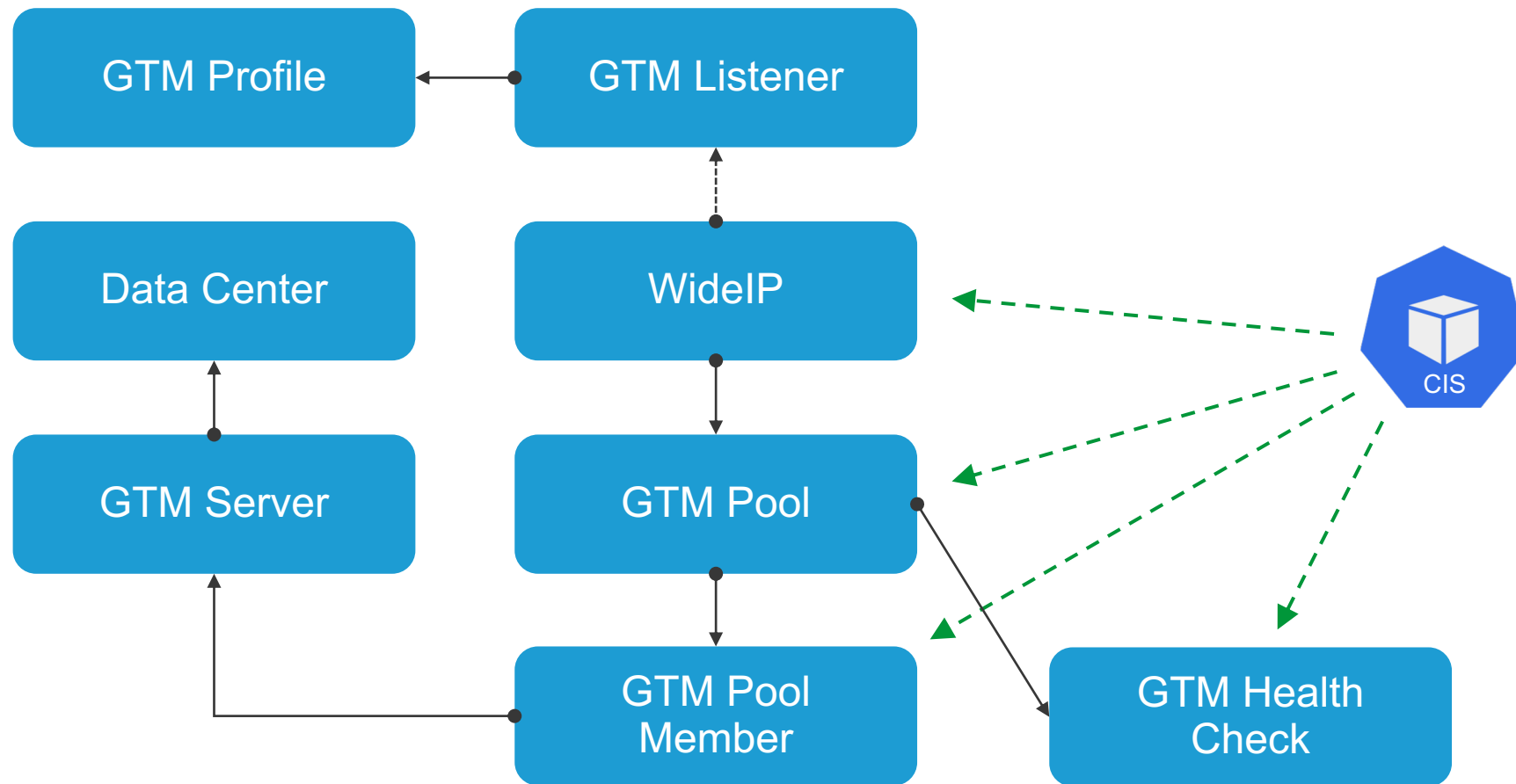
For managing the FQDN, F5 CIS use a CRD called ExternalDNS.

21 lines (21 sloc) | 458 Bytes

```
1  apiVersion: "cis.f5.com/v1"
2  kind: ExternalDNS
3  metadata:
4    name: edns-tea
5    namespace: nginx-ingress
6    labels:
7      f5cr: "true"
8  spec:
9    domainName: cafe.example.com
10   dnsRecordType: A
11   loadBalanceMethod: round-robin
12   pools:
13   - dnsRecordType: A
14     loadBalanceMethod: round-robin
15     dataServerName: /Common/east
16   monitor:
17     type: https
18     send: "GET /tea HTTP/1.1\r\nHost: cafe.example.com\r\n"
19     recv: ""
20     interval: 10
21     timeout: 30
```



# F5 GSLB Objects Automated by CIS ExternalDNS





# Lab 5 – ExternalDNS



# Summary



# What We Have Learned in This Chapter

- Understand the need of DNS management in K8s.
- Automate the GSLB configuration in F5 from K8s using F5 CIS ExternalDNS module.



# Quiz Time!!!

