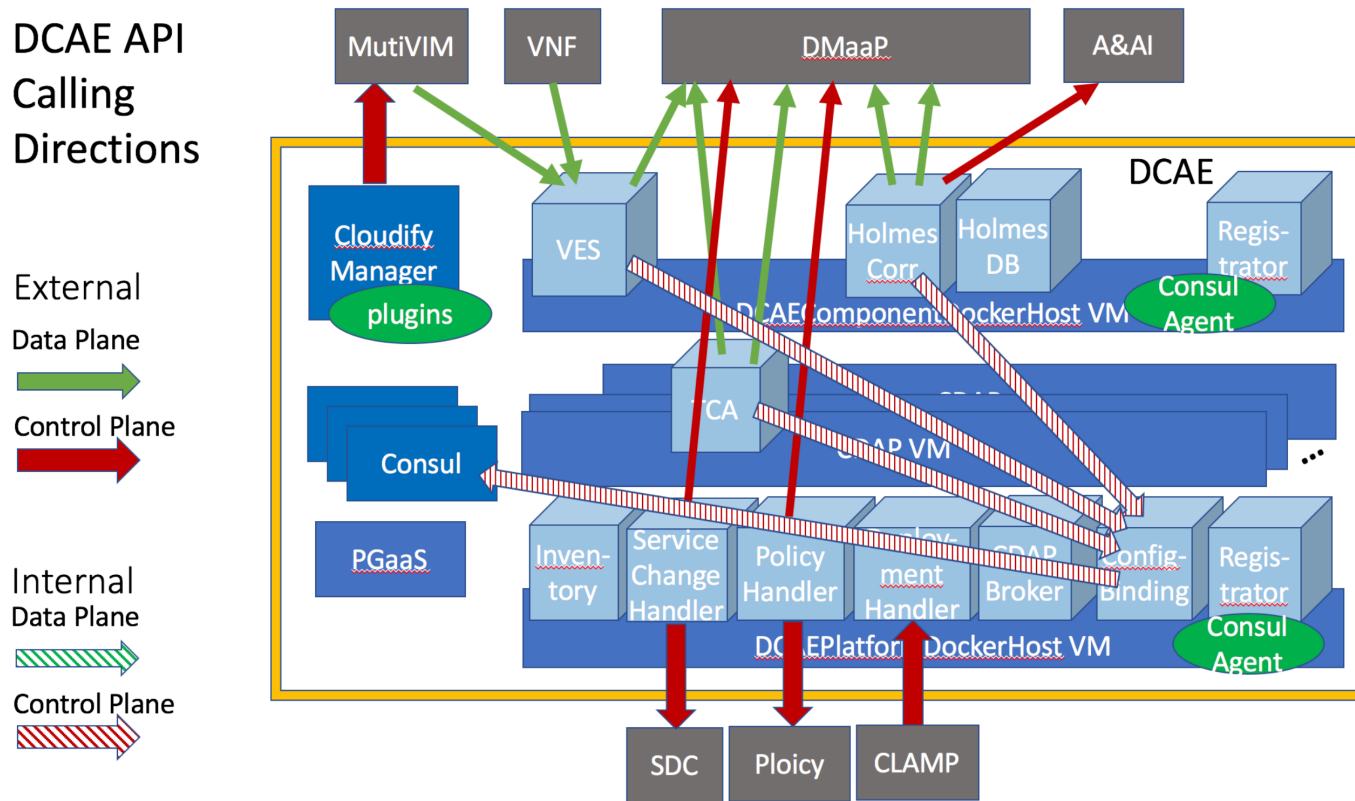




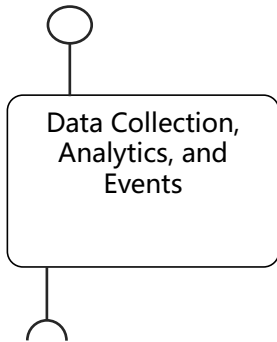
ONAP R2 DCAE Architecture Review

DCAE R1 Architecture



Data Collection, Analytics, and Events

- Data collection interface
- Deployment interface
- Config binding interface



- Data movement platform interface (DMaaP)
- Data enrichment interface (A&AI)
- Service model change interface (SDC)
- Policy interface (Policy)

Definition:

DCAE is the ONAP subsystem that supports closed loop control and higher-level correlation for business and operations activities. DCAE collects performance, usage, and configuration data; provides computation of analytics; aids in trouble-shooting and management; and publishes event, data, and analytics to the rest of the ONAP system for FCAPS functionality.

Provided Interfaces:

- Interface 1: Data collection interface (provided by DCAE collectors, consumed by VNFs and others)
 - Interface for various FCAPS data entering DCAE/ONAP.
- Interface 2: Deployment interface (provided by DCAE Deployment Handler, used by CLAMP and other northbound applications/services)
 - Interface for triggering the deployment and changes of a control loop
- Interface 3: Configuration Binding Service
 - Interface for querying the information of the services that are registered to DCAE Consul

Consumed Interfaces:

- Interface 1: Data movement platform interface (provided by DMaaP)
 - Interface for data transportation between DCAE subcomponents and between DCAE and other ONAP components
 - This interface can also be used for publishing events to other ONAP components.
- Interface 2: Data enrichment interface (provided by A&AI)
 - Interface used by DCAE collectors and analytics for querying A&AI for VNF information for the purpose of enriching collected raw data by adding information not contained in original data.
- Interface 2: Service model change interface (Provided by SDC)
 - Interface for DCAE Service Change Handler fetching control loop models and model updates.
- Interface 4: Policy interface (Provided by Policy)
 - Interface for DCAE Policy Handler fetching configuration and operation policies on control loop and control loop components from Policy.

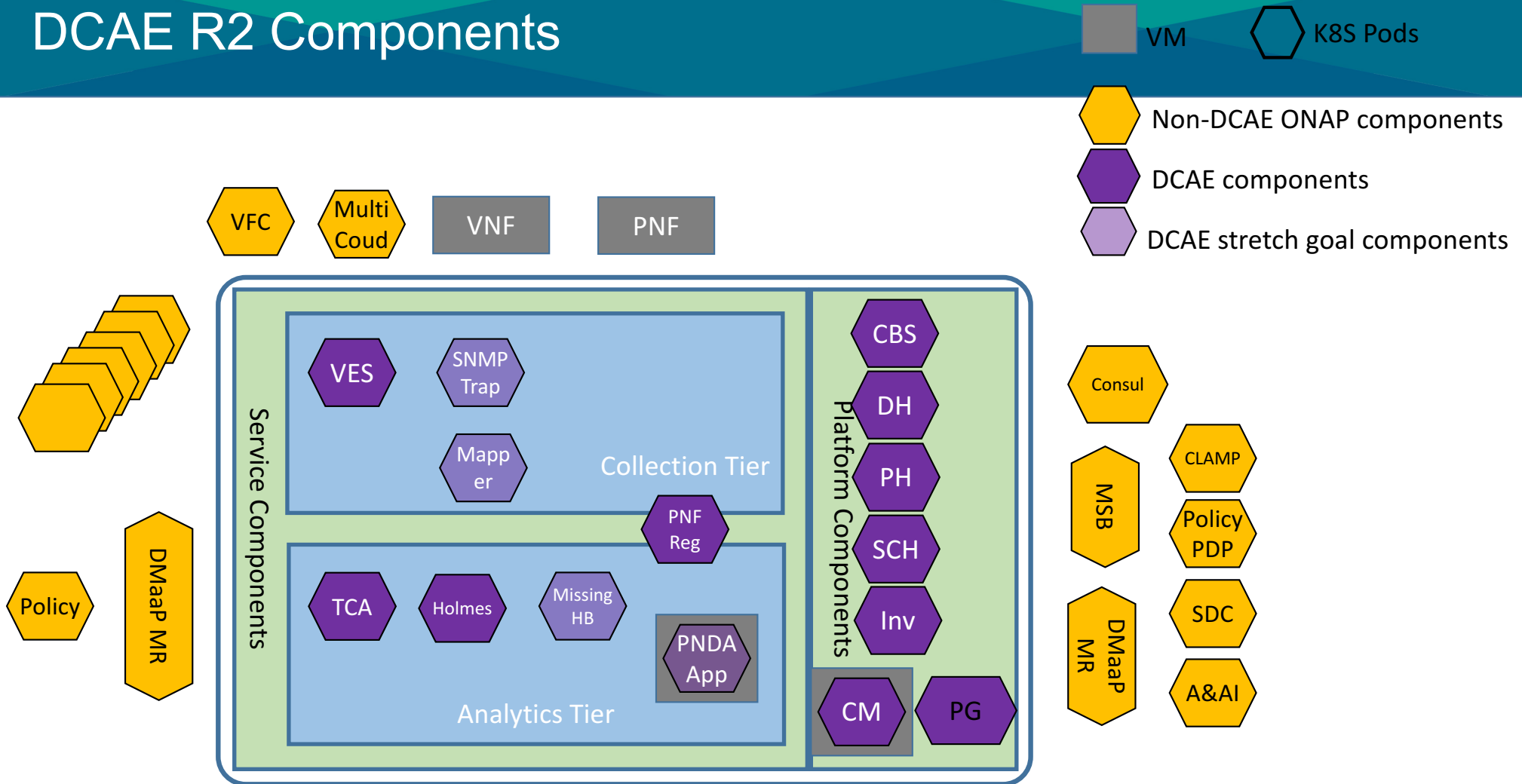
Consumed Models: TOSCA models describing control loop construction (e.g. collection and analytics apparatus)



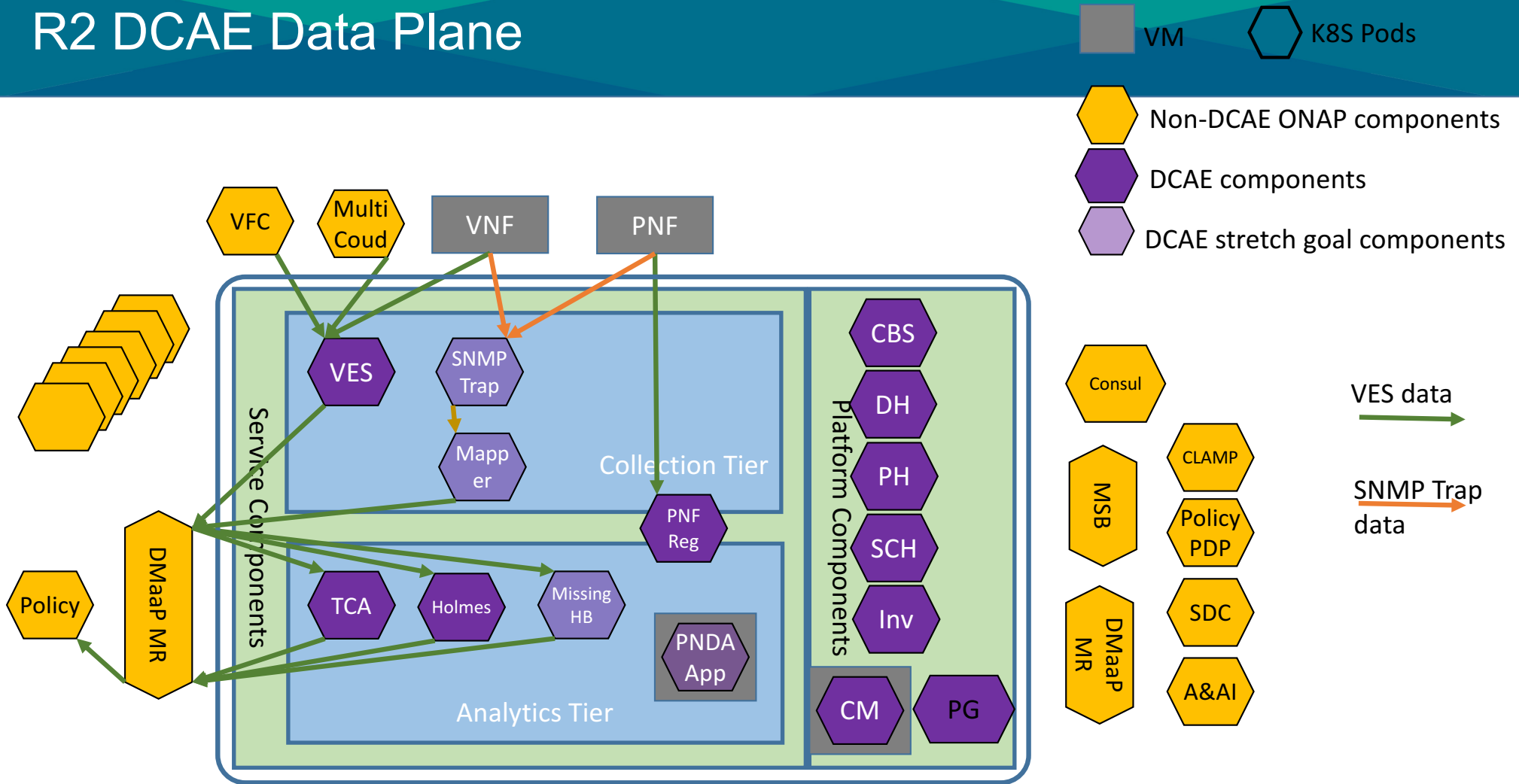
- Delta since R1

- Changes for core components needed for supporting R2 use stories
 - Moving to container/Kubernetes
- New component needed for R2 use stories
 - PNF Registration Handler for PNF onboarding
- Stretch goals, additional component expanding DCAE collection and analysis portfolio, but not needed for R2 use stories.
 - Analytics
 - PNDA
 - Collection
 - SNMP trap collector
 - Microservices
 - Mapper
 - Missing heartbeat

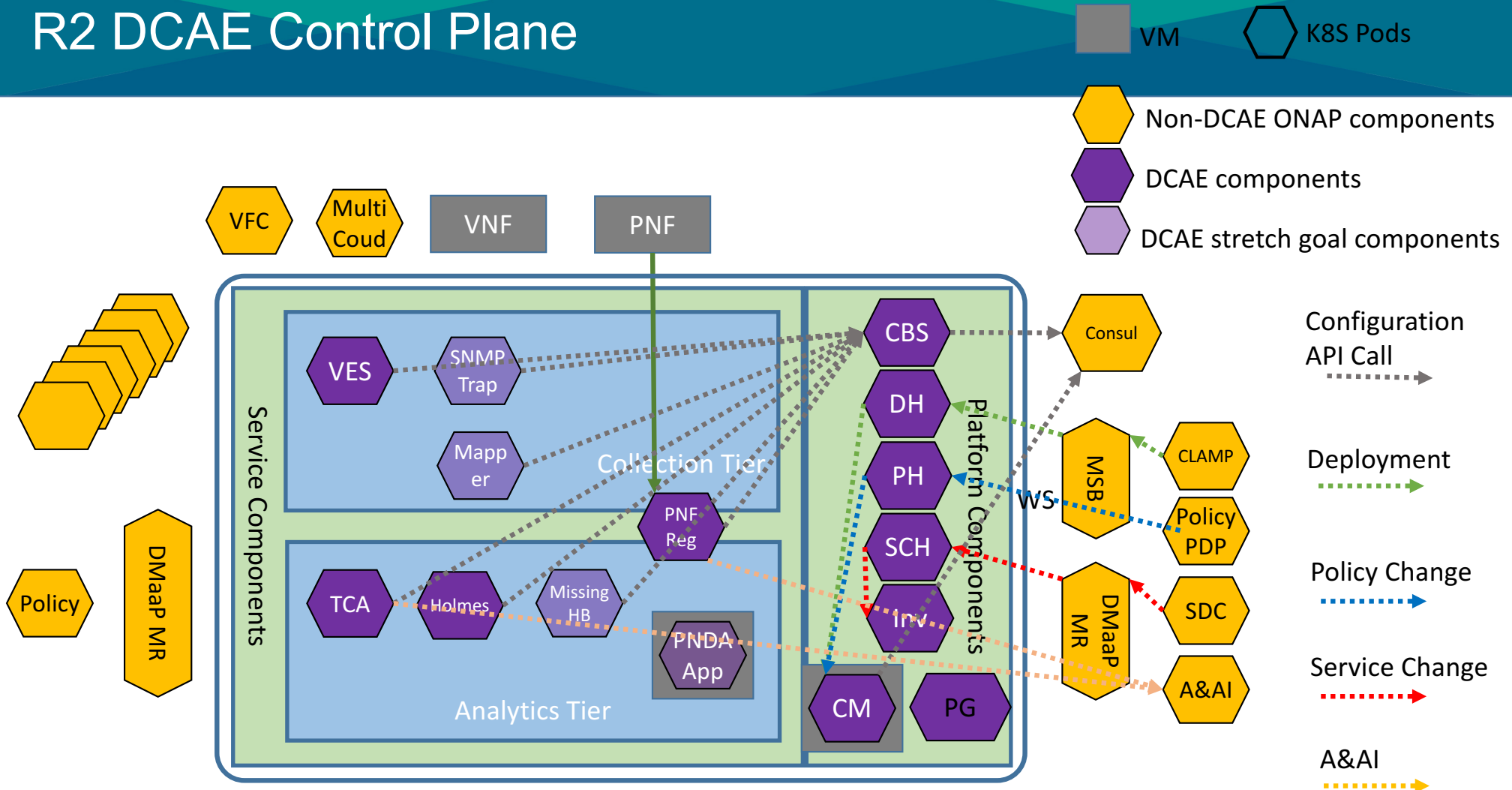
DCAE R2 Components



R2 DCAE Data Plane



R2 DCAE Control Plane



DCAE S3P

- ONAP DCAE developed components will attain R2 platform maturity goals by containerization and container composition into Kubernetes pods/services.
 - Component resilience will be supported by Kubernetes resilience support
 - Using persistent volume
 - Scalability
 - Stateless platform components are individually scalable by scaling Kubernetes ReplicaSet
 - CBS, DH, PH, SCH, Inv, VES
 - States maintained in ONAP Consul cluster, which is scalable.
 - Data plane scalability supported by scaling collector-analytics pairs, each is associated by its own DMaaP topic
 - Logging
 - EELF logging
 - Filebeat sidecar container packed with function container for shipping logs to centralized ELK stack