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Policy CLAMP ACM

Automation Composition Lifecycle Management

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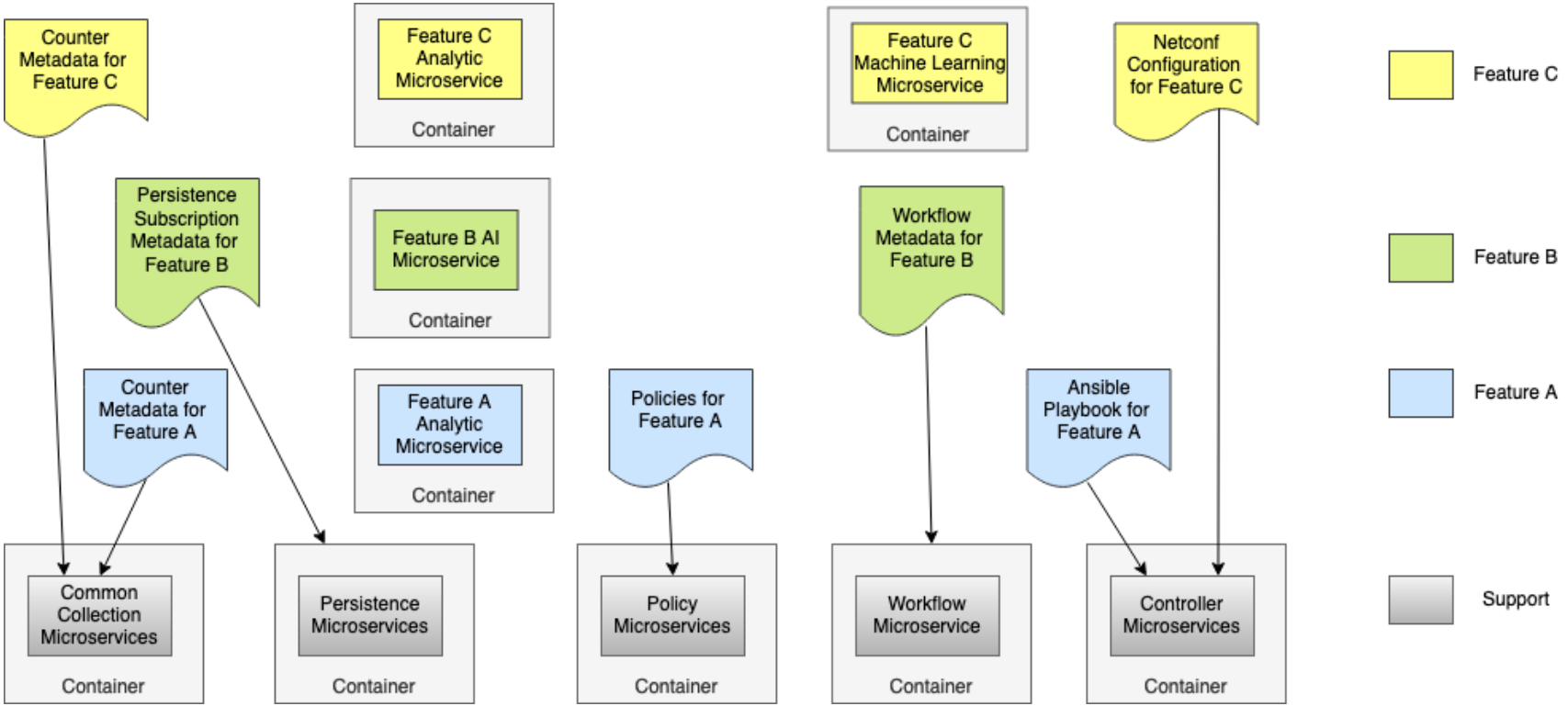
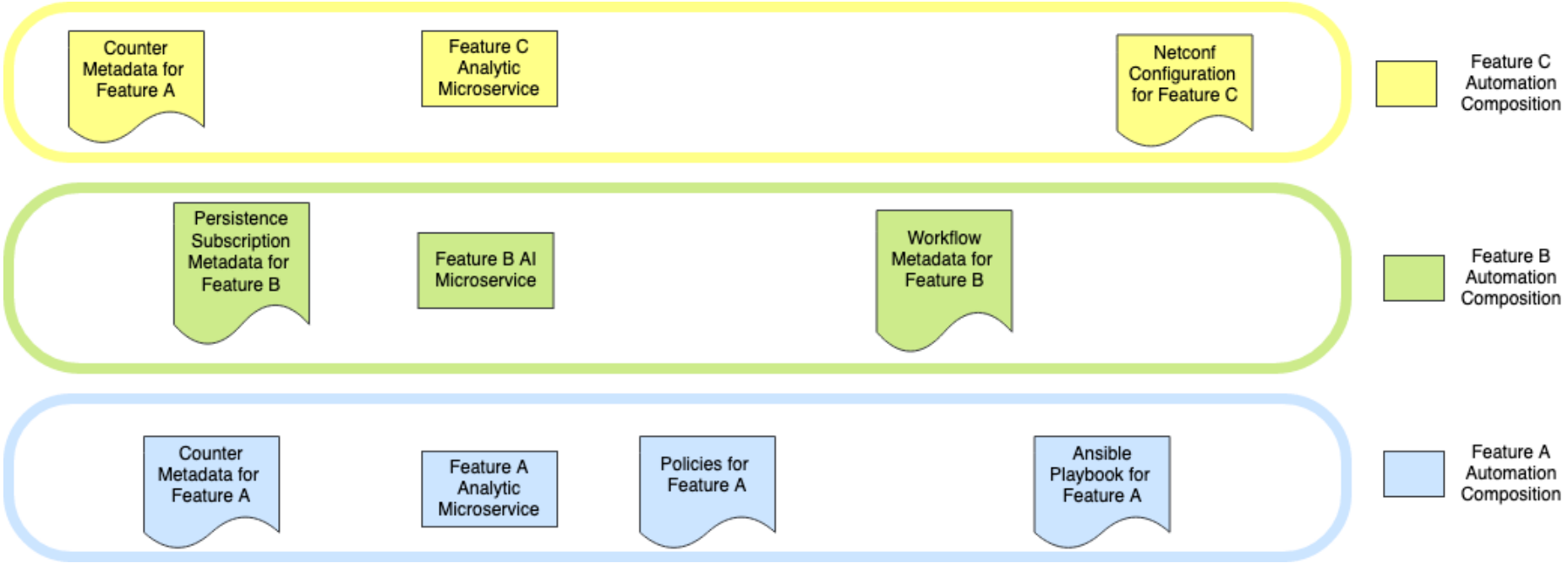
What is CLAMP ACM?

Collections of Components Delivering Features



Automation Compositions



Automation Composition Management

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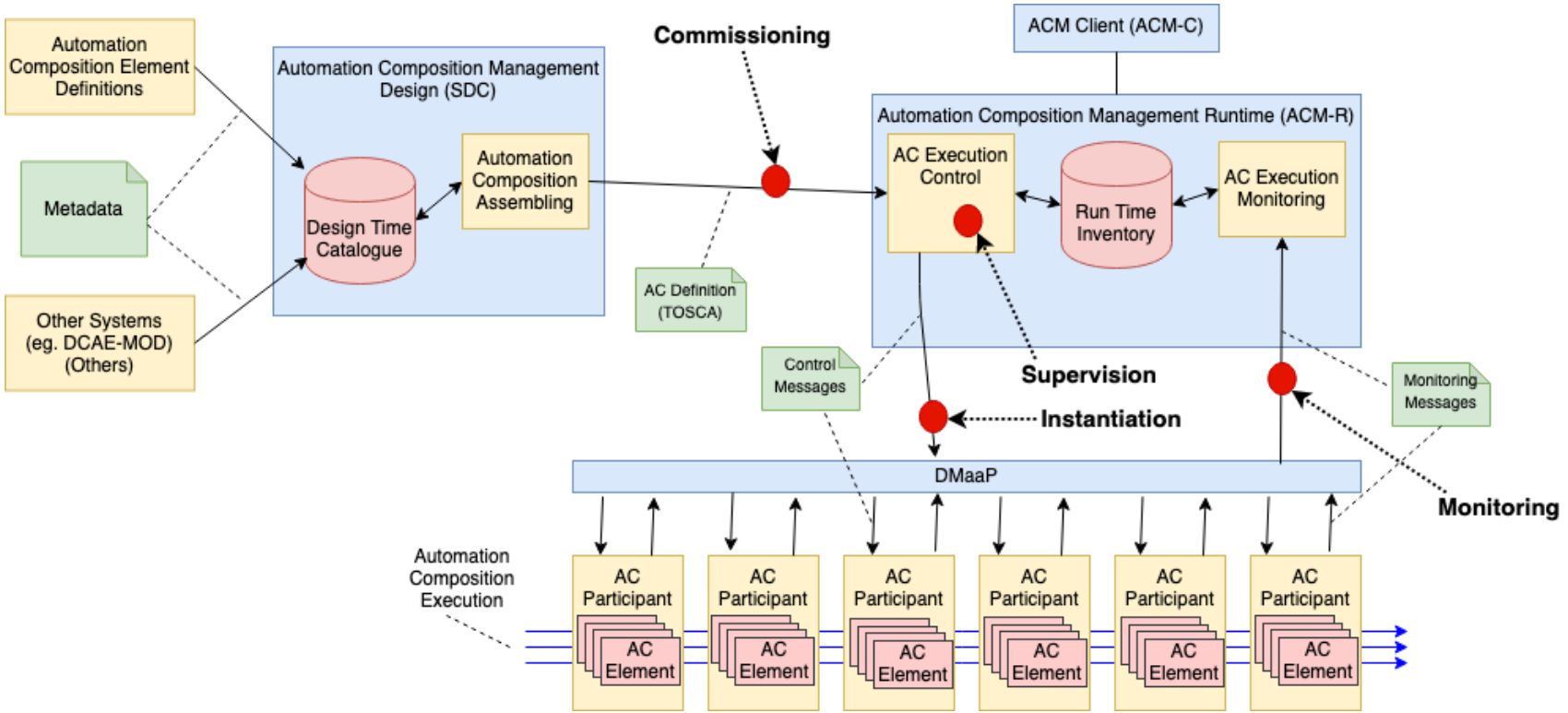
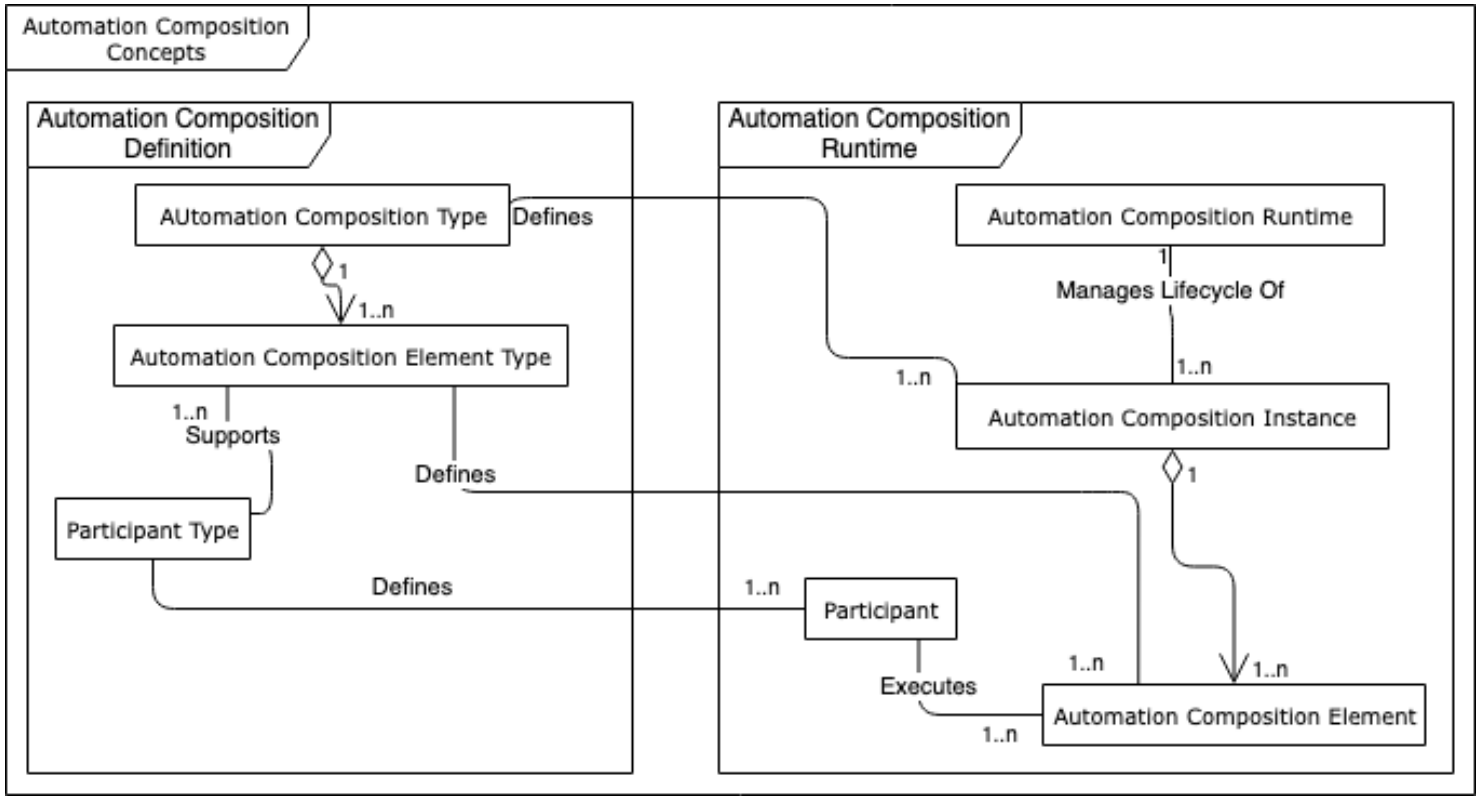
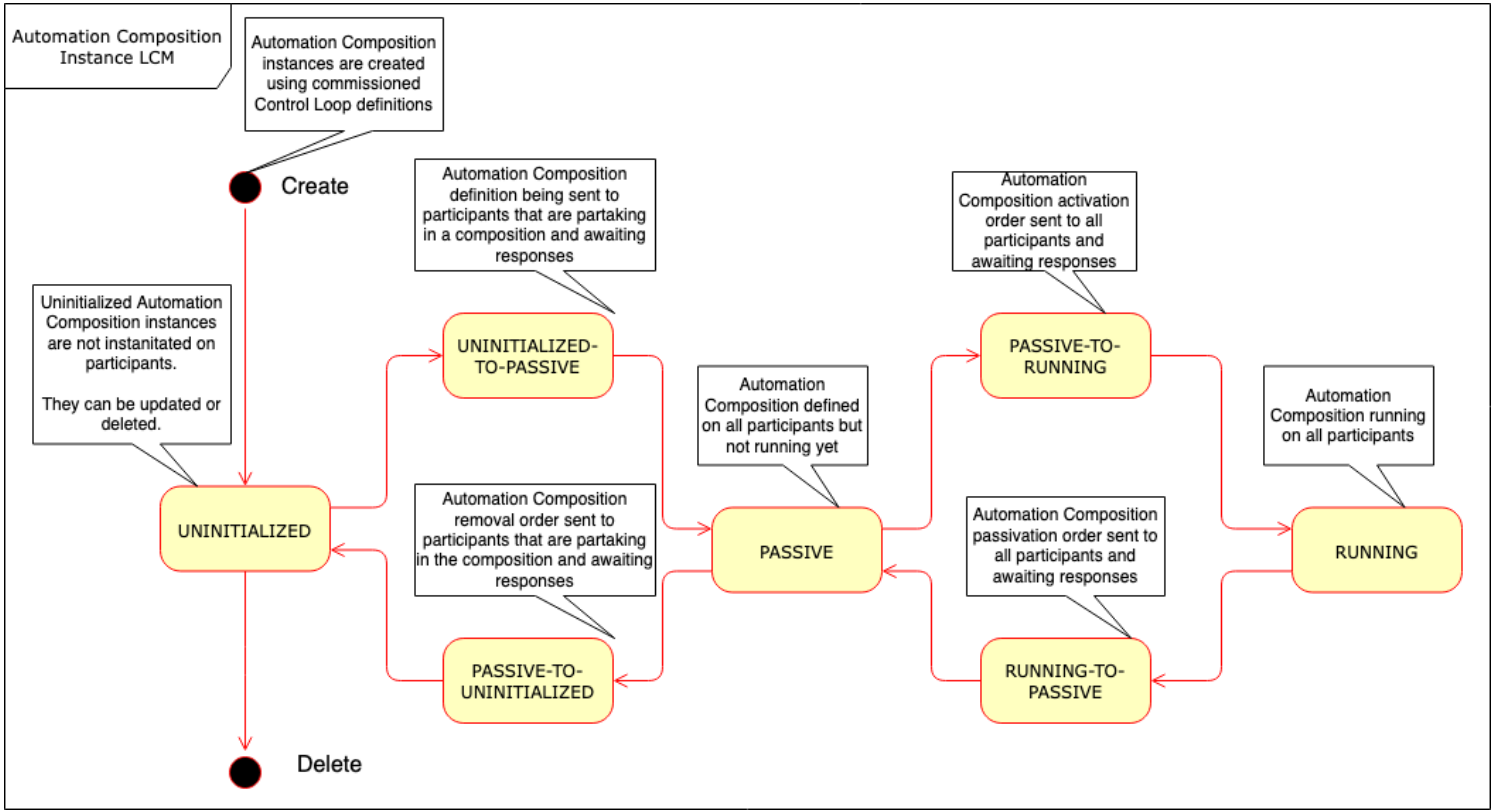


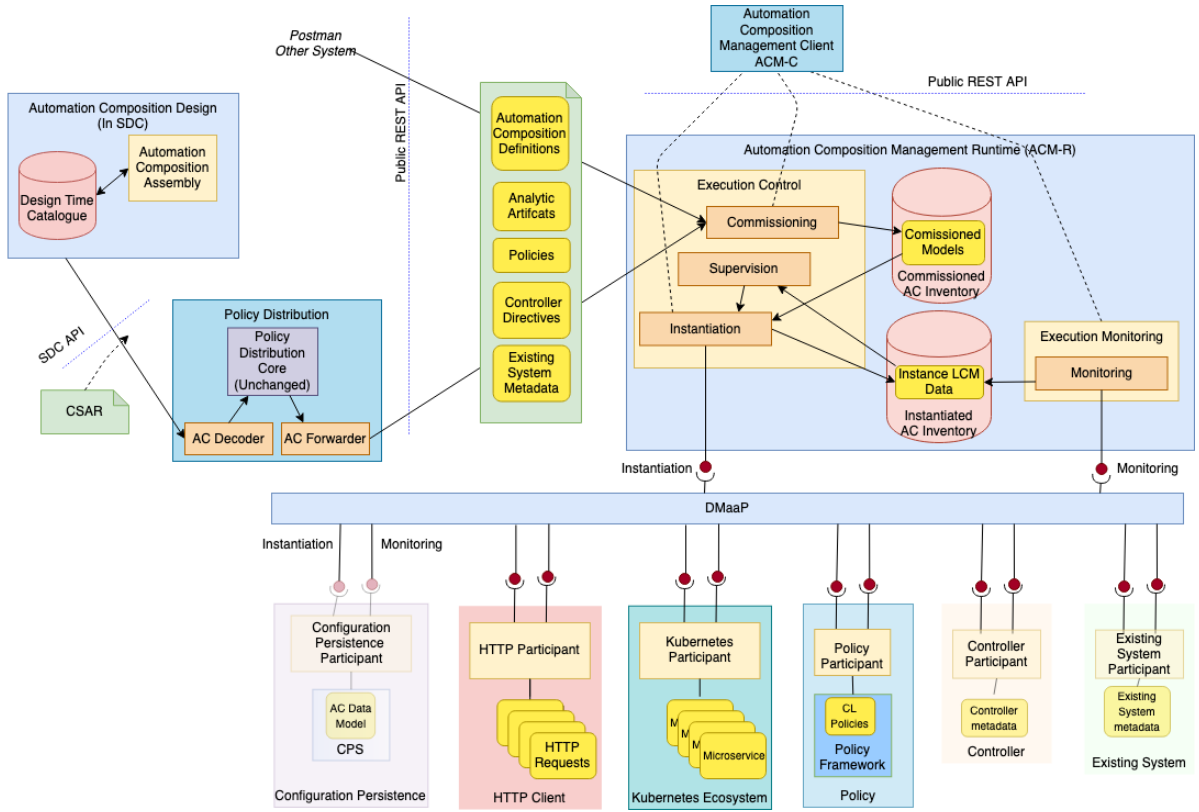
Automation Composition Concepts



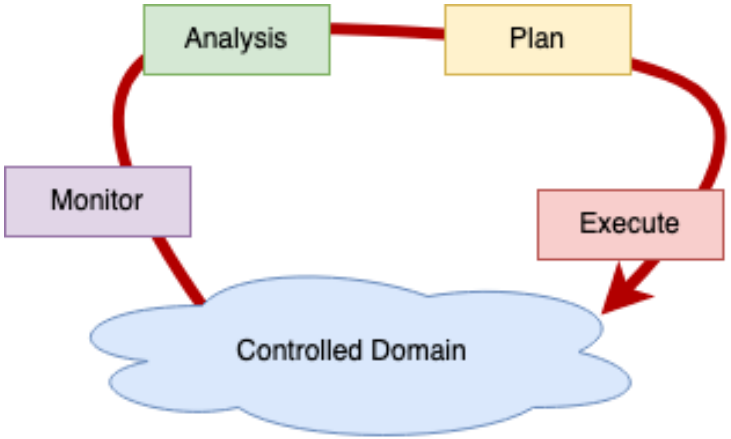
Lifecycle Management States in ACM



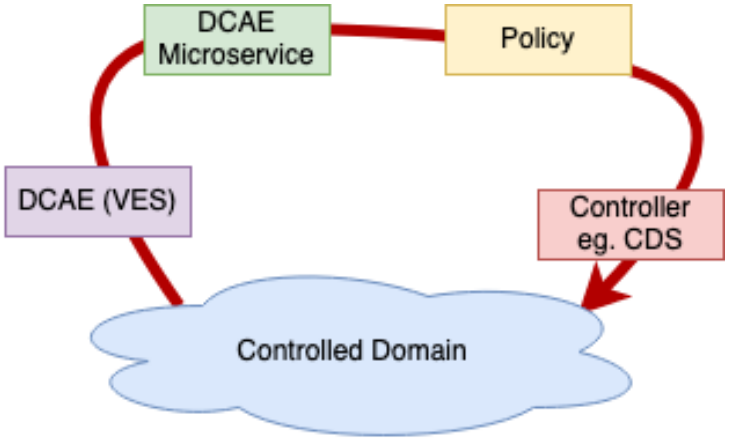
ACM Detailed Architecture



Control Loops are Compositions



MAPE Reference Control Loop (as defined by IBM)



ONAP Control Loop Architectural Pattern

What is Supported?

- Managing the definition of Automation Compositions
- Managing Automation Composition Commissioning and Decommissioning
- Managing the parametrization of Automation Compositions
- Managing the Automation Composition life cycle
  - Instantiation
  - Status Monitoring
  - State Change

Scalability and Resilience

- The CLAMP ACM runtime is stateless, state preserved in database
- Participant communication is asynchronous and state handling is designed to be “eventually consistent”
- Participants cooperate with the CLAMP runtime, all updates to participants and state change requests are supervised
- More than one CLAMP ACM runtime can be deployed and REST/supervision operations on ACM Instances can run in parallel
- Many participants of a particular type can exist, load balancing can be done by the CLAMP runtime and/or independently by participants

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ACM Demo
PMSH Use Case

PMSH Automation Composition

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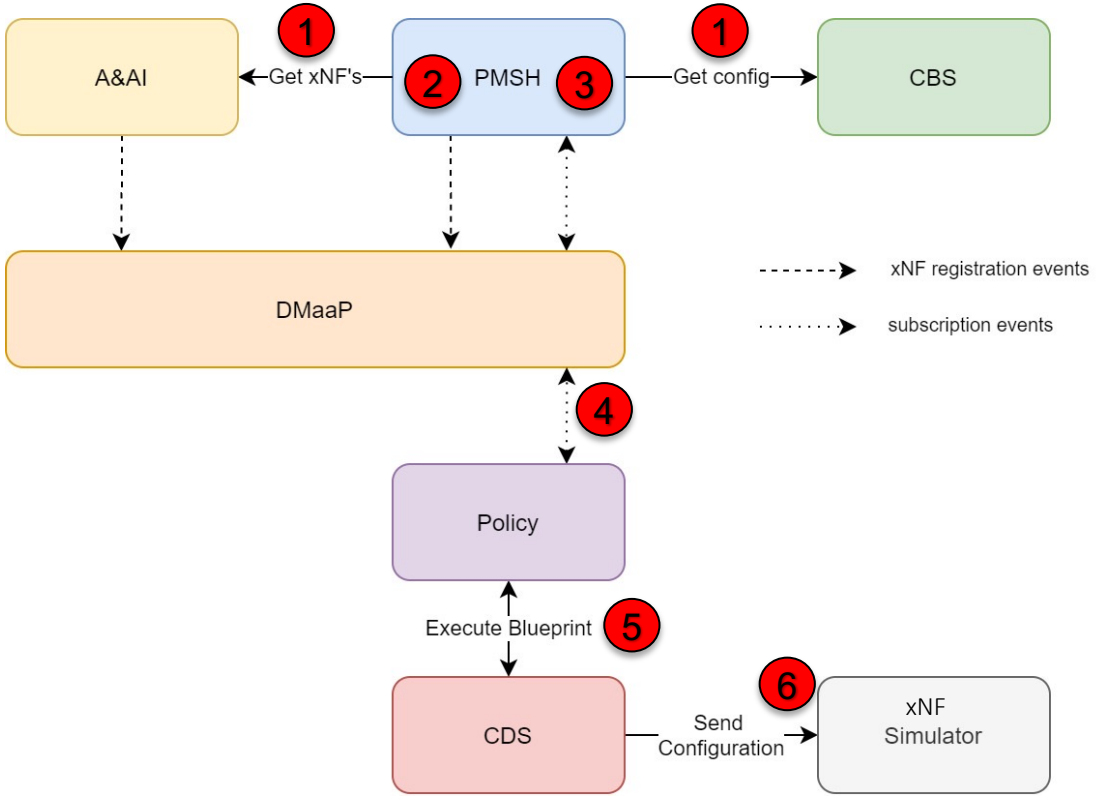
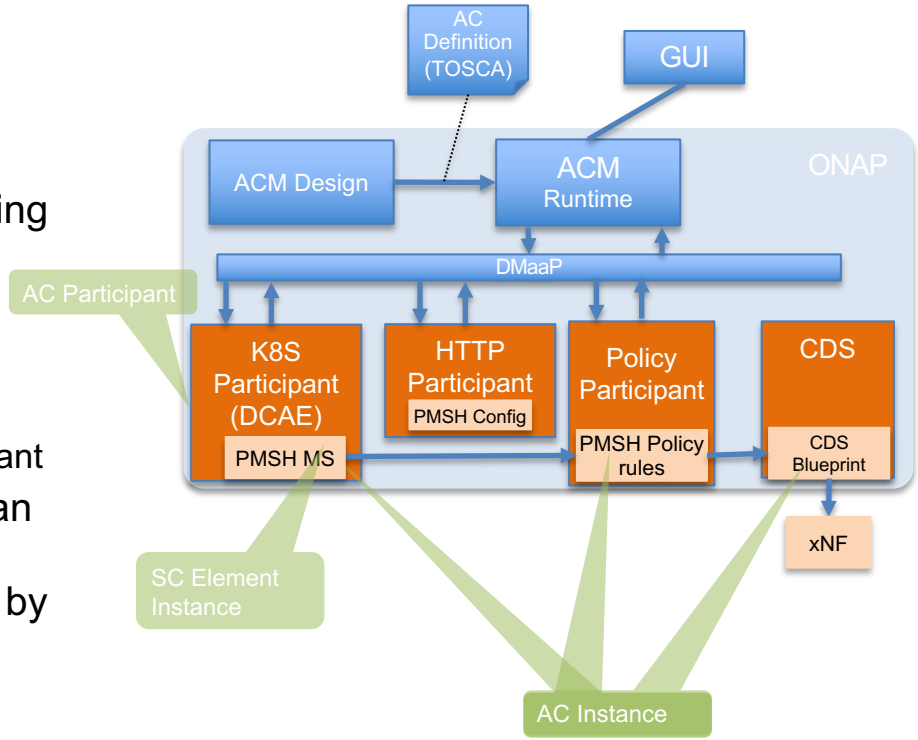
1) PMSH uses CBS for new xNFs or for config changes
2) If a change is detected, PMSH fetches xNF information from A&AI and triggers a control loop execution
3) PMSH prepares a subscription change
4) PMSH sends subscription change to Policy
5) Policy executes blueprint on CDS
6) CDS sends new configuration to xNF (Simulated in the demo)



LCM of PMSH Automation Composition

1. Control Loop Definition is Commissioned into Runtime
2. Control Loop instance is created and parameterized
3. Control Loop Instance is instantiated by changing its state to Passive:
   a. PMSH microservice is created in DCAE using the K8S Participant
   b. PMSH microservice is configured using the HTTP Participant
   c. PMSH Policy is deployed using the Policy Participant
4. Control Loop Instance is now in service and can be triggered and executed
5. Control loop instance is brought out of service by changing its state to Uninitialized
6. Control Loop instance is removed



Demonstration

See the LFN Developer Event Minutes page for this session

Available resources

- A recording of this entire session
- The session slides
- A recording of the demo

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2.7-SNAPSHOT-latest

Summary

Summary

- TOSCA defined Control Loop functionality is now released and is available in ONAP
- SDC support, support for more use cases, and improvements are coming in Jakarta
- Proposal to generalize the approach as “Automation Composition Management”
- Intention to create a PoC in ETSI ZSM to show the benefits of ONAP’s closed loop solution and compliance with ZSM specifications. See session on TCC Generic Network Management on Thursday
- Functionality is available for use in your Control Loop use case
- Full documentation is available in the ONAP documentation here
- Contact us anytime on the Policy Framework channels for more information

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