PoC: TOSCA Defined Control Loops *REQ-402*

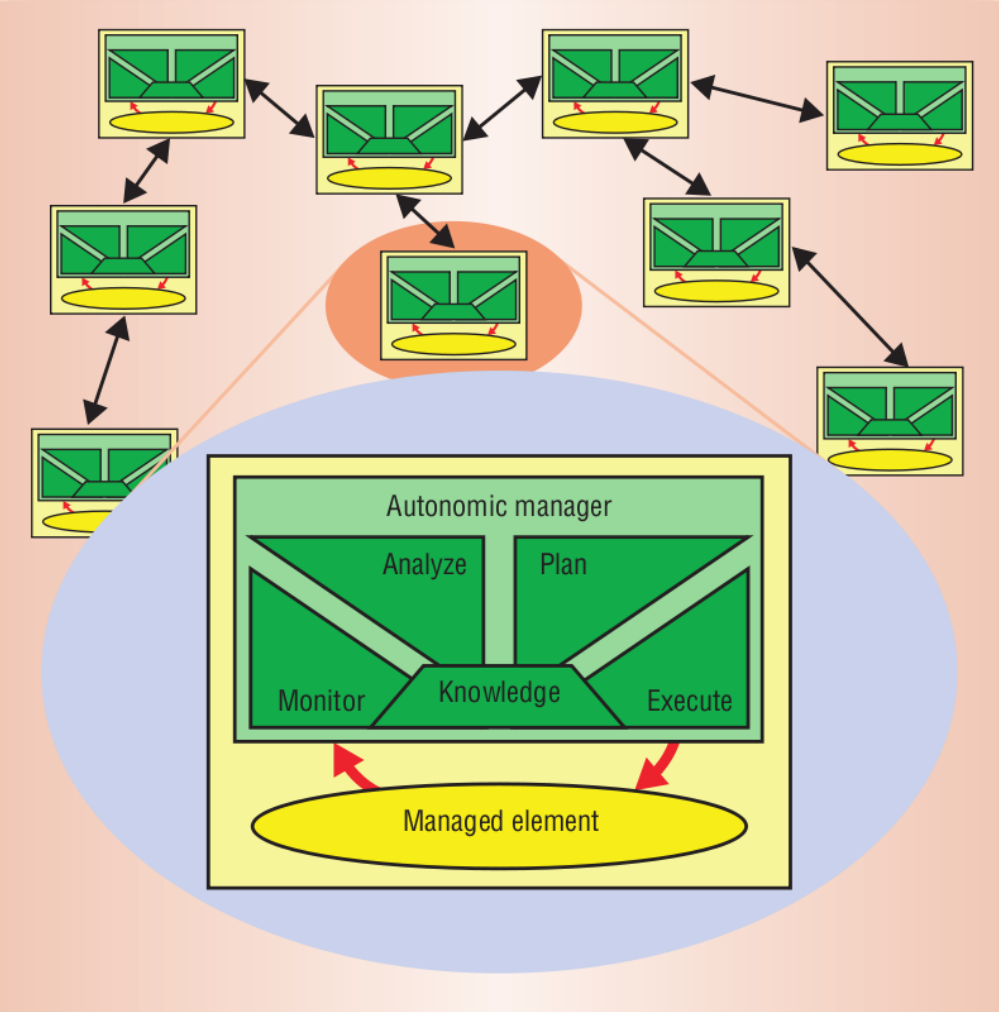
ONAP Architecture Committee Presentation

14th July 2020

Agenda

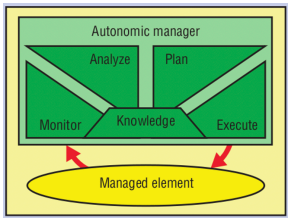
- Background
- Control Loops in ONAP Today
- Control Loops: Future roadmap
- PoC: TOSCA Defined Control Loops

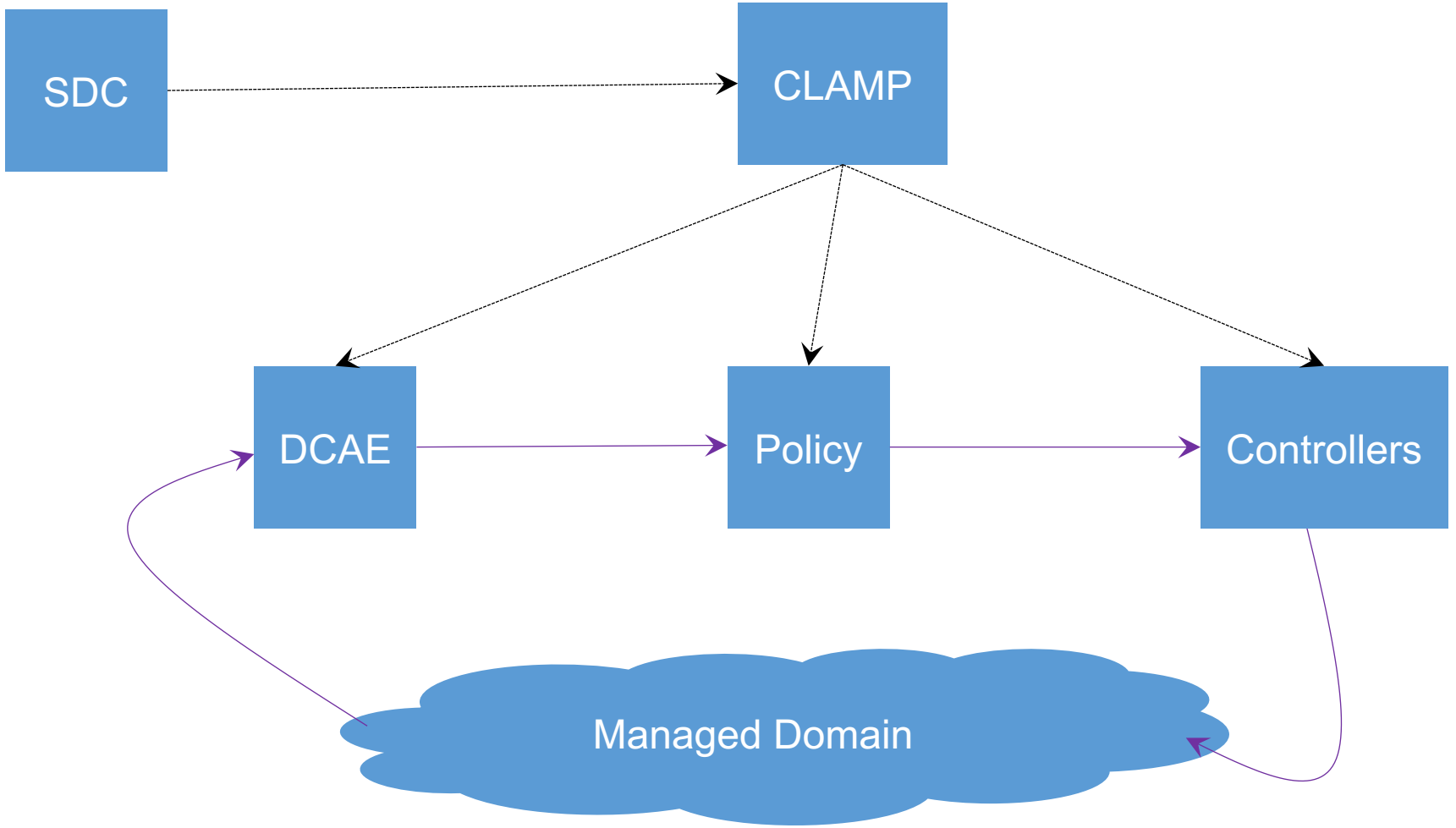
Back to our roots: Autonomic Management



- Monitor (the DC in DCAE)
- Analyse (The AE in DCAE)
- Plan (Policy)
- Execute (Controllers)

The Classic ONAP Approach to Control Loops

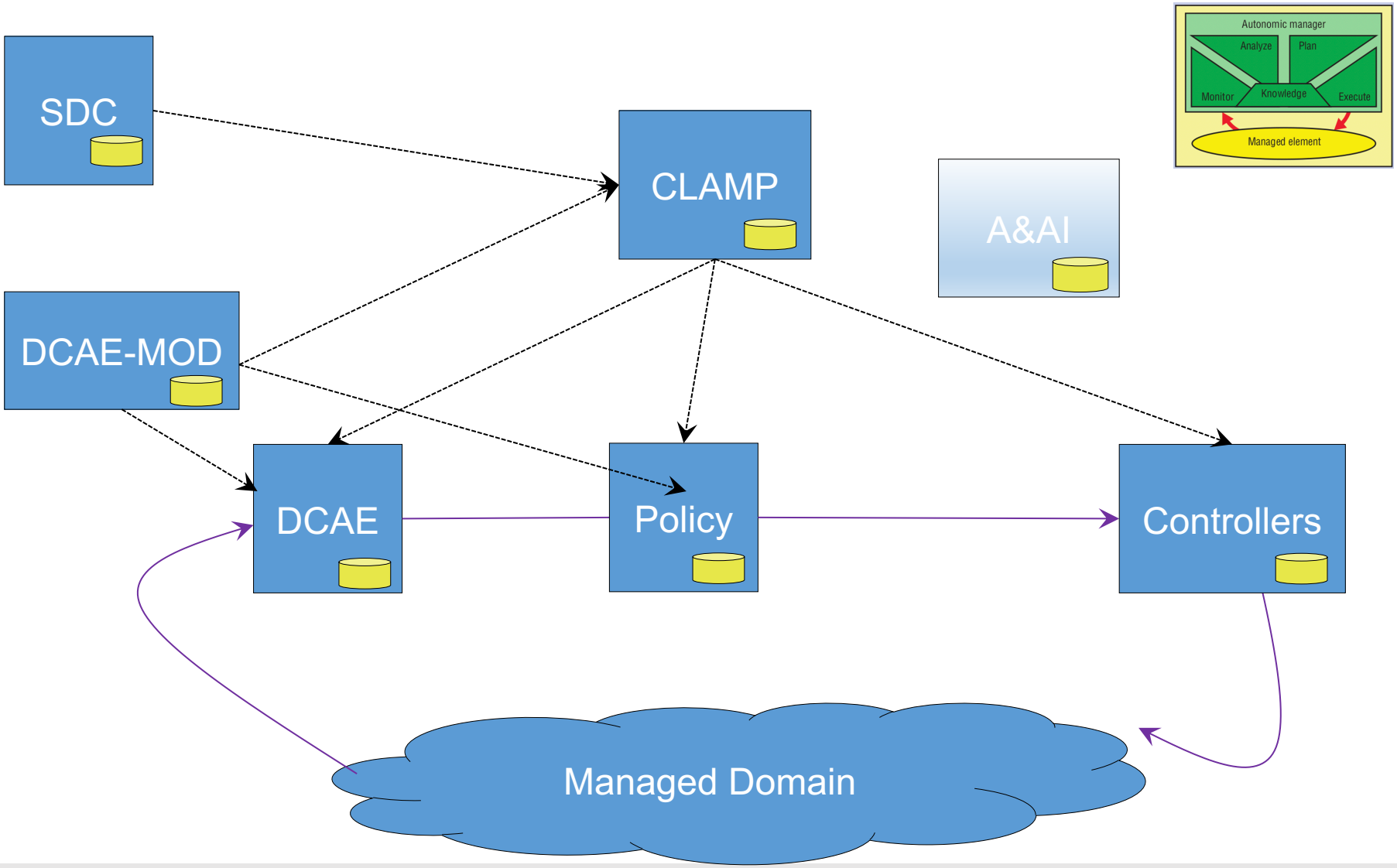




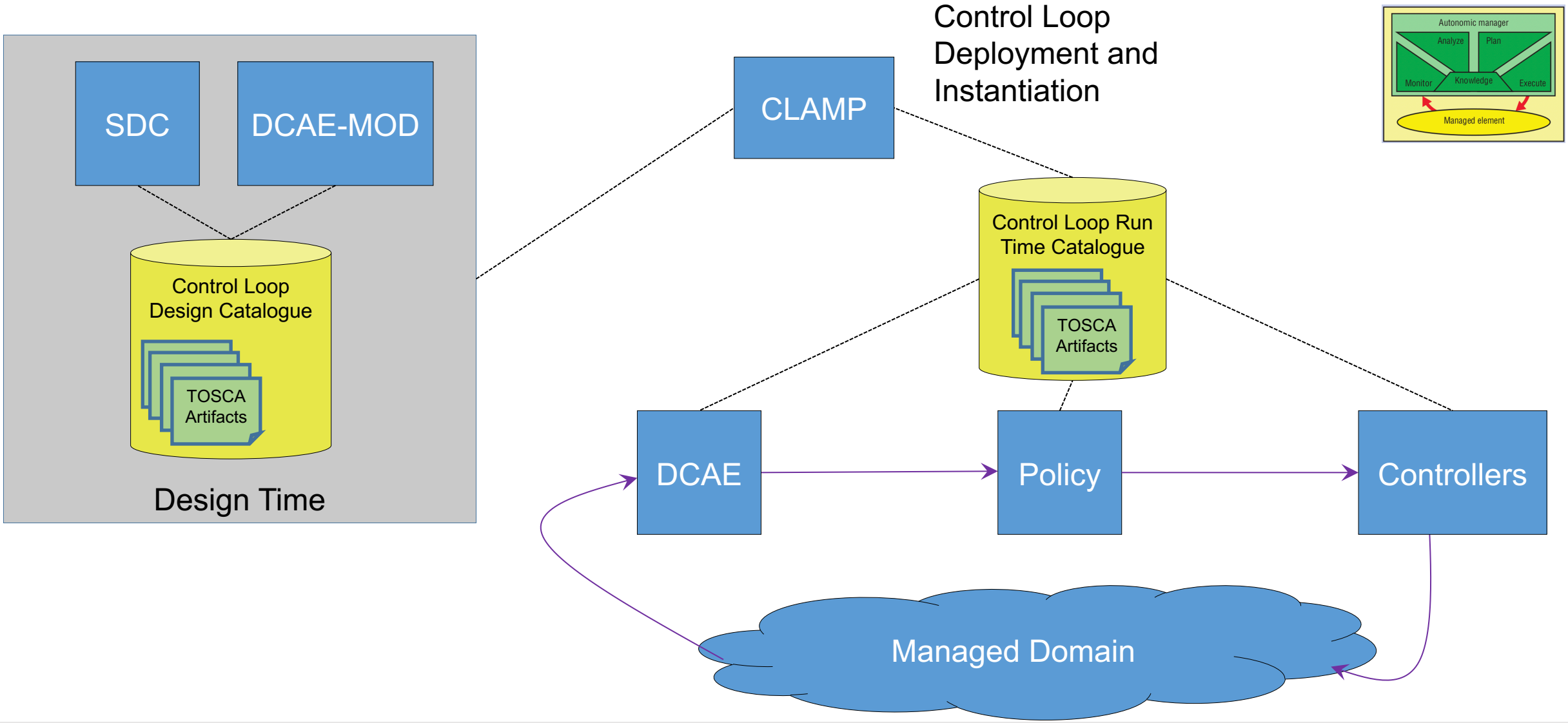
But…. where is the “Knowledge”?

We need to think about **Control Loop** information

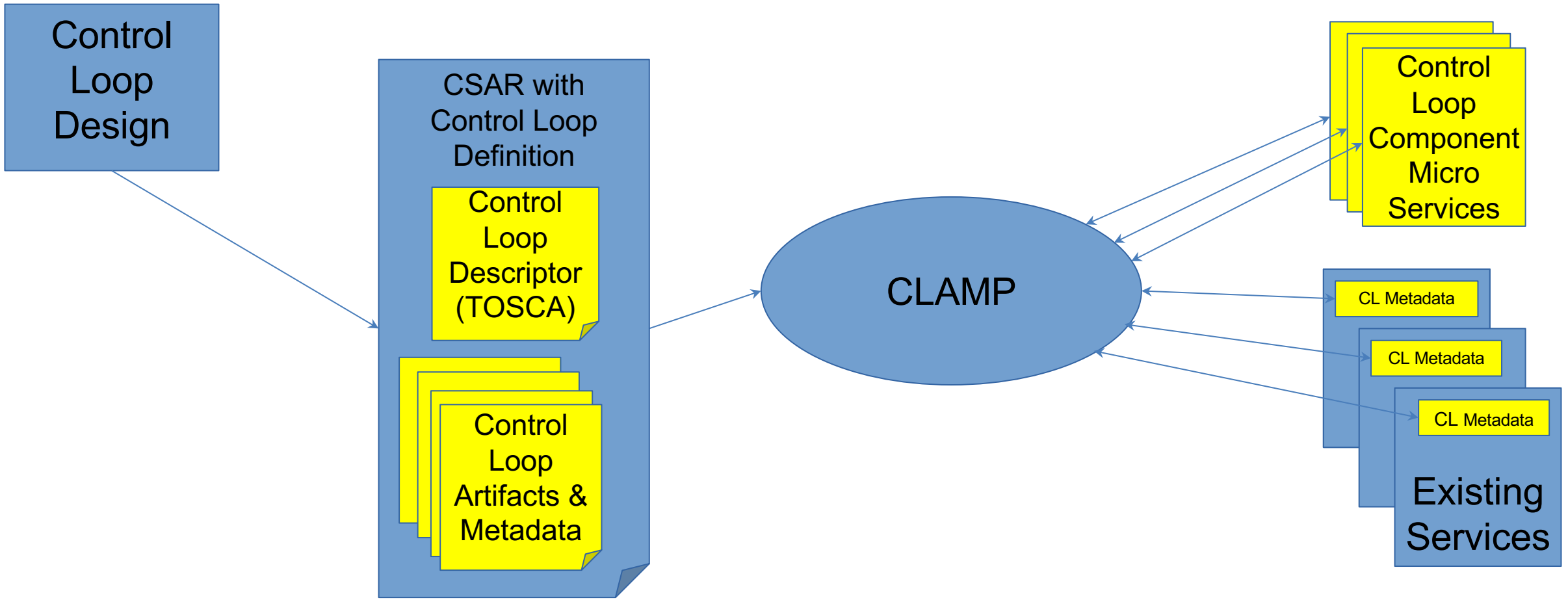
- Control Loops as first class citizens in ONAP
- Management of Control Loops at **design time** and **run time**
- Control loop participants need to use **common** knowledge



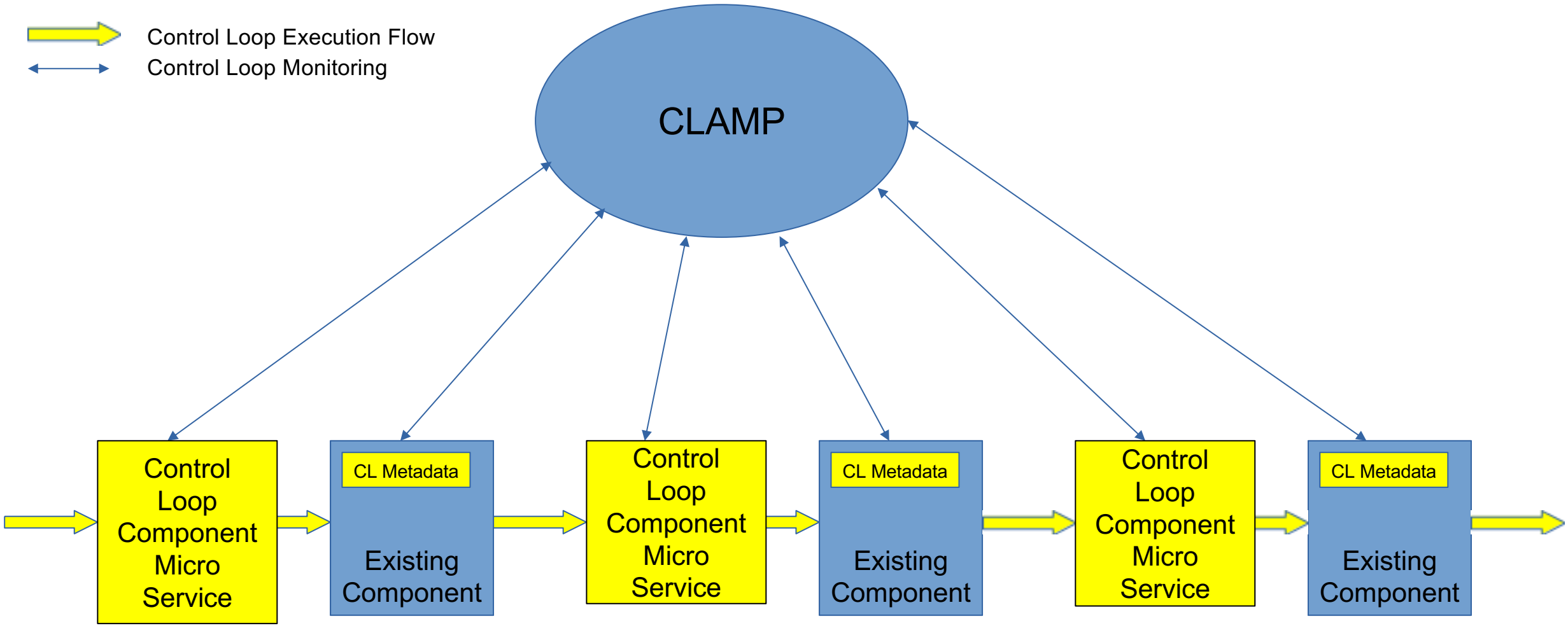
Catalogues: Native TOSCA in Long Term



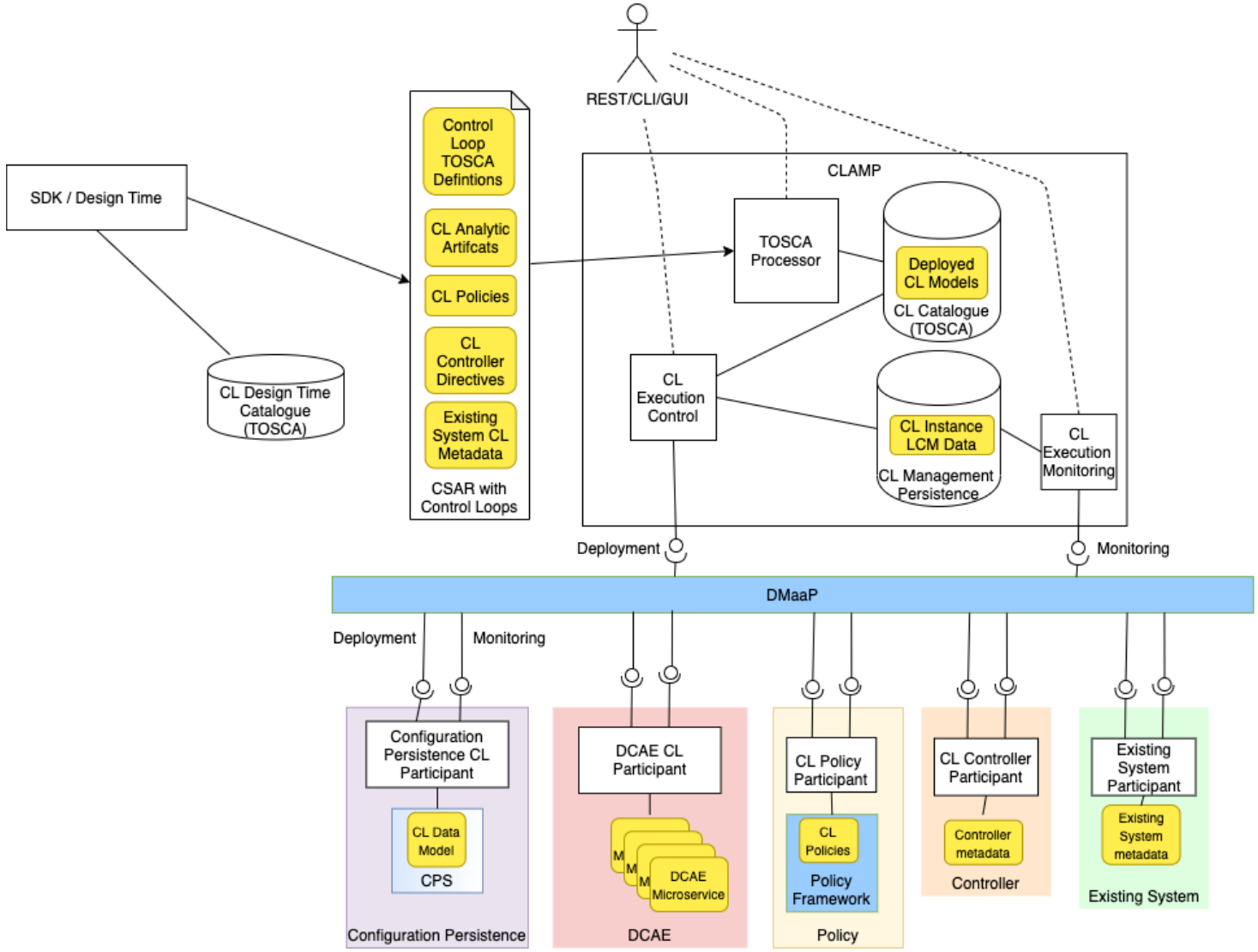
Deployment of Control Loops in Long Term



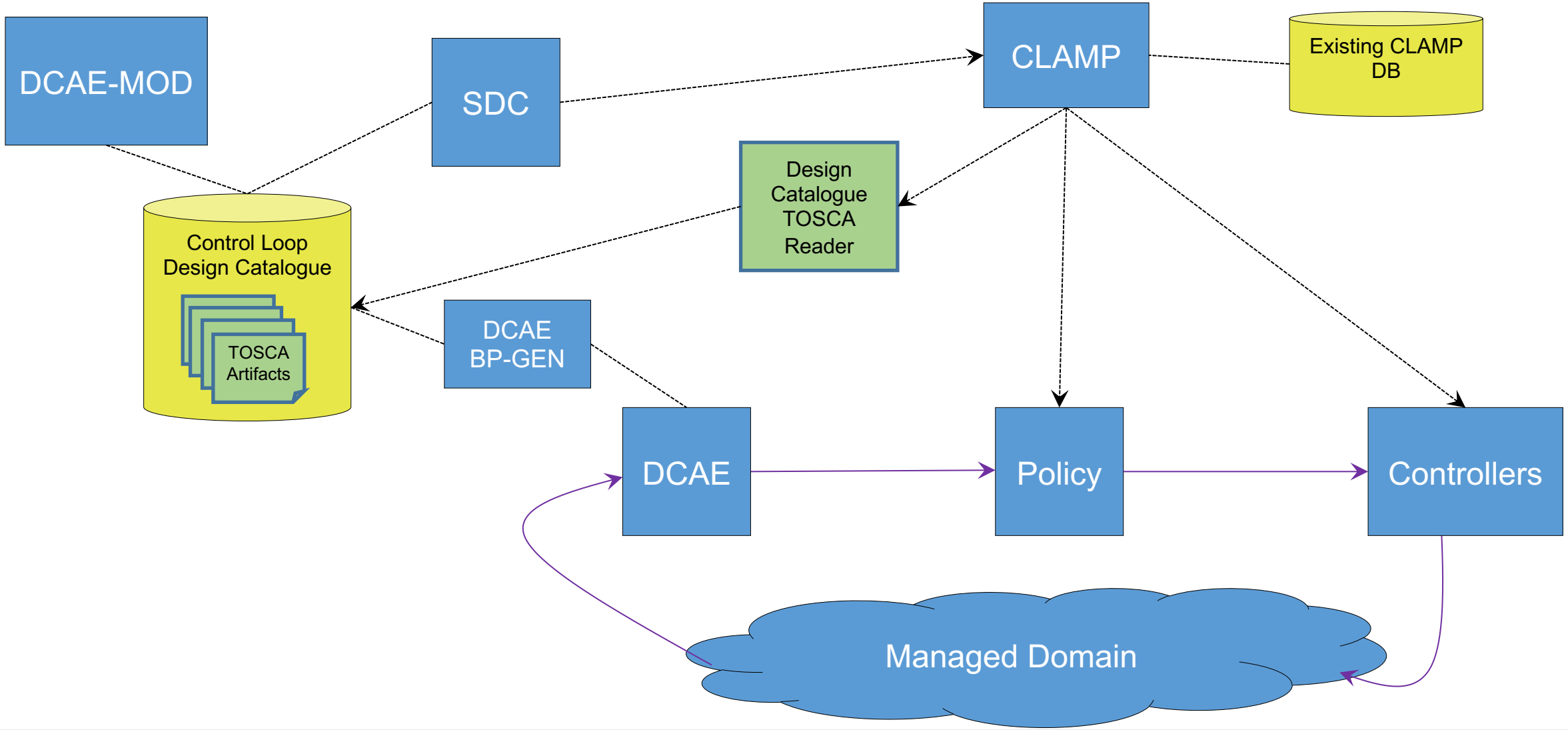
Supervision of Control Loops in Long Term



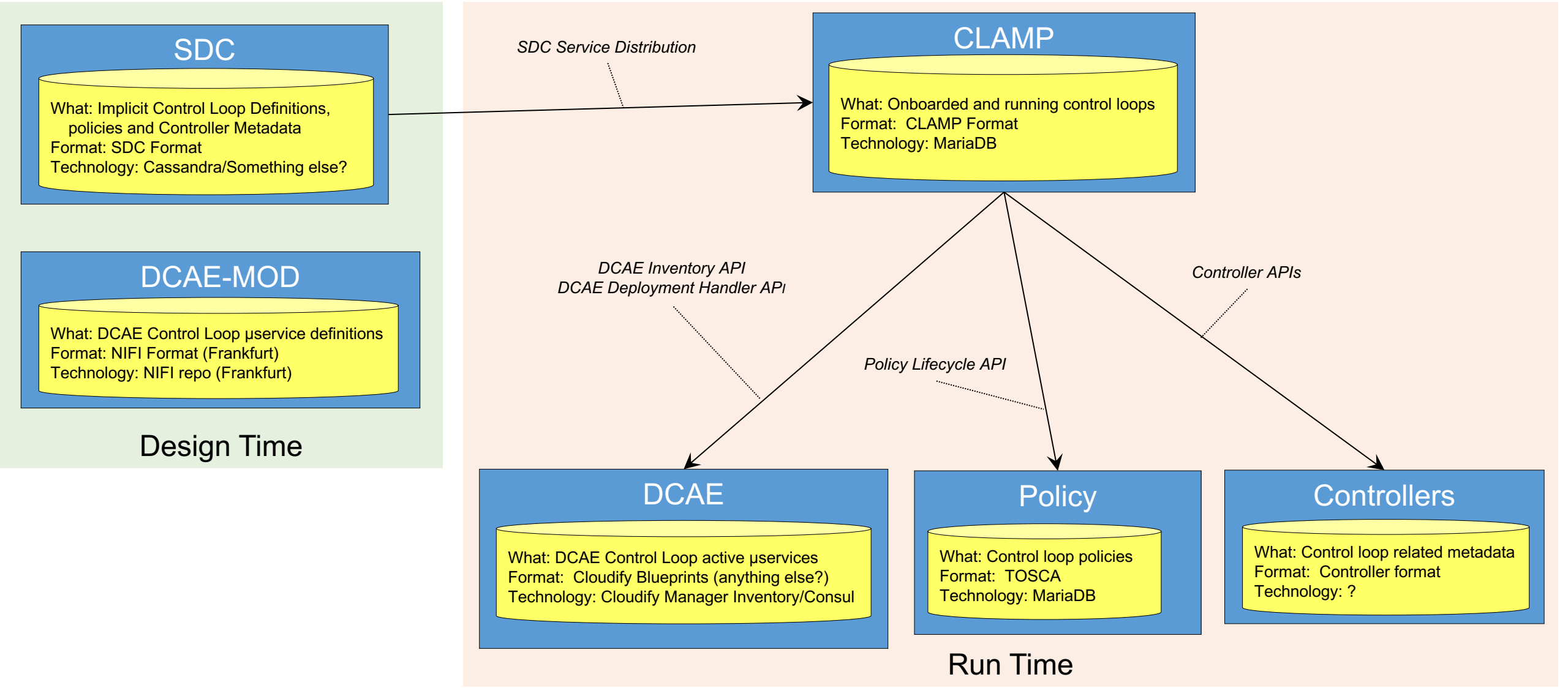
TOSCA Based CL Instantiation, Deployment, Monitoring in Long Term



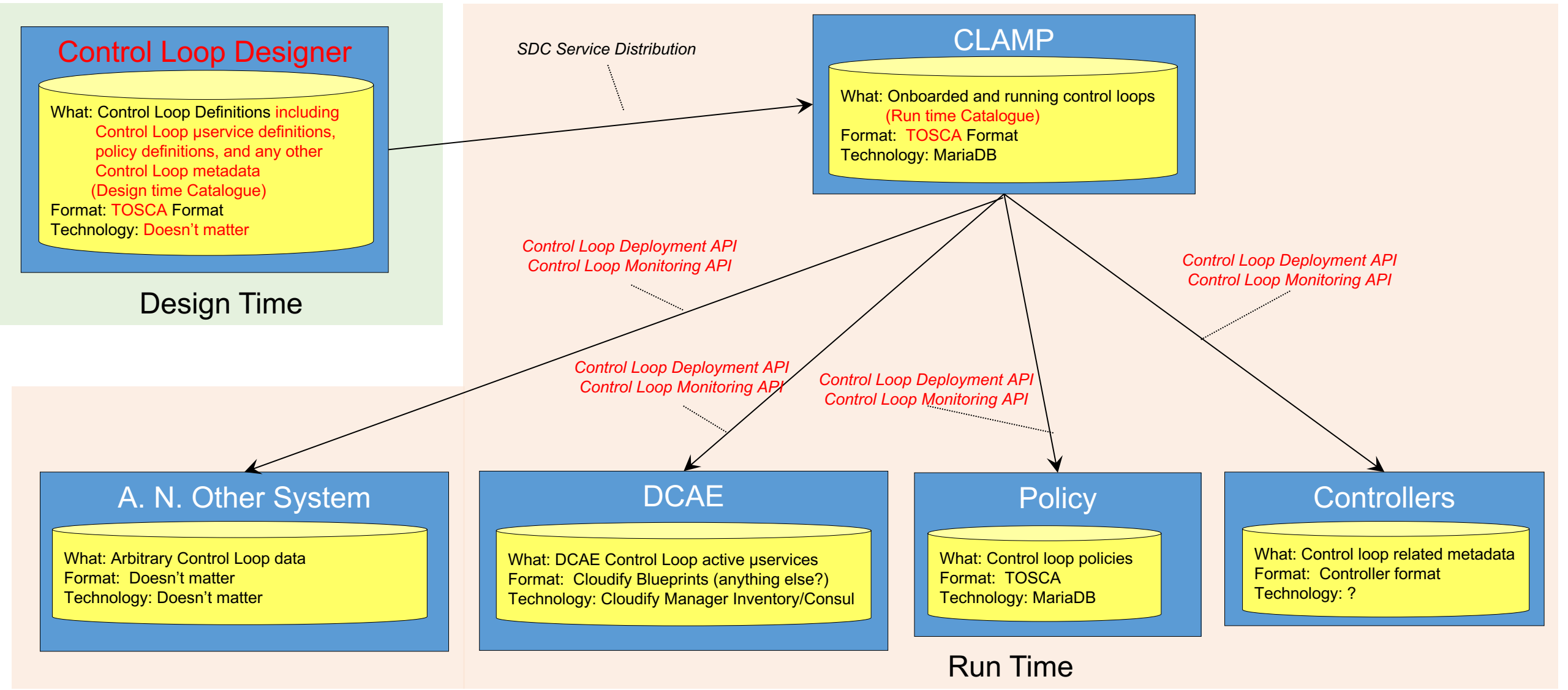
POC: TOSCA Design Time Catalogue for Control Loops in Guilin



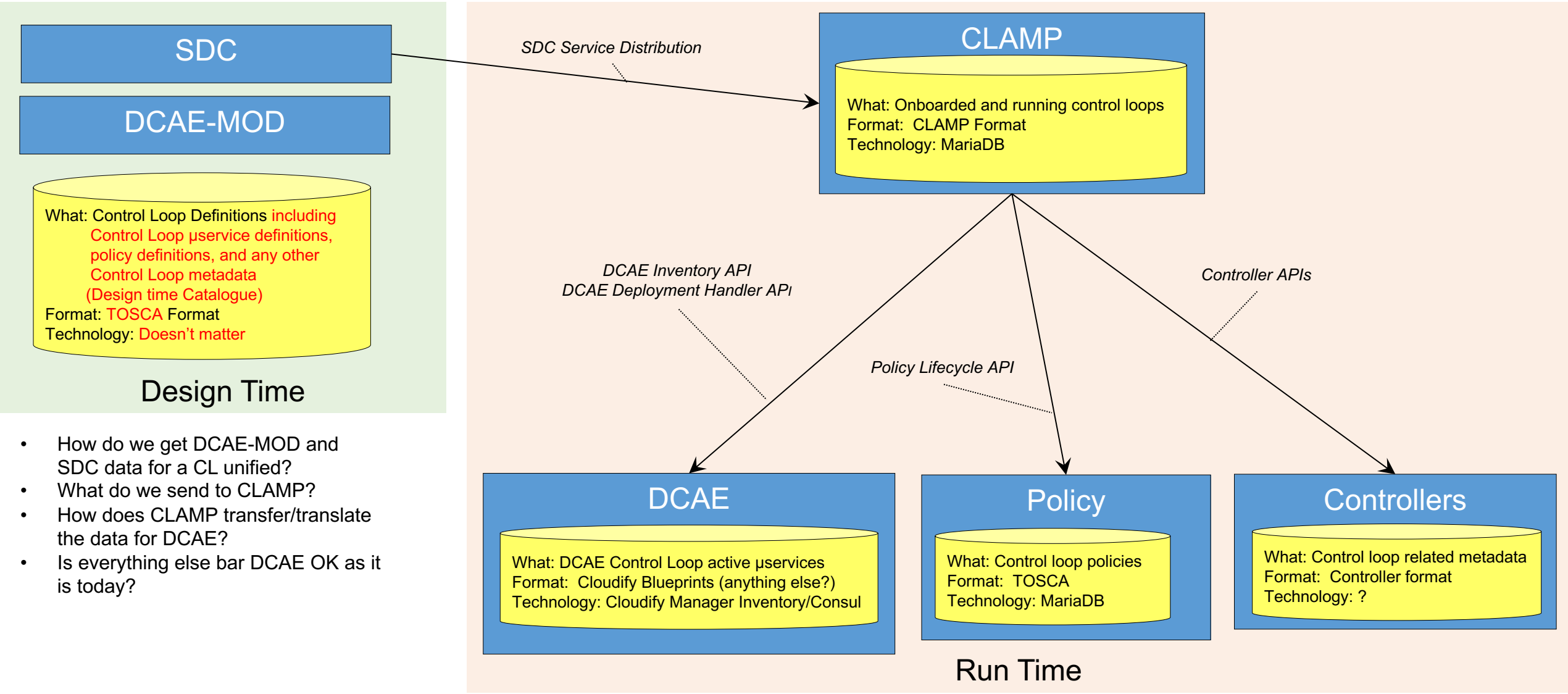
Current Control Loop Data and Interfaces



Target High Level Control Loop Data and Interfaces



Possible Guilin Control Loop Data and Interfaces



- How do we get DCAE-MOD and SDC data for a CL unified?
- What do we send to CLAMP?
- How does CLAMP transfer/translate the data for DCAE?
- Is everything else bar DCAE OK as it is today?

Guilin: TOSCA Defined Control Loop - Goals

Prove that Control loops can be defined and deployed using TOSCA

- Show that control loops can be described in TOSCA
- Build a design time catalogue for Control Loops
- Show that design time systems can populate the Design Time control loop catalogue
  - DCAE-MOD interacting with the deign time catalogue
  - SDC interacting with the design time catalogue
- Show TOSCA defined control loops being onboarded and deployed

Honolulu and Beyond: TOSCA component agnostic Control Loop

Full TOSCA based control loop orchestration

- Run time agnostic model
- Component deployment and monitoring is agnostic of component technologies
  - Components implement the Control Loop deployment and monitoring APIs
  - CLAMP passes packaged metadata opaquely to components
- Any arbitrary component can partake in a control loop once it implements the CL APIs

Guilin: TOSCA Defined Control Loop - Stories

1. Create a TOSCA definition for a Control Loop
2. Create Design Time Catalogue for control loops
3. Create REST interface towards Design Time Catalogue
4. Build interaction between SDC and Design Time Catalogue
5. Build interaction between DCAE-MOD and Design Time Catalogue
6. Build interaction between Design Time Catalogue and Run Time CLAMP

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OPEN NETWORK AUTOMATION PLATFORM