Control Loop Development in ONAP

Workshop on E2E Network Slicing and Closed Loop Automation - ONAP/ETSI ZSM

8th December 2020

Frankfurt

ONAP

OPEN NETWORK AUTOMATION PLATFORM

OSS / BSS / Other

NBI

Legend: Design | Orchestration & Management | Operations | Deprecated

Design-Time

- Service Design & Creation (SDC)
  - Service/xNF Design
  - xNF Onboarding
  - Workflow Designer
  - Controller Design Studio
  - DCAE Design Studio
  - Catalog
- VNF Validation: VVP | VNF SDK

Run-Time

- Interfaces: Portal | O&M Dashboard (VID) | Use-Case UI | External APIs | CLI
- Control Loop Automation (CLAMP)
- Policy Framework
- Service Orchestration (SO)
- Active & Available Inventory (AAI)
- External System Register (ESR)
- (...)
- Microservice Bus (MSB) / Message & Data Routers (DMaaP)
- DCAE
  - Correlation Engine (Holmes)
  - Collectors
- Infrastructure Adaptation (Multi-VIM/ Cloud)
- SDN Controller (SDNC)
- Application Controller (APPC)
- Virtual Function Controller (VFC)

Manage ONAP

- ONAP Operations Manager (OOM)

Shared Services

- AuthN/AuthZ (AAF)
- Optimization (OOF)
- Logging
- Audit (POMBA)
- Multi-Site State (MUSIC)
- & Others ...

Guilin

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ONAP Shared Utilities

- CCSDK
- Model Utilities
- TOSCA Parser

External Systems

- Third Party Controllers
- sVNFM
- EMS

Network Function Layer

- VNFs ...
- PNFs

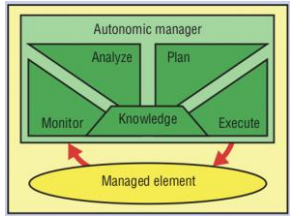
Hypervisor / OS Layer

- OpenStack
- Commercial VIM
- Kubernetes
- Public Cloud

Managed Environment

Private Edge Cloud — MPLS — Private DC Cloud — IP — Public Cloud

The ONAP Approach to Control Loops



SDC

CLAMP

DCAE

Policy

Controllers

Managed Domain

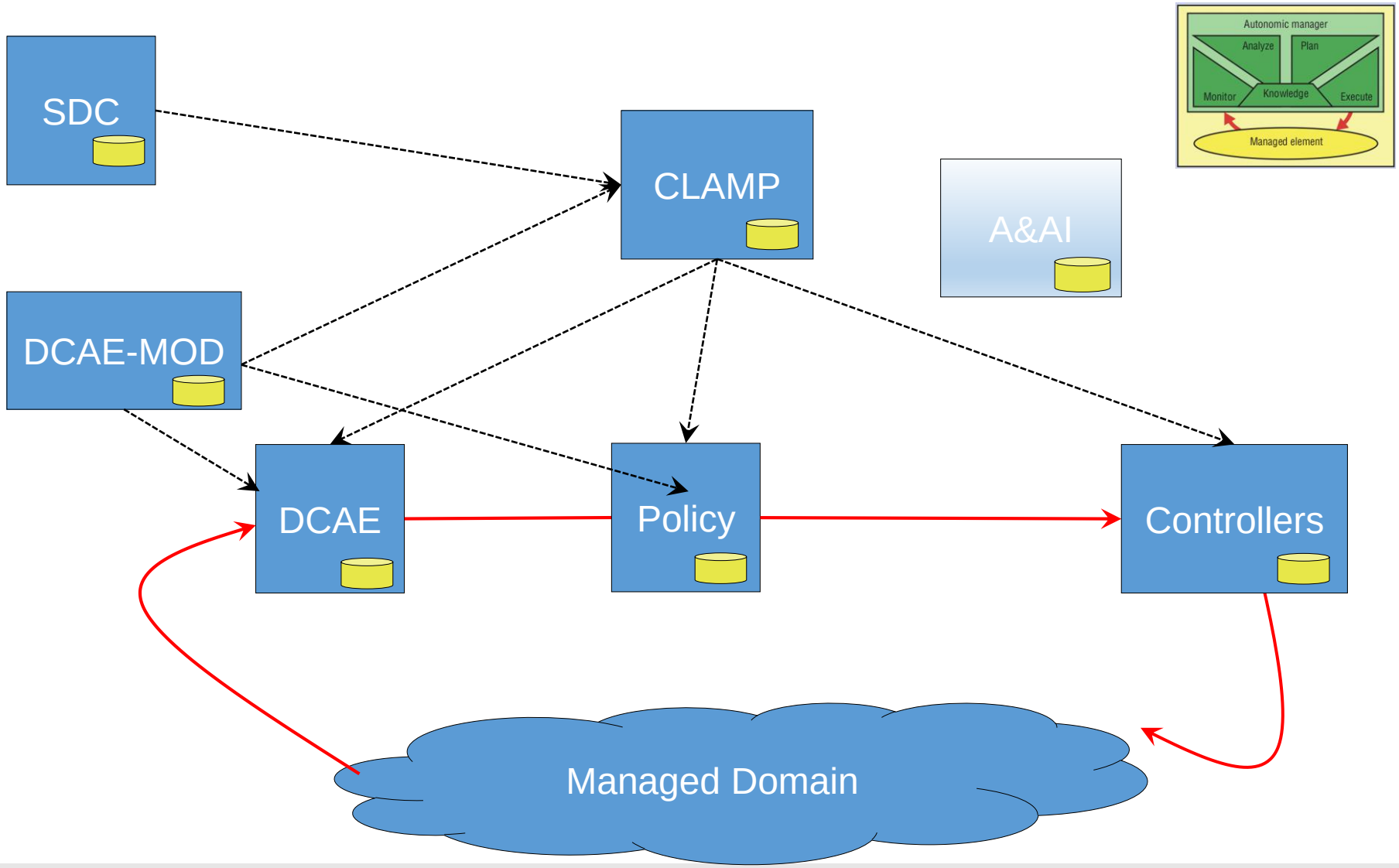
ONAP Control Loop Subcommittee

- Coordinates the projects involved in implementation of Control Loop for the use cases in each release
- https://wiki.onap.org/display/DW/Control+Loop+Subcommittee
- Working Functional Requirements
  - https://wiki.onap.org/display/DW/Control+Loop+Sub+Committee+Working+Requirements+and+Future+Roadmap

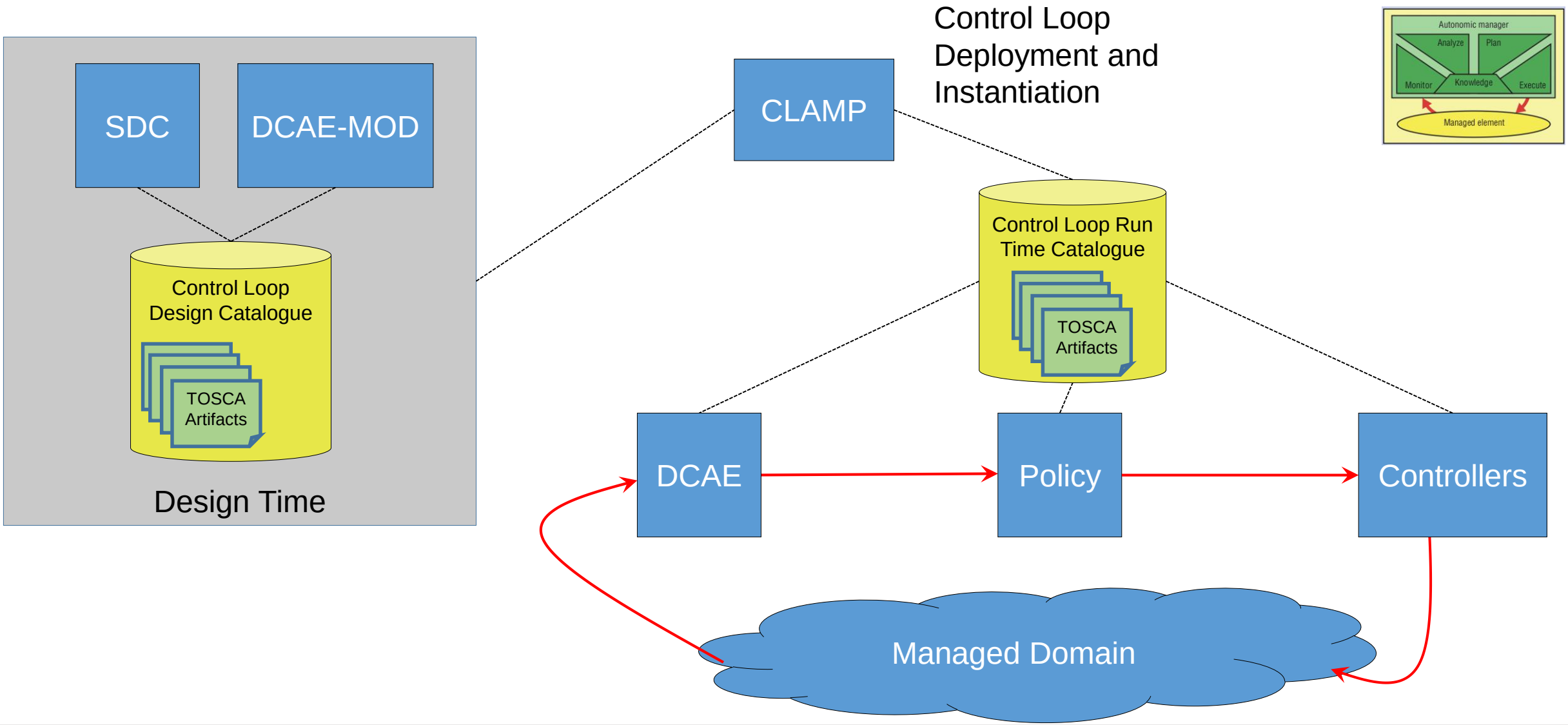
Control Loop Knowledge

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

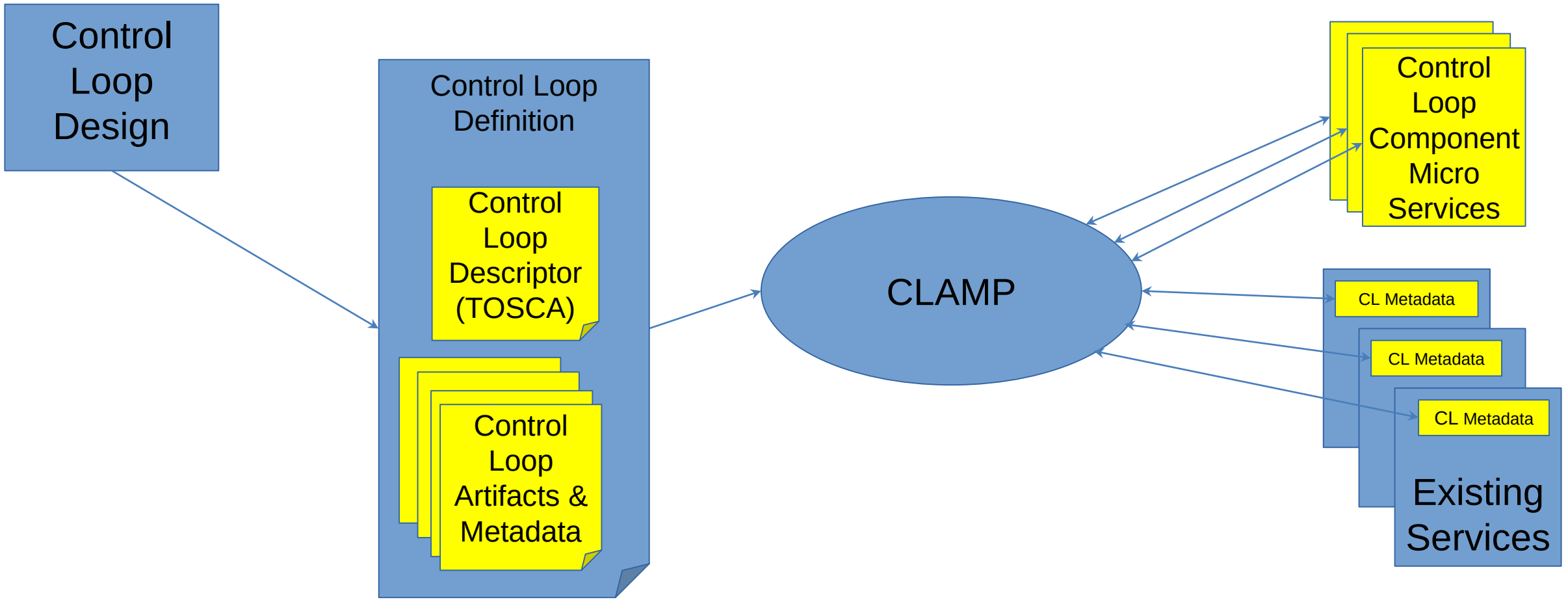
- Control Loops as first class citizens in ONAP
- Management of Control Loops at **design time** and **run time**
- Control loop participants need to use **common** knowledge



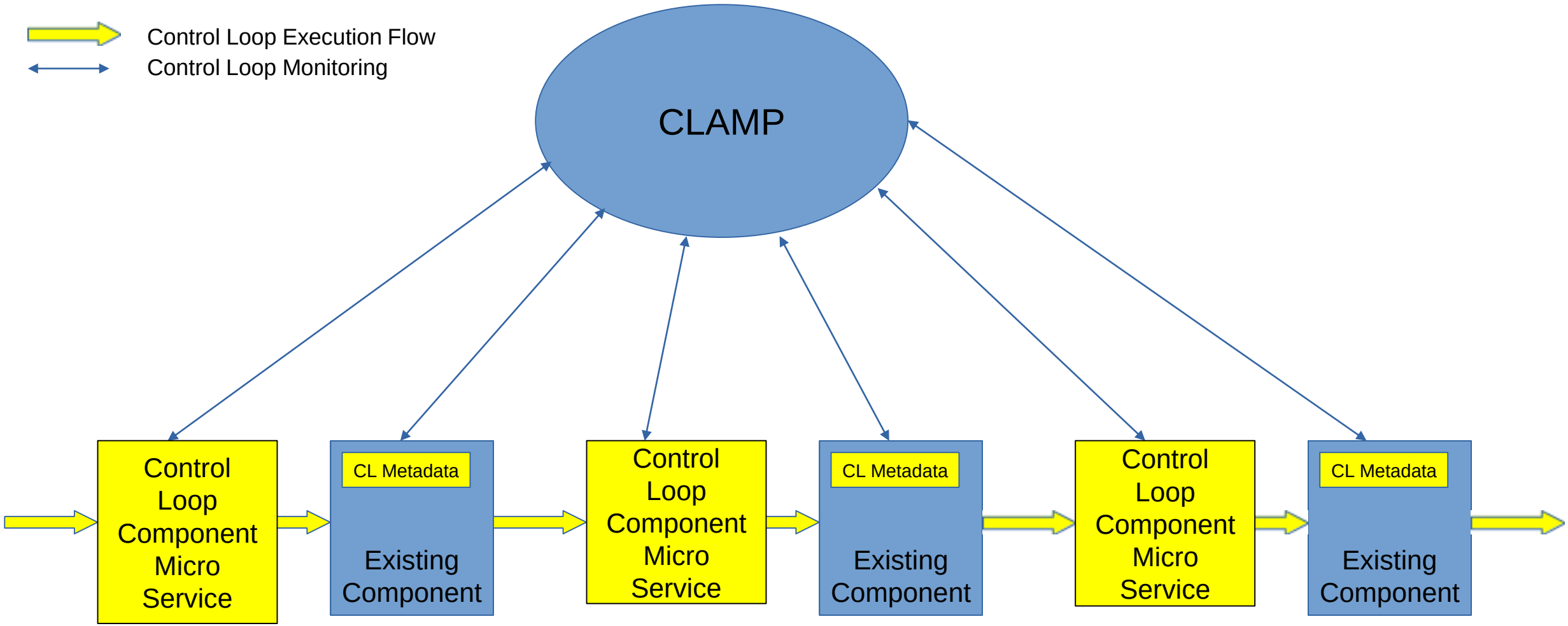
Catalogues: Native TOSCA in Long Term



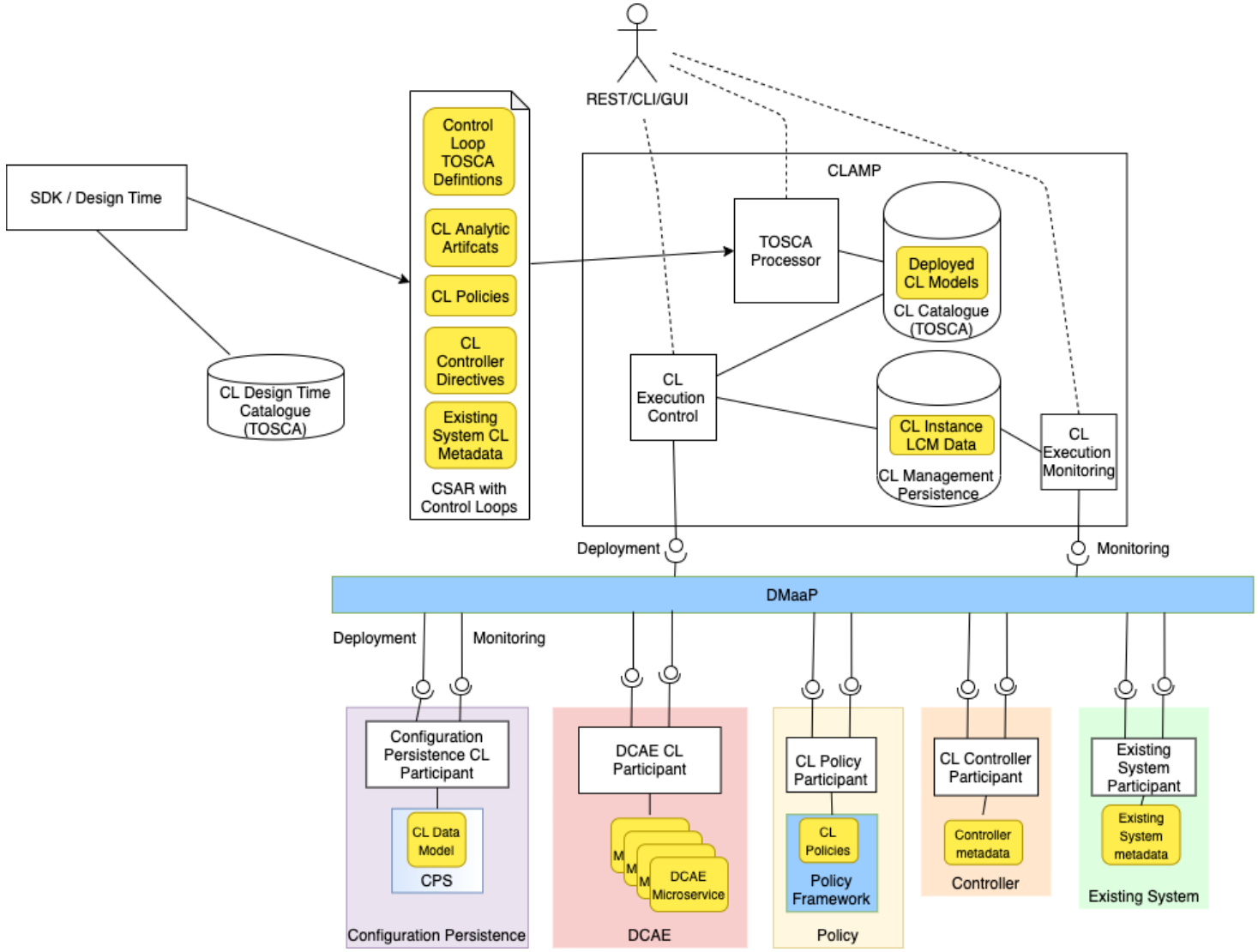
Deployment of Control Loops in Long Term



Supervision of Control Loops in Long Term



TOSCA Based CL Instantiation, Deployment, Monitoring in Long Term

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