

The background of the slide is a high-resolution image of Earth as seen from space, showing the curvature of the planet, the blue atmosphere, and the green and brown landmasses. The top portion of the image is dark, representing the blackness of space.

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ONAP Control Loop in TOSCA PoC

ONAP Rel H Contents

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- Background: CLAMP
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Background

- CLAMP project migration to Policy (Rel H PoC/AT&T)
- Functionality of Control Loop Automation Management Platform remains a need in ONAP
- CL in TOSCA Previous Steps:
 - CL definition proposal (Prague Jan 2020)
 - CL definition in TOSCA (Q1/Q2 2020)
 - CL Catalogue and Inventory evaluation/introduction, TOSCA Parsing of the CL definition and storage in DB (CL commissioning) (Rel G PoC)

Principles

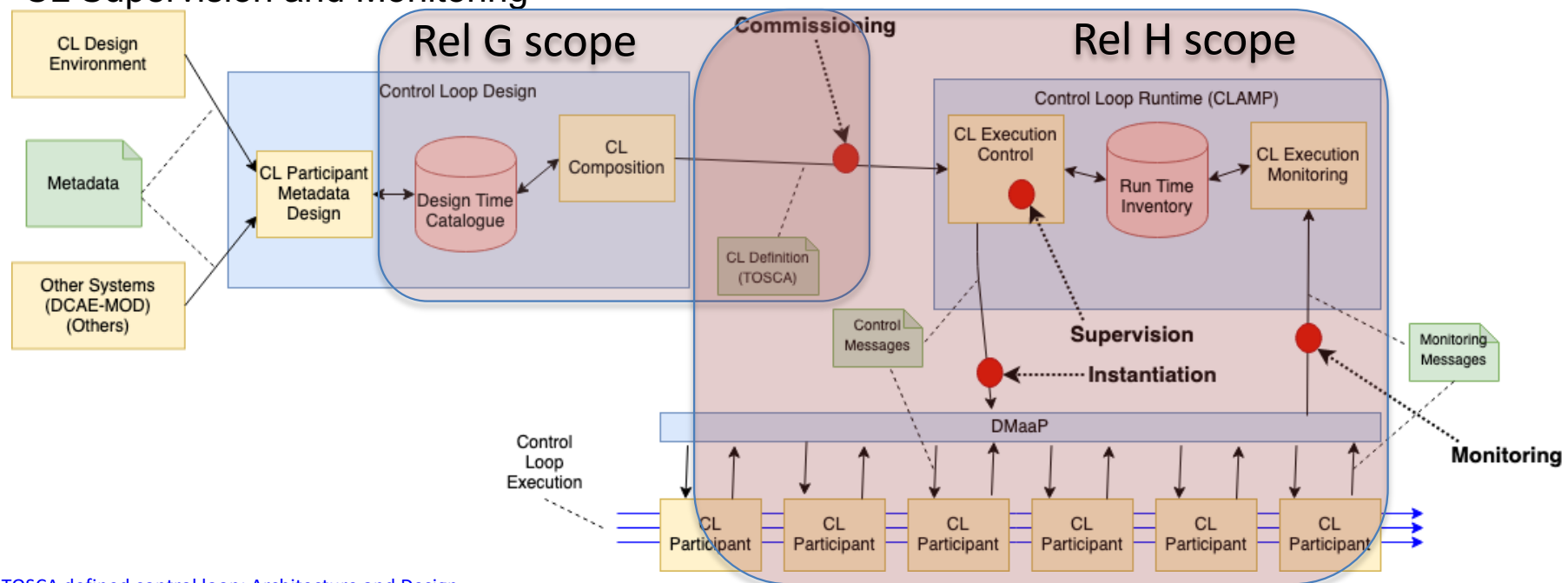
- **Abstract Control Loop (CL) management logic**
 - Isolate CL logic vs ONAP component logic
 - Generic CL Commissioning, Instantiation, Monitoring mechanisms
 - Common CL supervision
 - Component logic isolated in the CL participant
 - A **participant** is any component that takes part in control loops LCM
 - Participants implement the Control Loop Participant APIs
- **CL and CL participant metadata generic definition**
 - Standard TOSCA way of defining metadata for participant
 - **Common CL design time catalogue** containing CL participant metadata and CL definitions
 - Enable the **reuse** of CL participant metadata and CL definition in CL composition
 - Open API to integrate with other design systems to allow specification of participant metadata
- **Applicability and Extendibility**
 - Including e.g. AI/ML system
 - Support existing analytic system (e.g. DCAE or other SP/vendor solutions)
 - Support BL deployment for any controller/component (via Open API)

Proof of Concept Goals

- Show that Control Loops can be defined and commissioned using TOSCA
- Use the TOSCA Control Loop definition to create instances of control loops
- Show Instantiation and Life Cycle Management of these Control Loops on participants
- Demonstrate Control Loop Commissioning and instantiation with a real use case towards existing ONAP components
 - DCAE
 - Policy
 - CDS

What is new in Rel H PoC

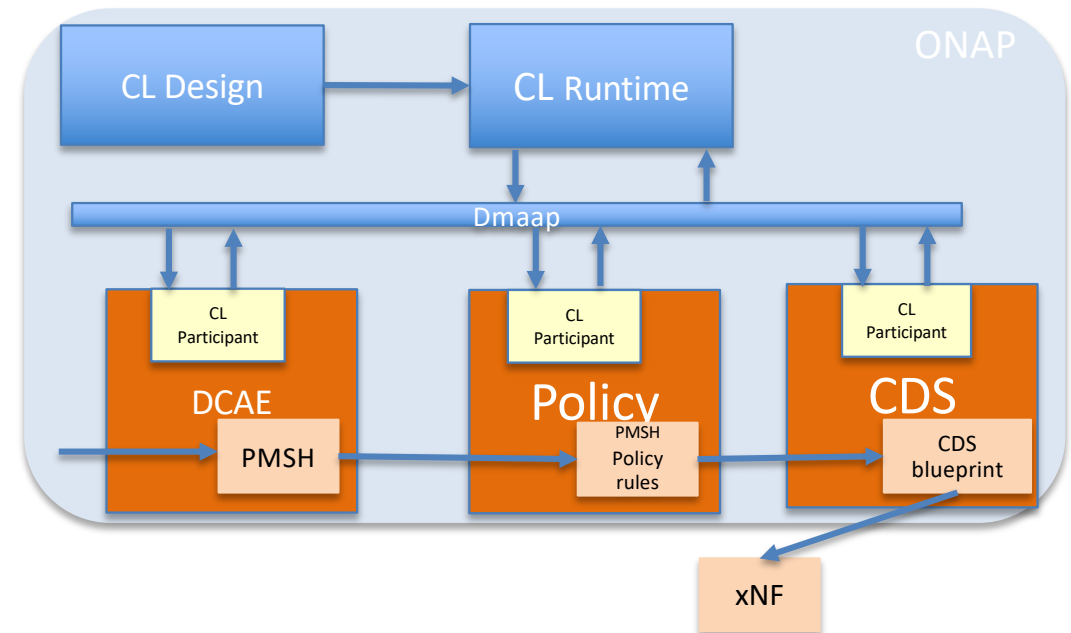
- CL Commissioning and Instantiation
- CL Participant
- CL Supervision and Monitoring



More info: [TOSCA defined control loop: Architecture and Design](#)

Rel H Demo - PMSH

- PMSH: Performance Management Subscription Handler Use Case
- A DCAE microservice since Rel F, responsible for enabling/disabling PM data collection in xNFs
- PMSH UC implemented as a Control Loop
- CL activation at PMSH instantiation or on demand

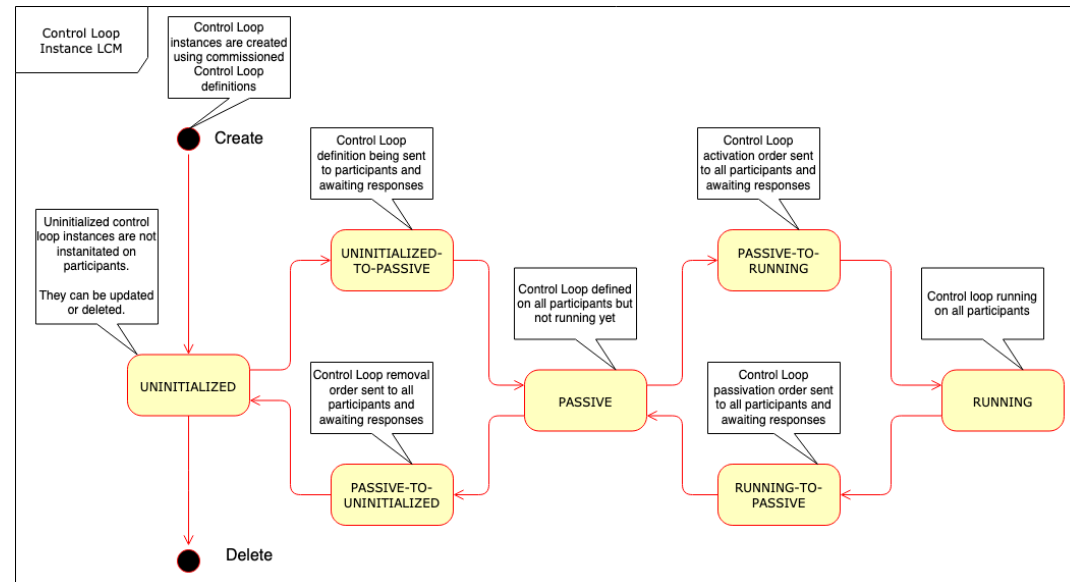


DDF Demo

- Control Loop Commissioning, Instantiation and Supervision
- PMSH Control Loop definition loaded
- Two instances of PMSH control loop created
- Two instances of control loops pushed to three participants over DMaaP
- Both control loop instances come up to state **PASSIVE** on participants and on Control Loop Runtime in CLAMP

- **Work in Progress**

- Parameterization of Control Loop Instance
- Activation of control loops
- Monitoring and statistics on control loops
- Building participants towards existing ONAP components
 - DCAE
 - Policy
 - CDS



Take away and Next Steps

- DT and RT CL components are now in a good shape!
- Promote PoC activities to a Rel I requirement with a MVP set of contents
 - Request for approval to TSC
 - Leveraging the existing functionality
 - Current CLAMP flows, Current CLAMP GUI
- Looking for inputs and help from ONAP community! (e.g. UC, architecture evolution, development..)
- For more information, see:
<https://wiki.onap.org/display/DW/TOSCA+Defined+Control+Loop%3A+Architecture+and+Design>



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