



NETWORKING

LFN Developer & Testing Forum

ONAP Control Loop in TOSCA LCM

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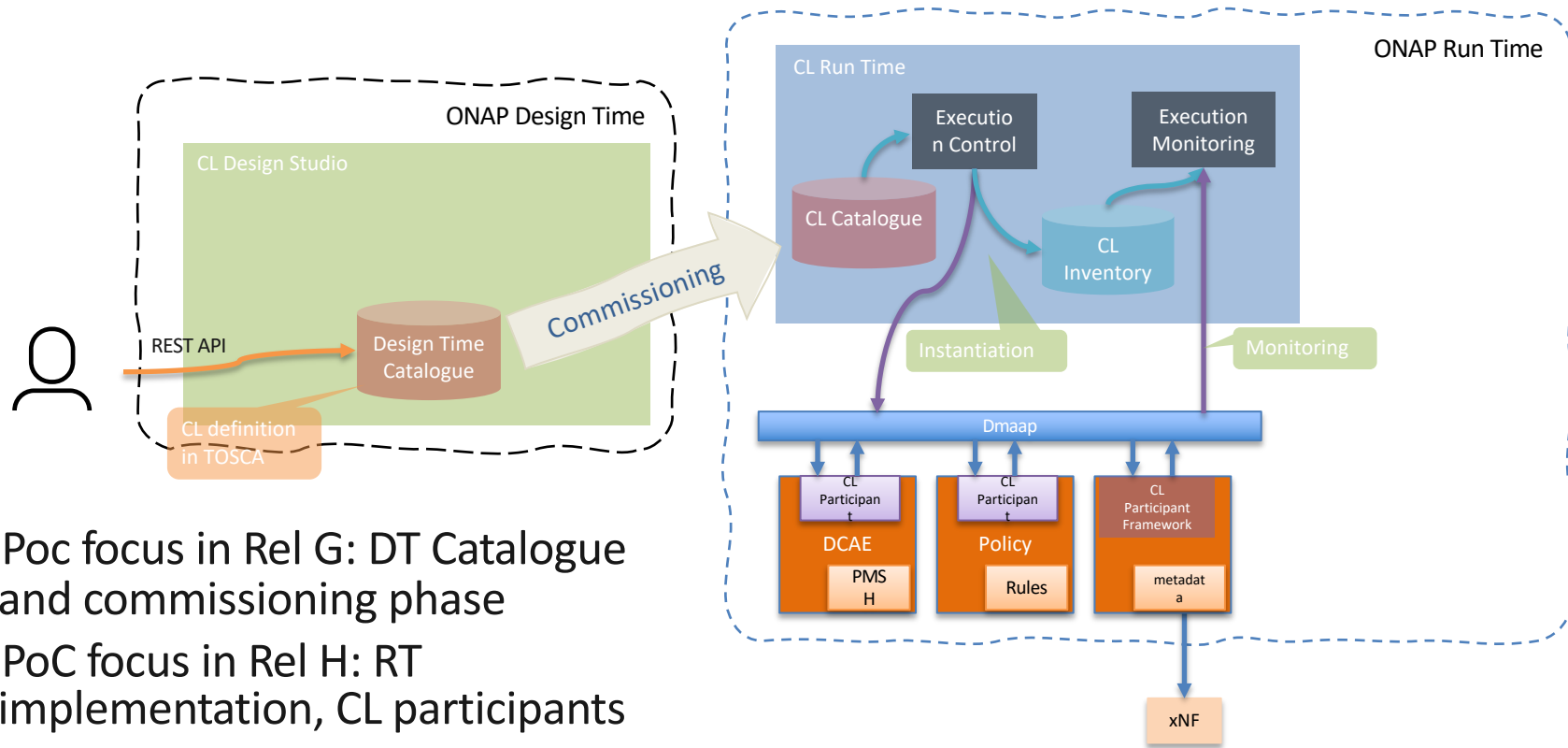
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PoC in Rel H and Rel G

- Goals
 - Demonstrate Control loops can be defined and deployed using TOSCA
 - Use a design time catalogue for Control Loops for a complete storage of all the artifacts from different DT systems
 - Introduce CL participant and Review CL RT API to provide a more abstract LCM
 - Support CL Monitoring and Supervision functionality
- Participating Companies
 - Ericsson
 - AT&T
 - Bell Canada

CL Architecture in PoC (Rel G/H)

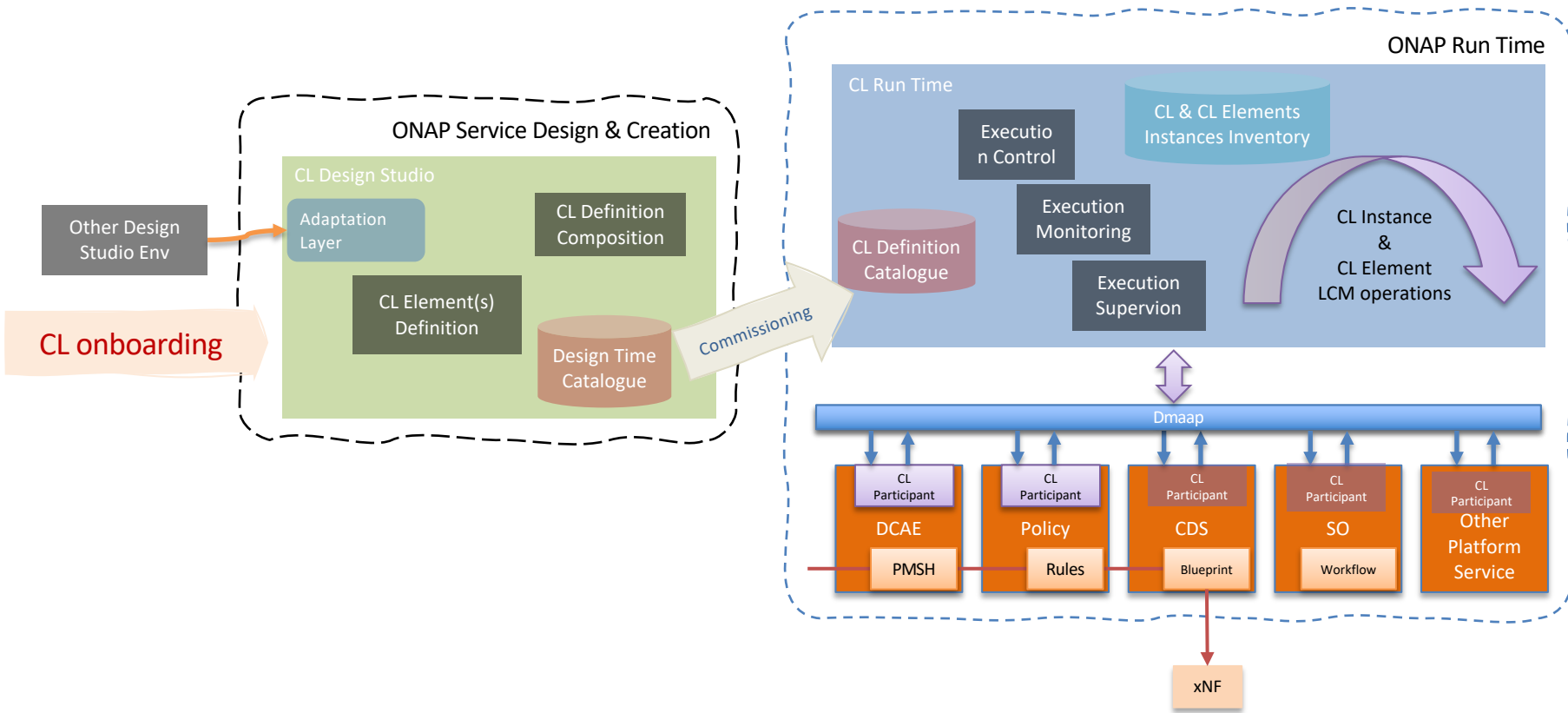


- Poc focus in Rel G: DT Catalogue and commissioning phase
- PoC focus in Rel H: RT implementation, CL participants

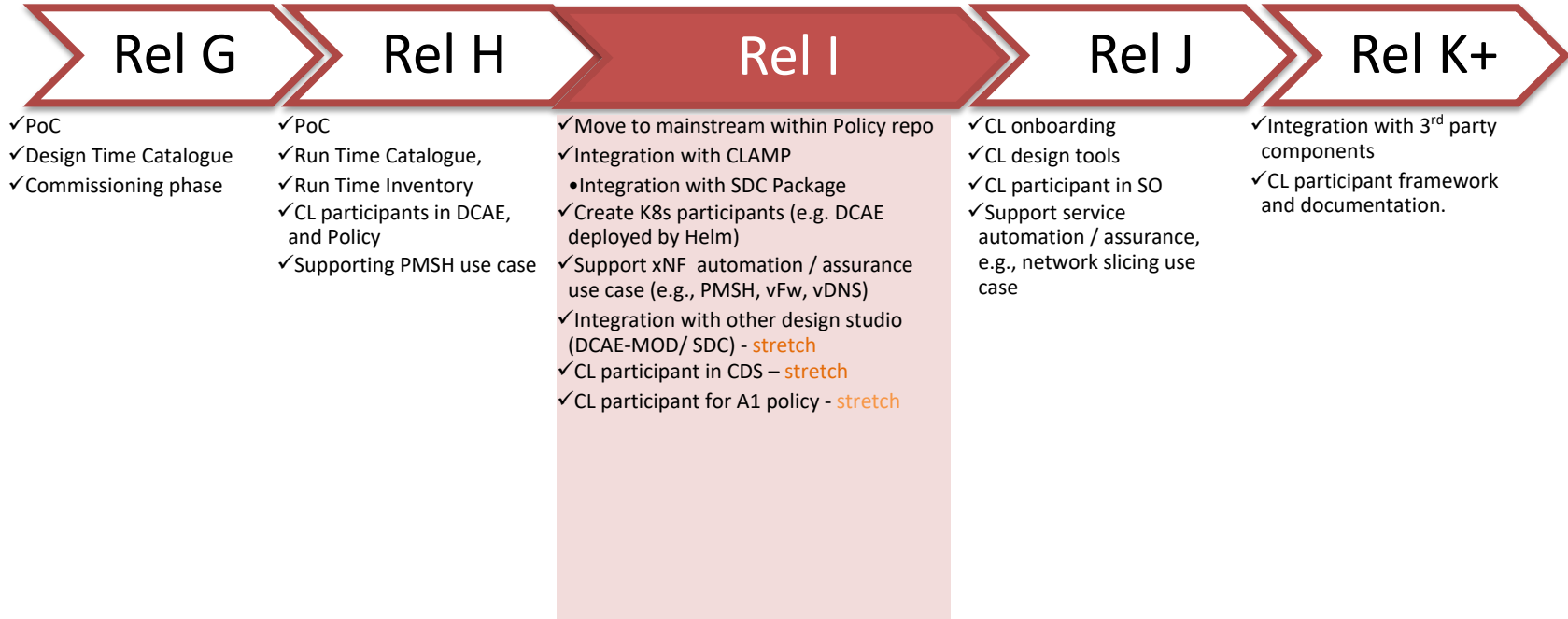
Business Requirements: ONAP Rel I

- **Executive Summary:** CLAMP (Control Loop Automation Management Platform) functionalities, recently moved to Policy project, want to provide a Control Loop Lifecycle management architecture. A control Loop is a key concept for Automation and assurance Use Cases and remain a top priority for ONAP as an automation platform. This requirement wants to improve Control Loop LCM architecture focusing on an abstract CL management logic, providing a common CL Design time catalogue with a generic CL definition, isolating CL logic vs ONAP component logic and elaborate API to integrate with other design systems as well as 3PP component integration. PoCs have been progressed in ONAP Rel G and H in this area, CL LCM redesign has reached a relevant viable set of features and it is ready to be moved in Rel I to mainstream as part of the Policy framework.
- **Business Impact:** Deployment and orchestration of automation and control loop use cases across CNFs, VNFs and PNFs in a model driven way simplifies the network management. Enables operators and service providers to manage the Life Cycle of a Network Service. Assuring continuity of operation of services is crucial for production and carrier grade environments. The actualization or upgrades of software and in consequence required changes in the service model is a natural part of service instance life cycle. Without the support of ONAP service update with schema change, service life cycle management by ONAP can be very difficult which can impact the quality and continuity of services.
- **Business Markets:** All operators and service providers that are using ONAP for automation and assurance.
- **Funding/Financial Impacts:** CL LCM wants to reduce operational expense and its abstraction will provide an added value with multiple integration points.
- **Organization Mgmt, Sales Strategies:** *There is no additional organizational management or sales strategies for this requirement outside of a service providers "normal" ONAP deployment and its attendant organizational resources from a service provider.*

CL Target Architecture



Roadmap

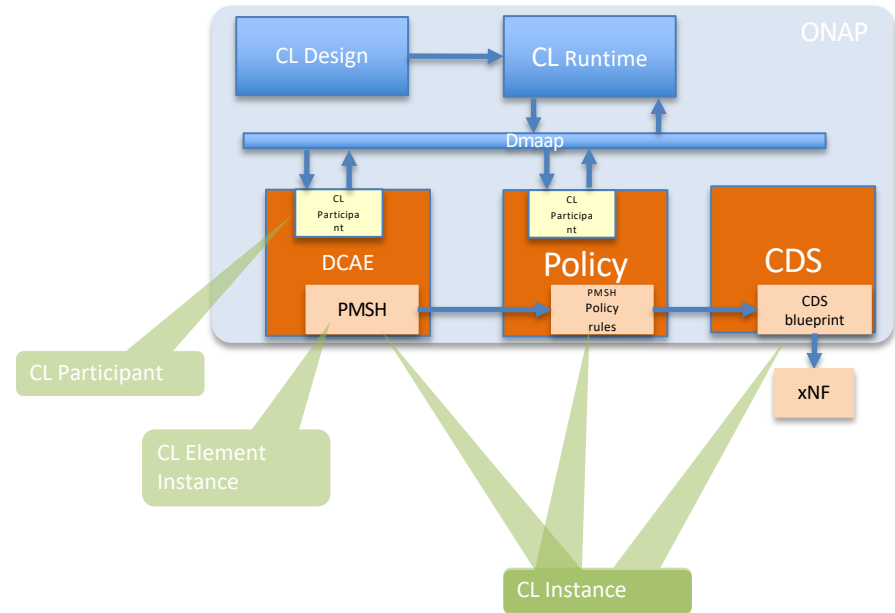


Ongoing Activities for Rel I

- Design and Implementation underway in Release I
 - Full details here
<https://wiki.onap.org/display/DW/TOSCA+Control+Loops+in+CLAMP>
- Integration into Policy-CLAMP
 - Policy is the only impacted component in Rel I
 - Participant code merged
 - Runtime code being integrated with existing CLAMP runtime
 - CLAMP GUI being extended for Control Loop Monitoring and statistics and to parameterize TOSCA-defined control loops
- Functional Extensions
 - Control Loop Definitions in TOSCA being extended to allow specification of ordering, timeouts, and common properties
 - Kubernetes participant being implemented
 - Participant Protocol being extended and improved
- CLAMP-DCAE integration
 - CLAMP-DCAE analysis (aligned to DCAE Helm migration) to support Helm chart artifact is started

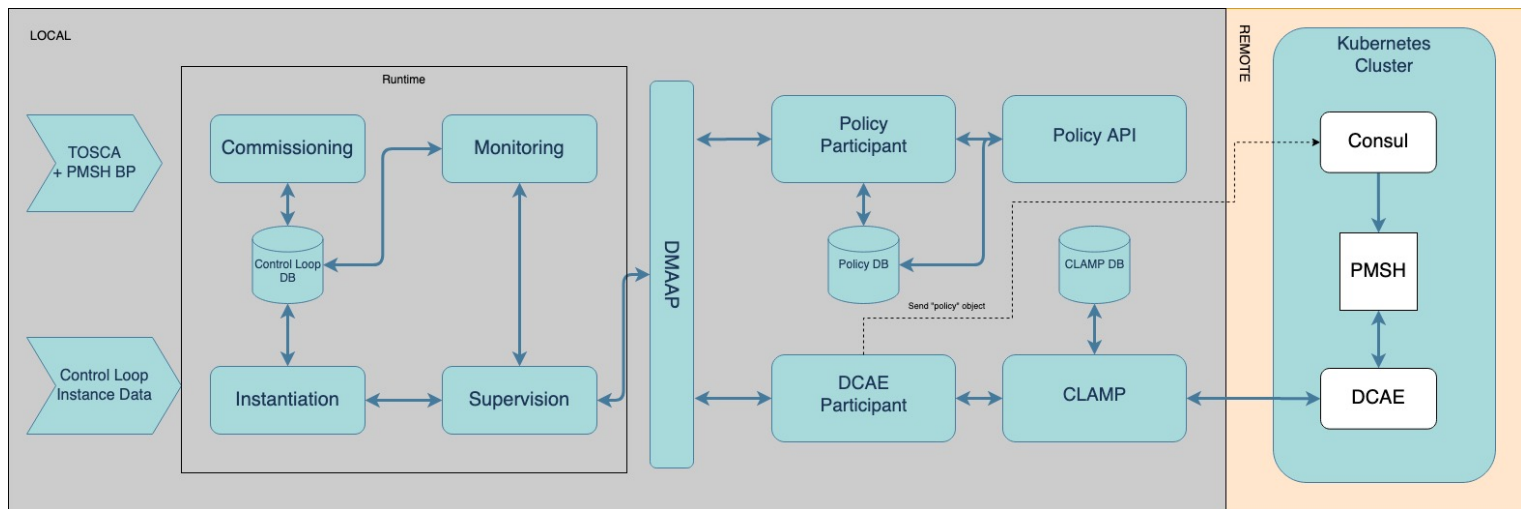
PMSH use case in Rel H - PoC

- 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. At the CL activation, PMSH will trigger dedicated Policy rules then executing a xNF specific CDS blueprint.



Introduction to Demo

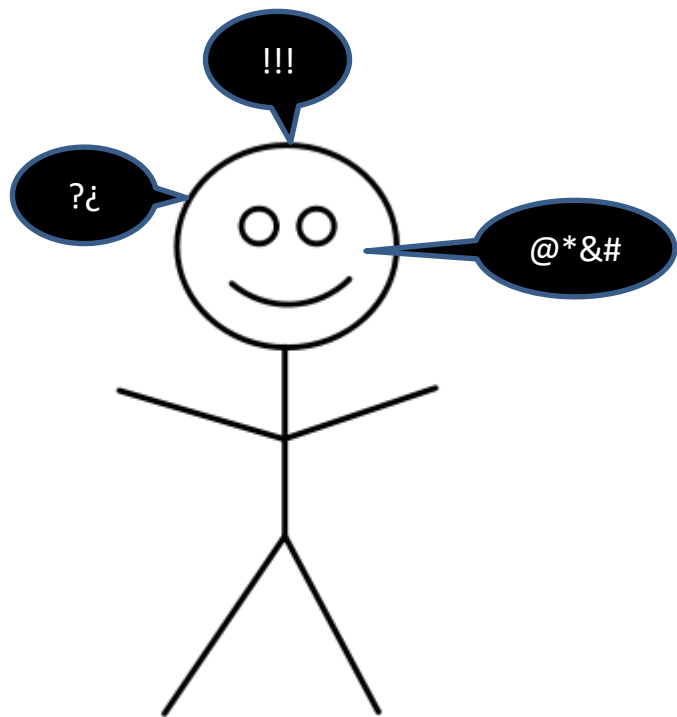
- Shows the Commissioning, Instantiation, and Monitoring API
- Trigger deployment of the PMSH policy through the policy participant
- Instantiates the PMSH service through the DCAE participant
- The DCAE participant uses the existing CLAMP backend



PMSH Deployment Demo

- Demo page:
<https://wiki.onap.org/pages/viewpage.action?pageId=100895810>
- Demo Video:
https://wiki.onap.org/download/attachments/100895810/POC_DEMO_PROJECT_LowQ.mp4
- Source code:
<https://github.com/onap/policy-clamp>

Questions or Comments



Thank you

Thanks to:

CLAMP Experts:

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