



ONAP R6 - Evolution of LCM Support in SO and Controller

LFN DDF, June 12, 2019

Oskar Malm (Ericsson)

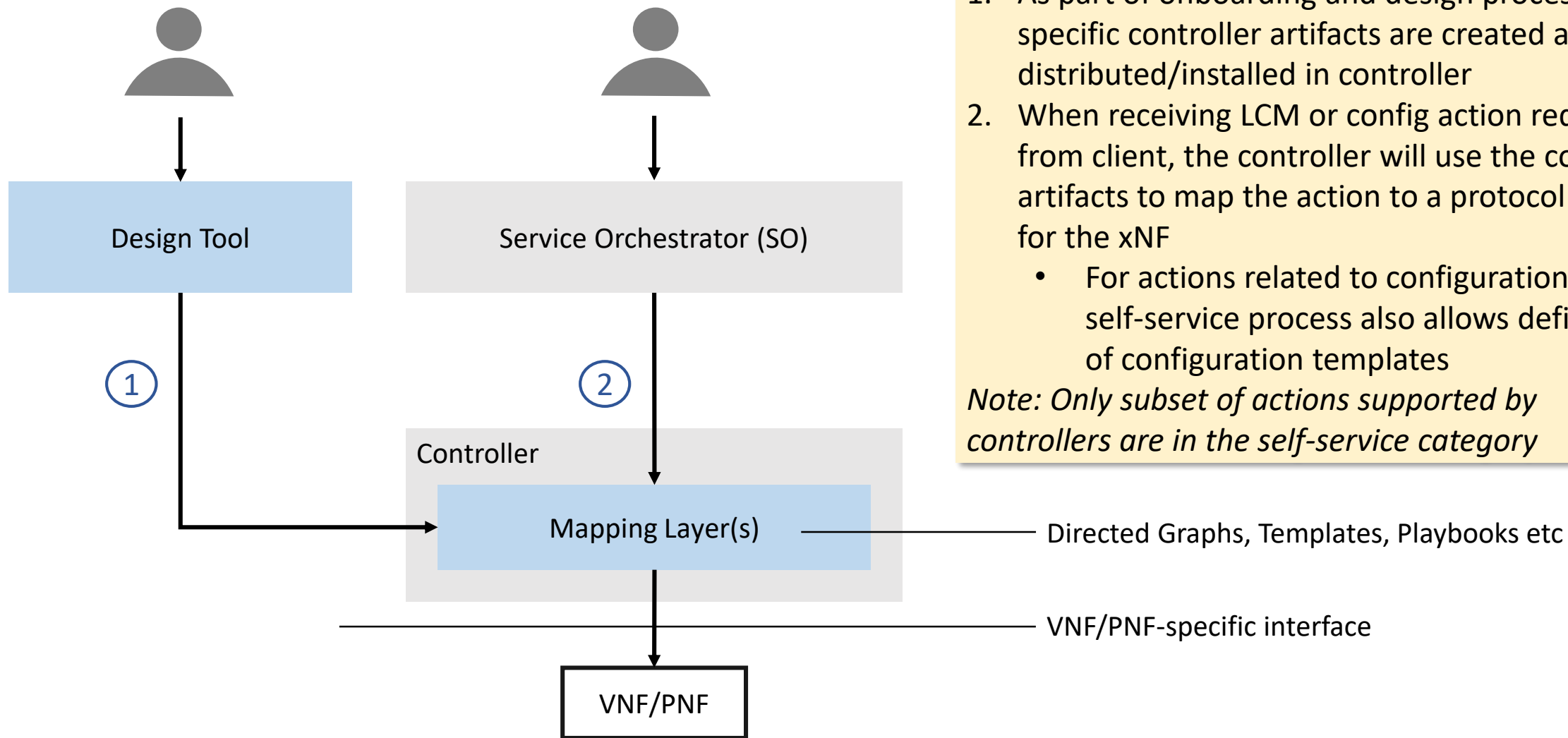
Purpose

- This session aims to provide some additional perspectives around LCM support improvements needed for R6 use cases
 - In particular further development of the PNF SW Upgrade UC
 - No additional UC is proposed
- This presentation is partly based on outcome from recent ONAP architecture discussions around controller API evolution
 - <https://wiki.onap.org/display/DW/ONAP+Controller+Evolution+Consideration+-+LCM+APIs>
 - <https://jira.onap.org/browse/ONAPARC-470?src=confmacro>

Topics

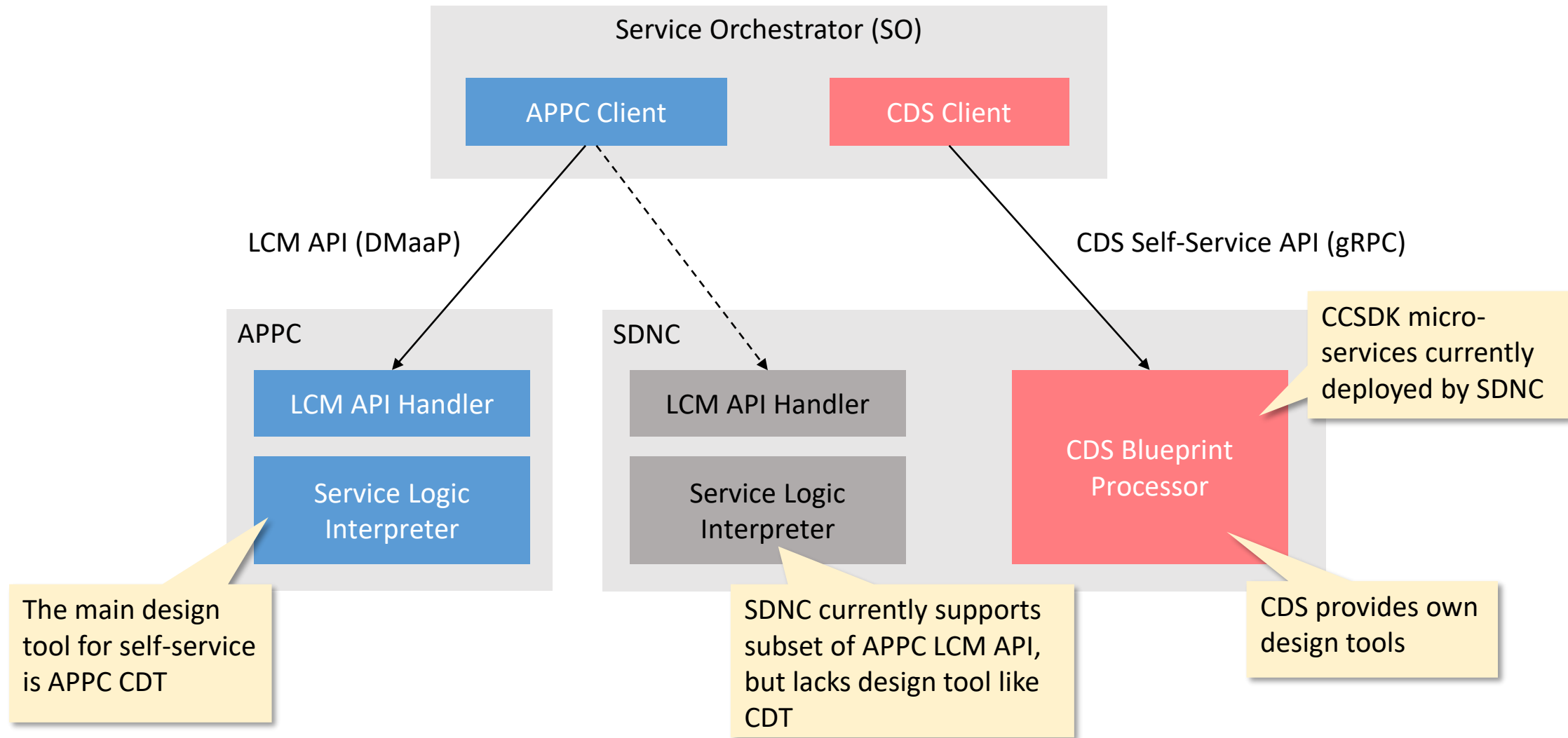
- Background (Dublin)
 - ONAP Self-Service Concept
 - SO Workflows and Building Blocks
- Proposed Enhancements for Frankfurt Release
 - Use of CDS for LCM actions
 - Improved PNF support
 - Open Questions
- Way Forward

ONAP Self-Service Concept

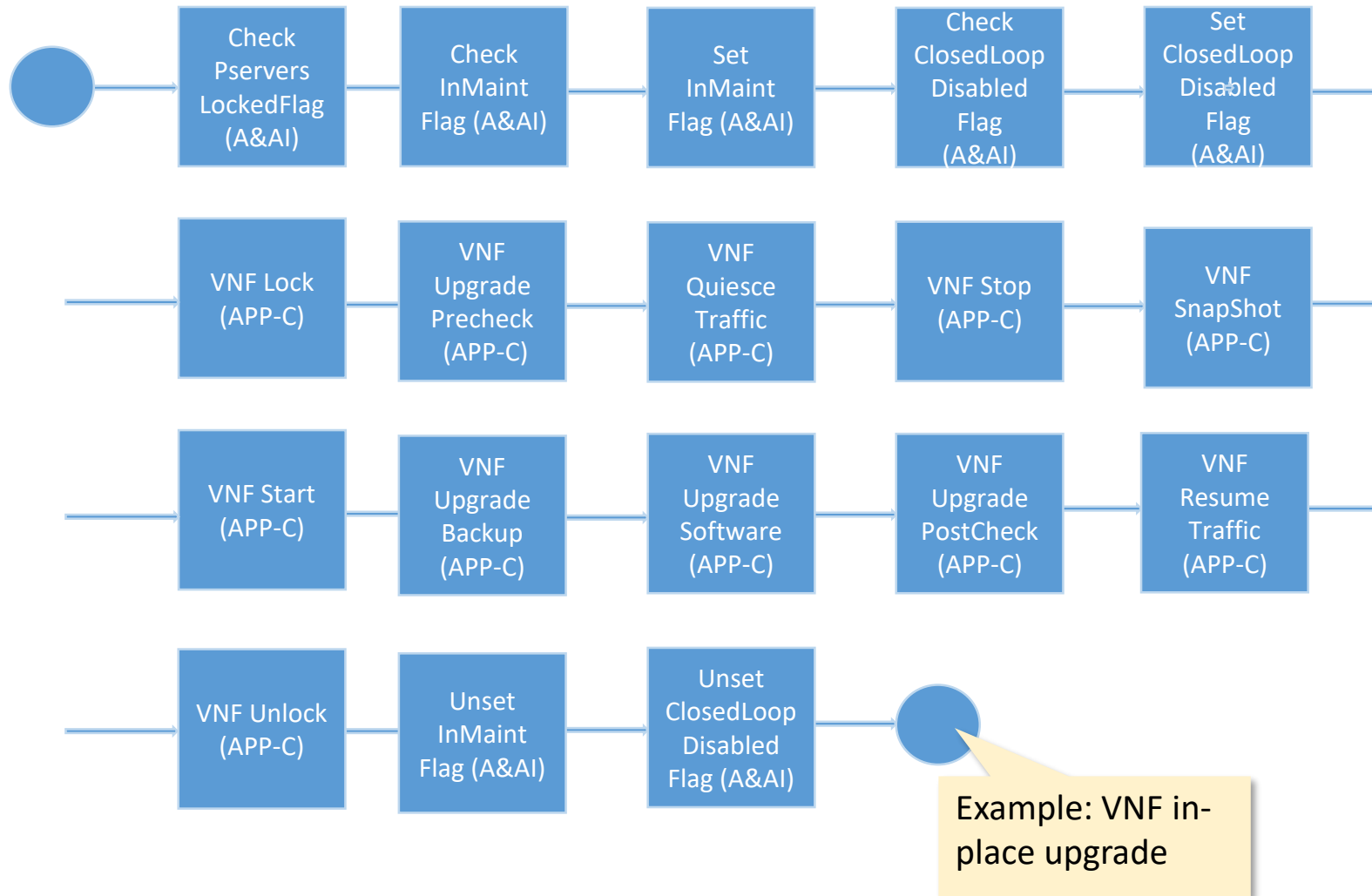


1. As part of onboarding and design process, xNF-specific controller artifacts are created and distributed/installed in controller
 2. When receiving LCM or config action request from client, the controller will use the controller artifacts to map the action to a protocol suitable for the xNF
 - For actions related to configuration, the self-service process also allows definition of configuration templates
- Note: Only subset of actions supported by controllers are in the self-service category*

Self-Service Options in Dublin

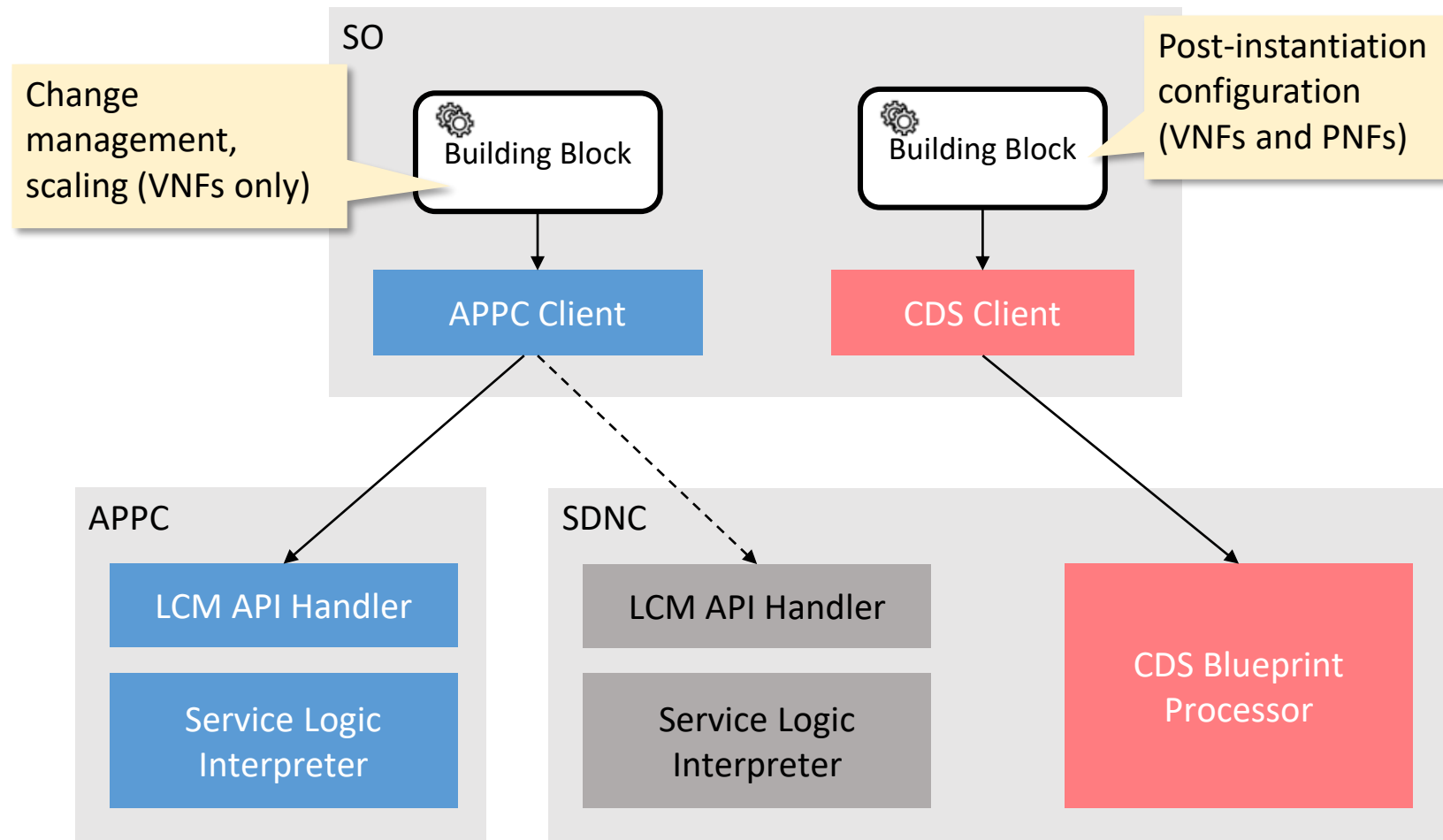


SO Workflows and Building Blocks



- Workflow-centric orchestration (BPMN)
 - Service Instantiation
 - VNF Scaling
 - Change Management
- Pre-defined and re-usable building blocks (BPMN sub-processes)
 - Uses supporting Java classes to perform various tasks
 - Controller actions
 - AAI updates
 - ...

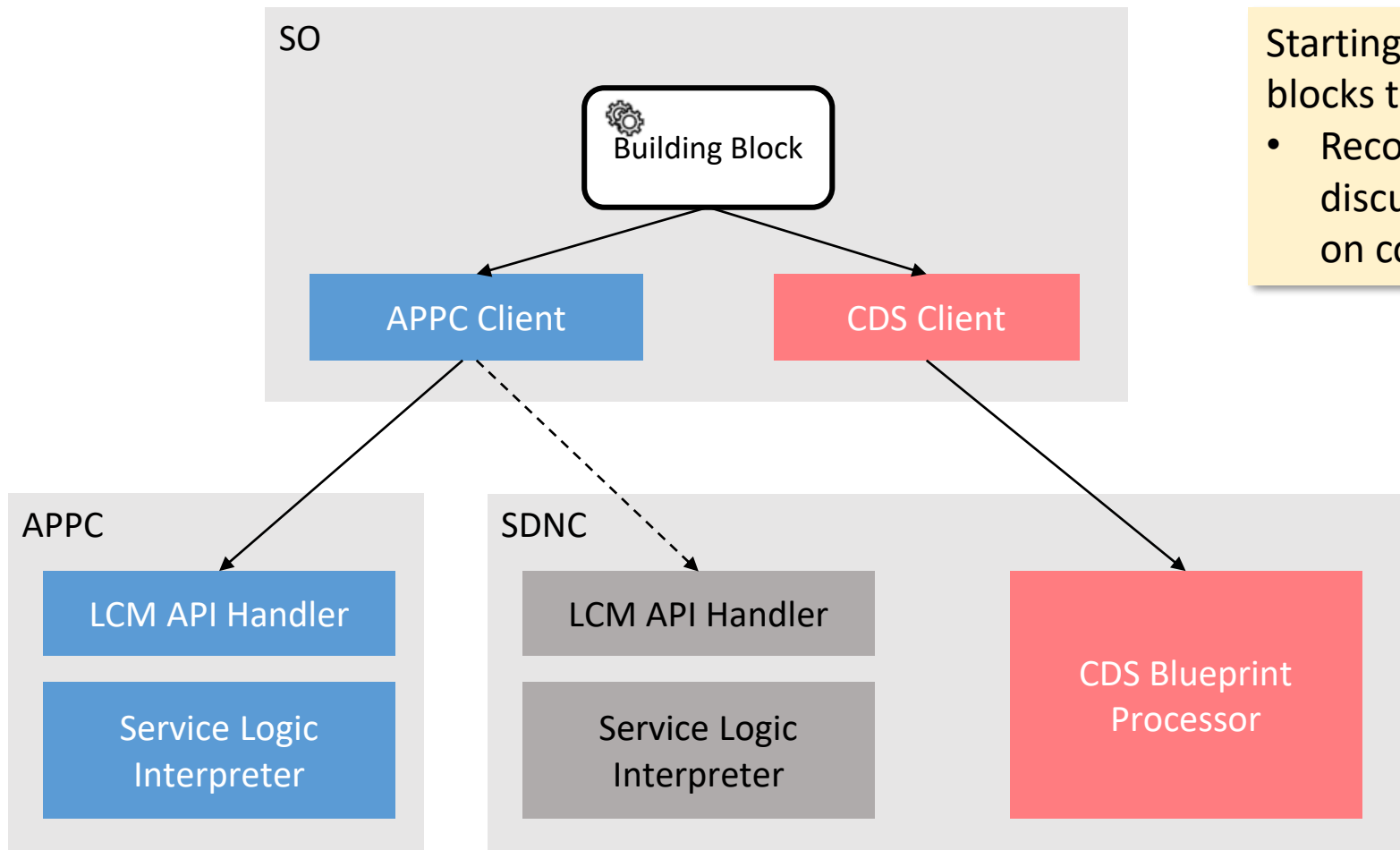
SO Workflows in Dublin



Proposed Frankfurt Enhancements

- For change management workflows like PNF SW Upgrade
 - Enable use of CDS Blueprint Processor for the controller LCM actions
 - Address current gaps around PNF support
- Related to this a few guiding principles should be agreed

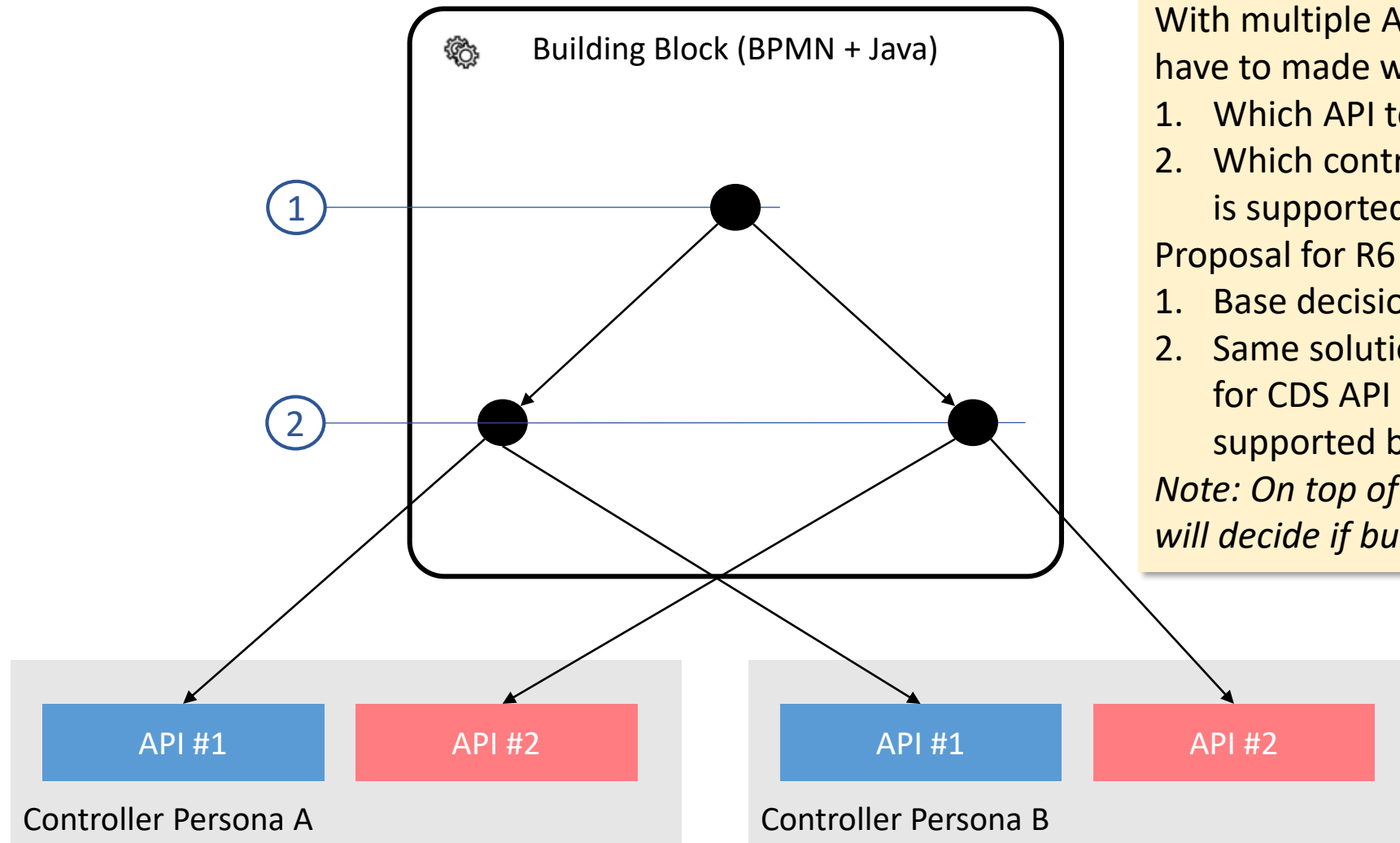
Addition of CDS Path



Starting in Frankfurt, there can be SO building blocks that use either APPC or CDS API path

- Recommendation from previous community discussions to branch early (SO rather than on controller side)

API and Controller Decision Tree



With multiple APIs, in general two main decisions have to be made within the building block

1. Which API to use for this xNF and LCM action
2. Which controller persona to use in case the API is supported by multiple personas

Proposal for R6

1. Base decision on model data from design time
2. Same solution as in R4 in case of APPC LCM API, for CDS API no selection is needed until supported by multiple personas

Note: On top of this, workflow design or model data will decide if building block itself is executed or not

PNF Support

- For change management, should allow designing (SDC) and invoking workflows for PNF resources
- At building block level, workflow activities today use the new building block framework
 - It needs to be extended to support PNFs
 - This improvement is also needed for supporting PNFs in generic instantiation workflow

```
<bpmn:serviceTask id="TaskUpgradePreCheck" name="VNF Upgrade PreCheck"  
  camunda:expression="\${AppcRunTasks.runAppcCommand(InjectExecution.execute(  
    execution,  
    execution.getVariable(&#34;gBuildingBlockExecution&#34;)),  
    execution.getVariable(&#34;actionUpgradePreCheck&#34;))}">
```

Open Questions

- When should SO activity building block be shared or dedicated for VNFs and PNFs?
- In case a new LCM action is defined, is it ok to only implement the CDS path?
 - Same recommendation for VNFs and PNFs?
- How are payload parameters documented for standard LCM actions, and how is alignment ensured between APPC and CDS if supported by both?
- Should xNF resource models (SDC) be evolved compared to R4, to provide better control over when to use CDS and which blueprint?

Way Forward

- Continue discussion in the community about the open issues
- Plan follow up in ARCHCOM
- Drive LCM support improvements as part of the PNF SW Upgrade UC in R6
 - Not tracked as separate UC or requirement



ONAP

OPEN NETWORK AUTOMATION PLATFORM

Thank You!