



ONAP

OPEN NETWORK AUTOMATION PLATFORM

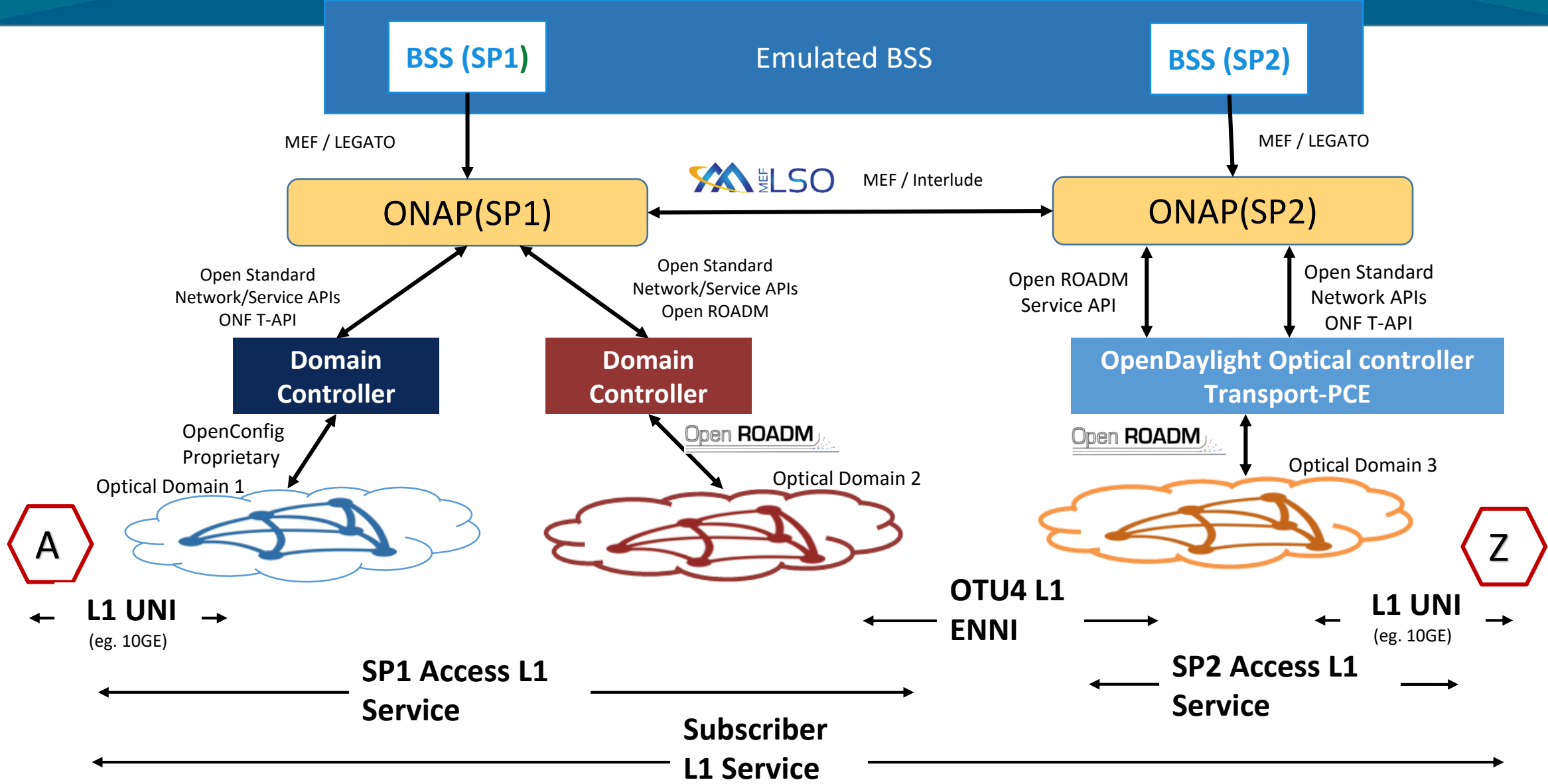
MDONS Extension in R7

Dec 2020 Fujitsu

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MDONS Diagram – Inter-carrier OTN Service



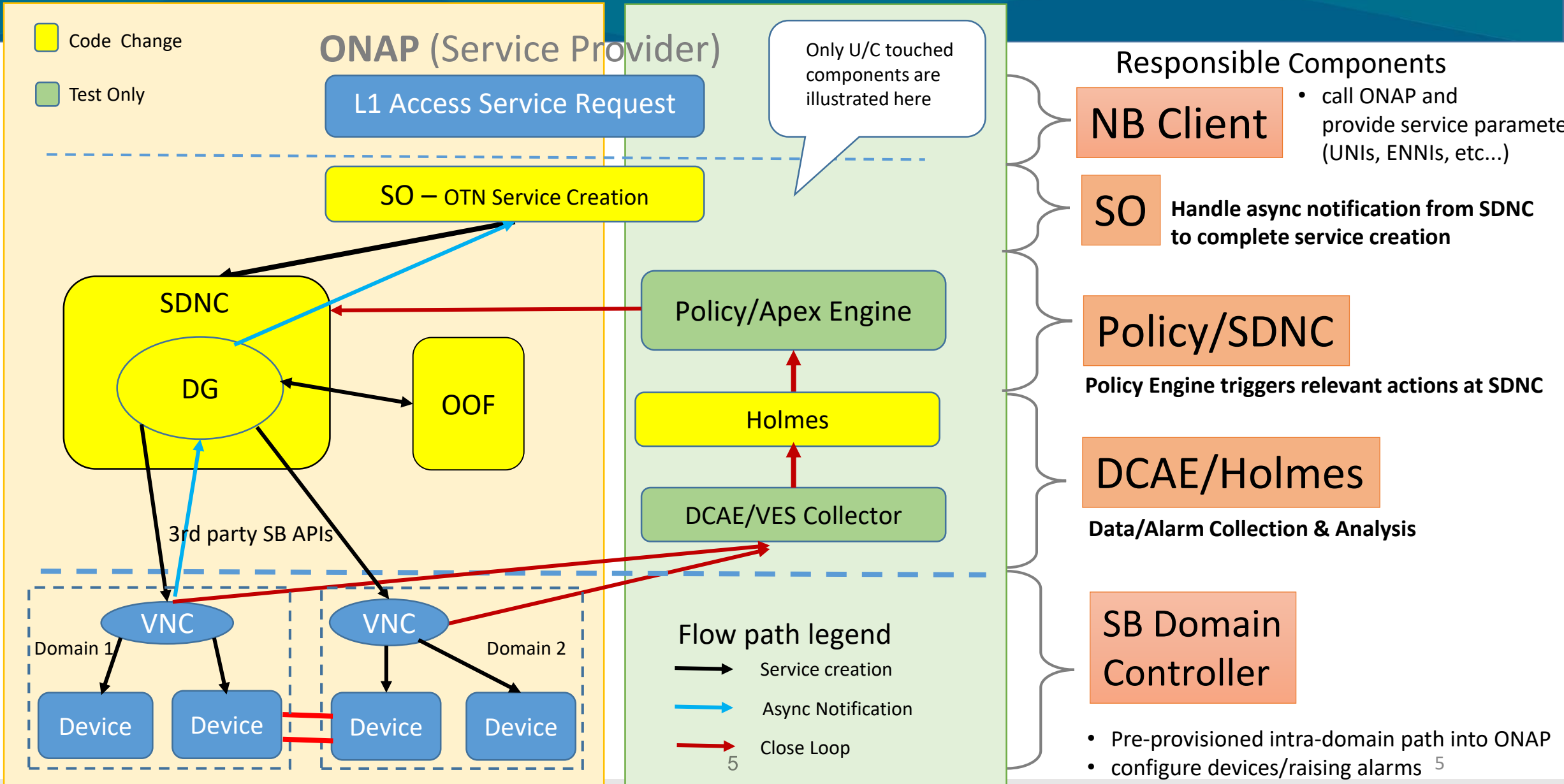
ONAP Requirements and Accomplishments in Frankfurt

| Requirement | ONAP Component | Complete? |
|--|---------------------|-----------|
| MEF Legato API (BSS service request) | EXT-API | |
| MEF Interlude API (inter-ONAP negotiation) | EXT-API | |
| Onboard Domain Controller | SDN-C | ✓ |
| Define service and resource models | SDC, A&AI | ✓ |
| Discover Domain Topology & Resources | ESR, A&AI, SDNC | ✓ |
| Create/delete inter-domain links | UUI, A&AI | ✓ |
| Create/delete intra-domain L1 service | UUI, SDC | ✓ |
| Create/delete inter-domain L1 service | UUI, SDC | ✓ |
| Create/delete intra-carrier L1 service | UUI, SDC | |
| Accept and validate L1 service request | SO | ✓ |
| Decompose L1 service request | SO/SDNC/DG | ✓ |
| Forward L1 service request to domain controller(s) | SDN-C/DG | ✓ |
| Open ROADM API | SDN-C/DG | ✓ |
| TAPI API | SDN-C/DG | ✓ |
| Execute Service Request | (domain controller) | ✓ |
| Accept response from domain controller | SDN-C/DG | ✓ |
| Update service inventory | A&AI | ✓ |
| Return success/failure to requestor | UUI | ✓ |

Demonstrated:

- Domain controller on-boarding
- Optical network and resource discovery
- L1 (OTN) intra-domain service creation/deletion using Open ROADM domain controller API
- L1 (OTN) inter-domain service creation/deletion using TAPI domain controller API

MDONS Extension Flow Hierarchy (Run Time) - Guilin



MDONS Closed Loop - Cross Domain OTN service IDL failure

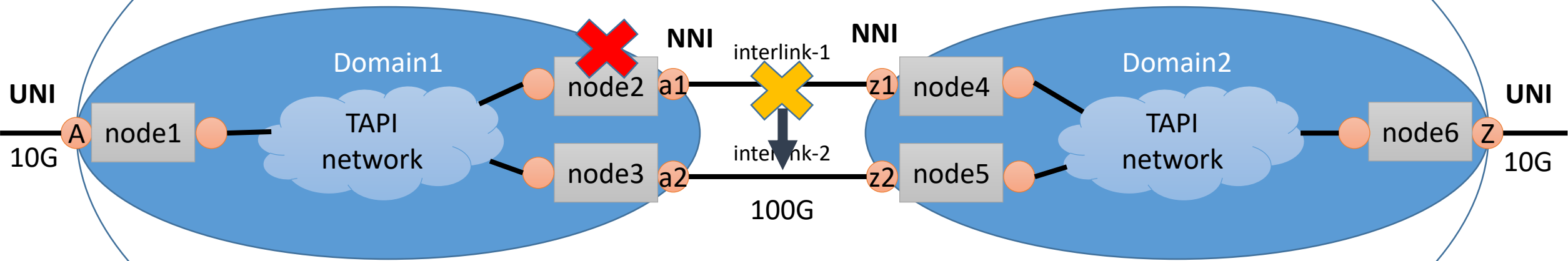
- Node2 down -> IDL-1 failure

node1 → NE

A → Port/TP

— → Link

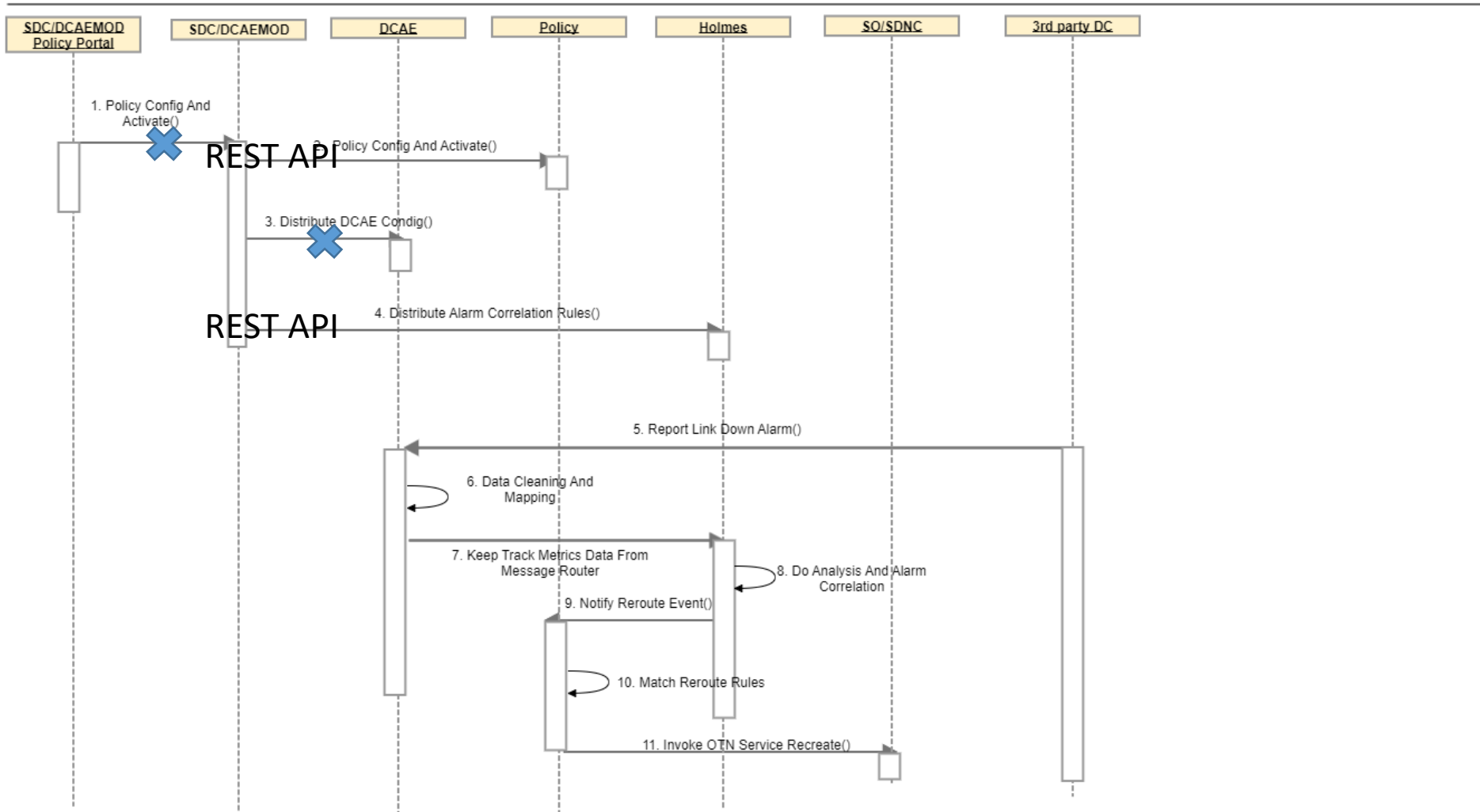
Service Provider 1



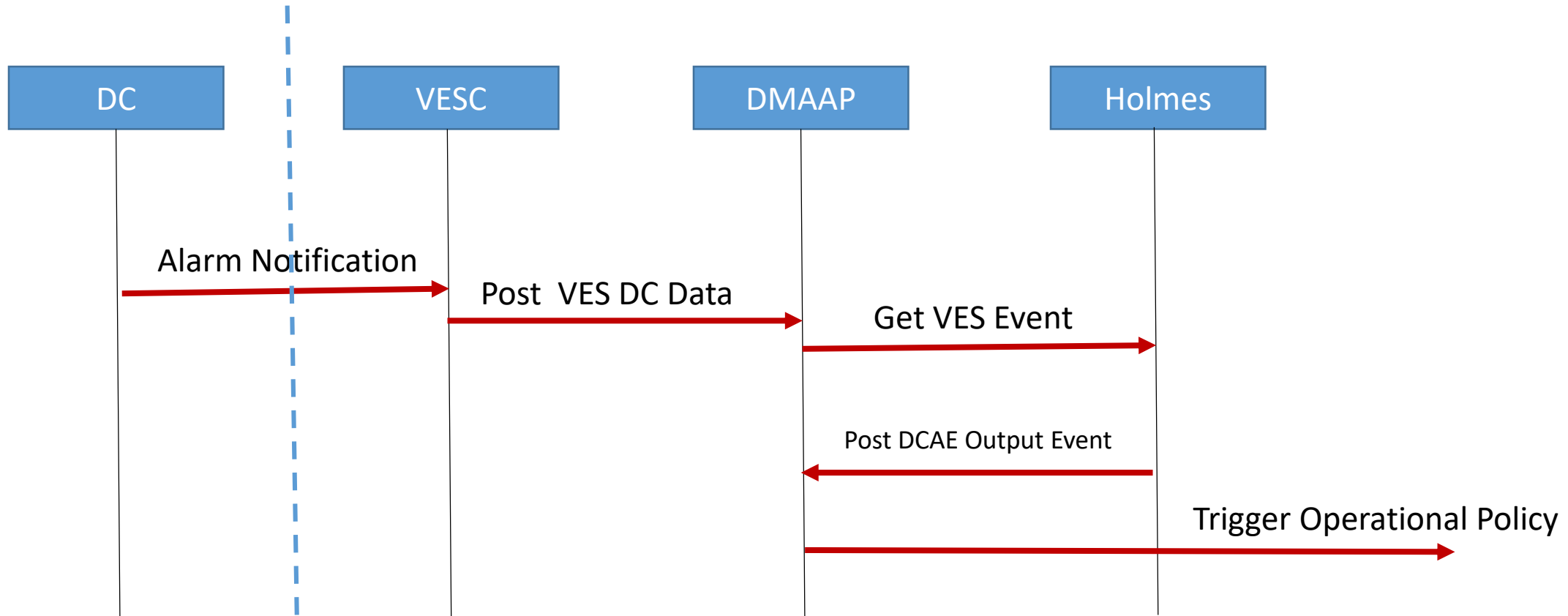
Note: IDL – Inter Domain Link

Close Loop - Guilin

MDONS Closed Loop Diagram



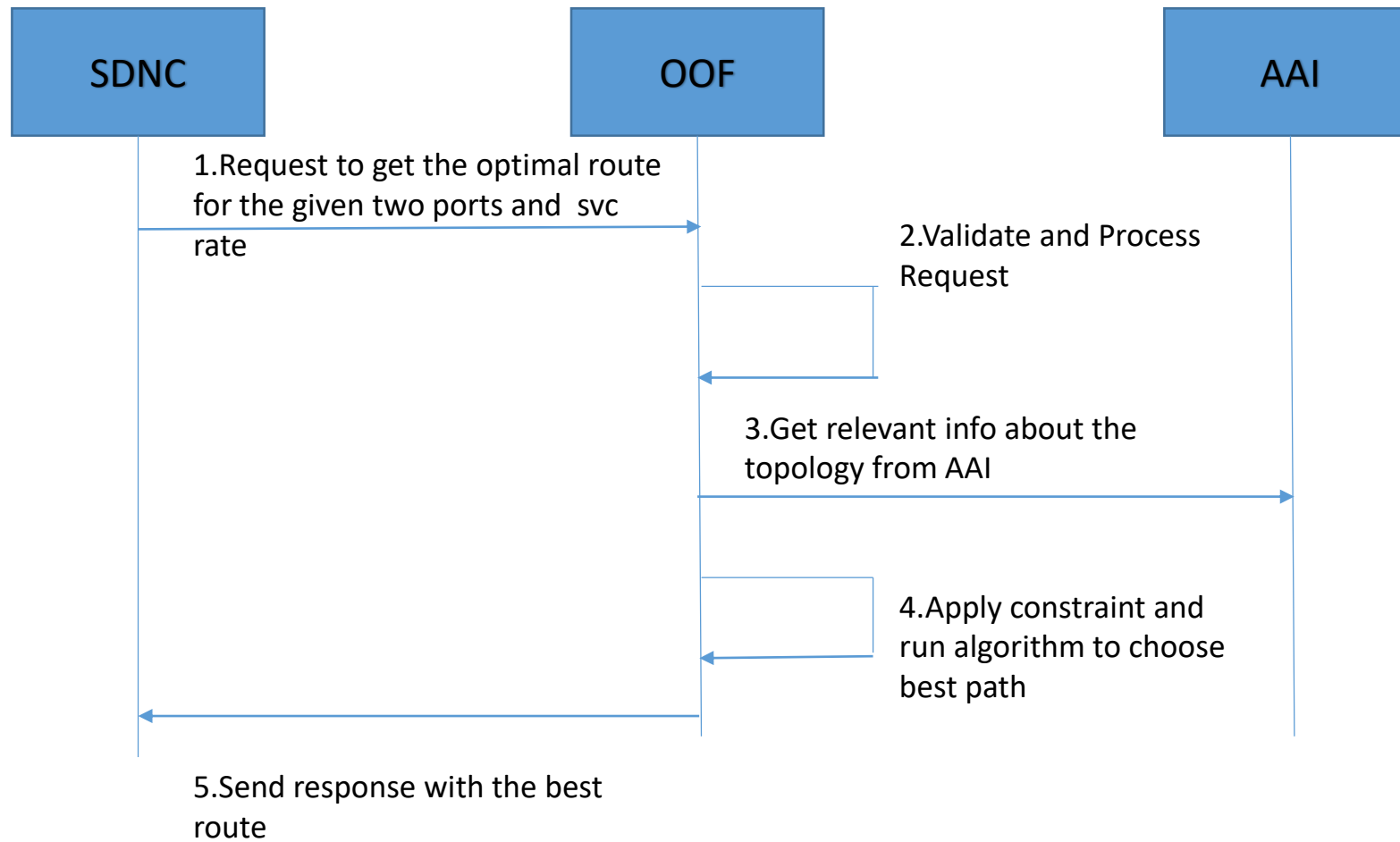
MDONS Data Collection – for CL (Option II)



Legend:

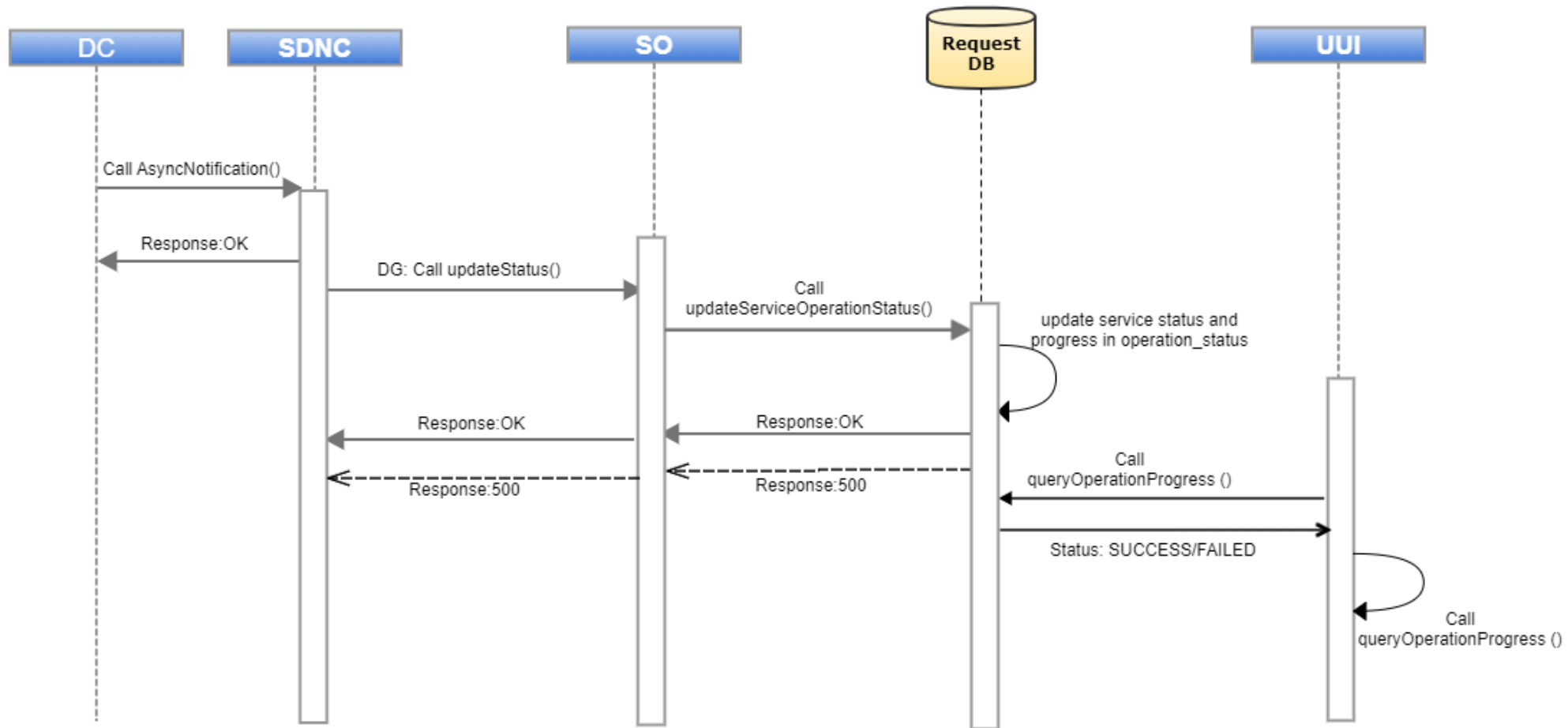
DC = Domain Controller **VESC** = VES Collector **Holmes** = Alarm Correlation MS

OOF Flow in MDONS - Guilin



ARH for MSA - Guilin

Async Response Handling Flow



Release impact in Guilin

| Components | Impacts | Function/Non-F |
|---------------|--|----------------|
| Holmes | Holmes-312 Holmes-378 | CL |
| VES Collector | Test Only | CL |
| Apex-Pdp | Test Only | CL |
| SDNC | SDNC-1233 | ARH/CL |
| SO | SO-2950 | ARH |
| OOF | OPTFRA-753 | OOF/CL |

- <https://wiki.onap.org/display/DW/MDONS+Extension+in+R7>

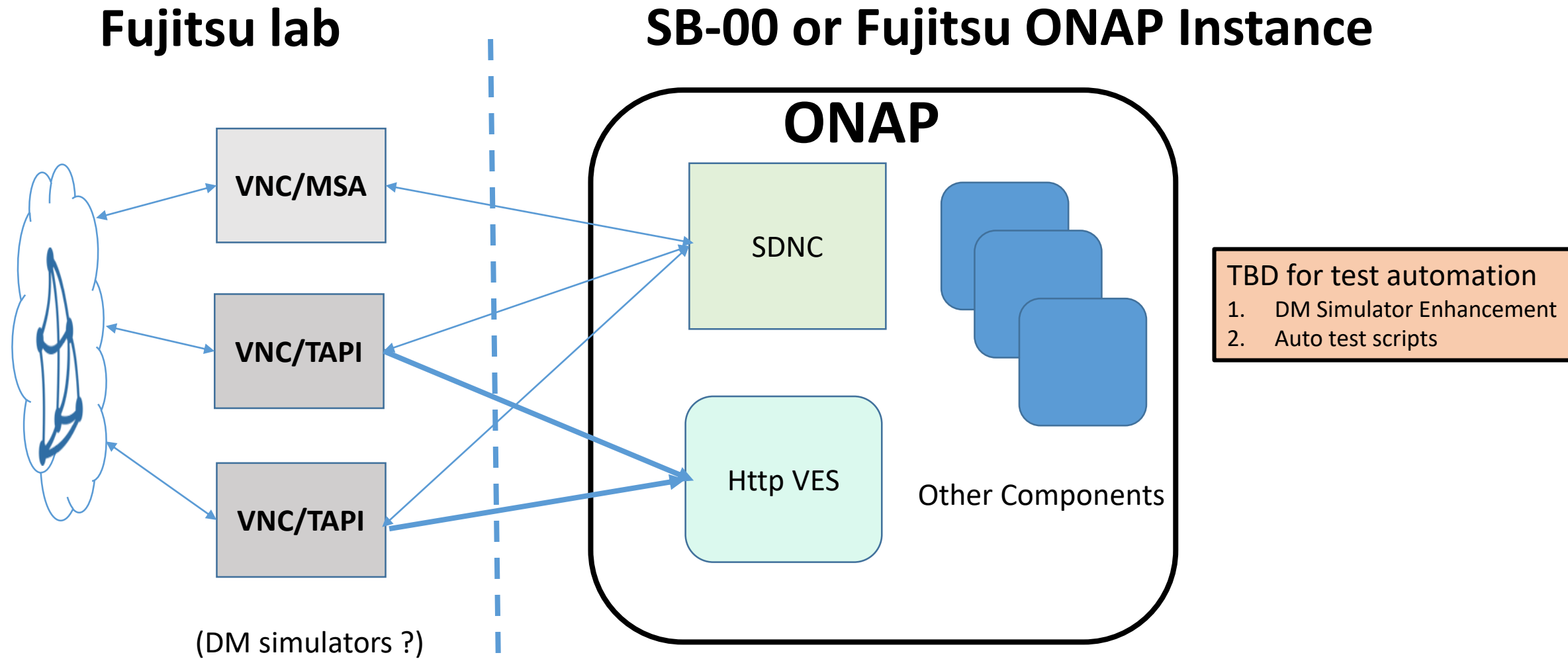
Test - CL/OOF

- Pre-conditions:
 - L1 Access Service template creation and deployment
 - Cross Domain OTN Services Provisioned in ONAP
 - Http VES collector and Holmes pods (by default) deployed
 - Alarm process rule defined and deployed at Holmes
 - Operational Policy defined and distributed to Apex Engine (w/ policy service paths registered at MSB)
- Node down alarms generation at NE simulators from VNC
- Alarm received at VES collector
- Alarm processed at Holmes
- Action triggered at through Apex engine and SDNC
- OTN Service associated with another IDL
- Alarm resolved -> down IDL up

Test II - ARH

- MSA OTN service creation
- Service at 'pending' state
- Activate the OTN service at VNC through Postman
- Notification sent to SO through SDNC
- Verify service creation successful from UUI

Current Test Setup



Honolulu Plano

- MDONS U/C maintenance mode
- Fujitsu will allocate resource for manual regression and integration verification
- Test automation (? Need help)
 - Domain controller simulator enhancement

Thank You!