

SDN-C : Original Project Proposal (5/12/17)

Project Name:

- Proposed name for the project: SDN Controller (SDN-C)
- Proposed name for the repository: sdnc ~~SDNC~~

Project description:

The SDN-C project provides a global network controller, built on the Common Controller Framework, which manages, assigns and provisions network resources. As a "global" controller, the SDN-C project is intended to run as one logical instance per enterprise, with potentially multiple geographically diverse virtual machines / docker containers in clusters to provide high availability. The project also will support the ability to invoke other local SDN controllers, including third party SDN controllers.

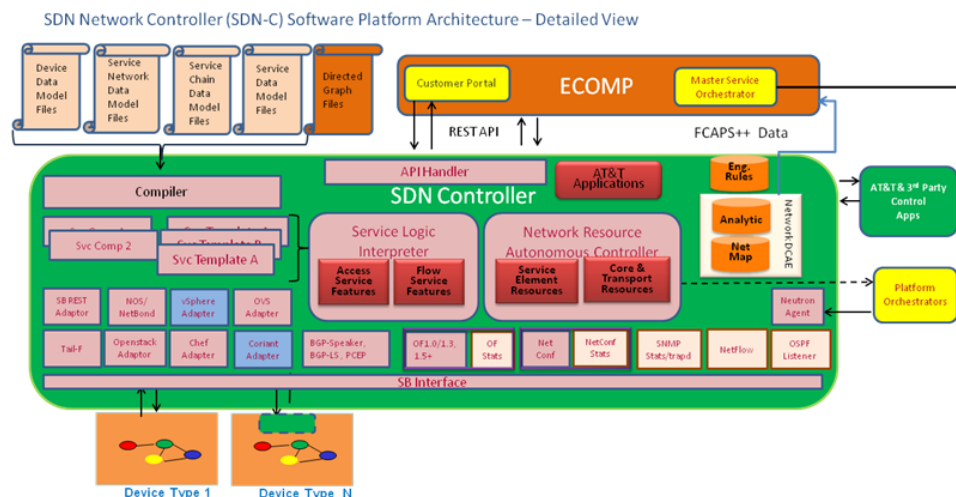
Scope:

- The following features are in scope for the SDN-C project for ONAP release 1:
 - Enhancements to support the ONAP release 1 use cases (vCPE, VoLTE)
 - Yang models,
 - Directed graphs
 - New Adapters needed to support use cases (details to be determined during planning phase)
 - Support for third party controllers:
 - Adapter to allow DG to connect to netconf devices (netconf-lite)
 - High availability (local)
- The following features will be defined for the project:
 - Configuration versioning : ability to roll back the configuration
 - CLI adaptor : abstraction layer for CLI adaptor
 - Support for third party controllers:
 - Adapter layer to interface with downstream controllers
 - Support for geographically distributed network resources
 - QoS support

Architecture Alignment:

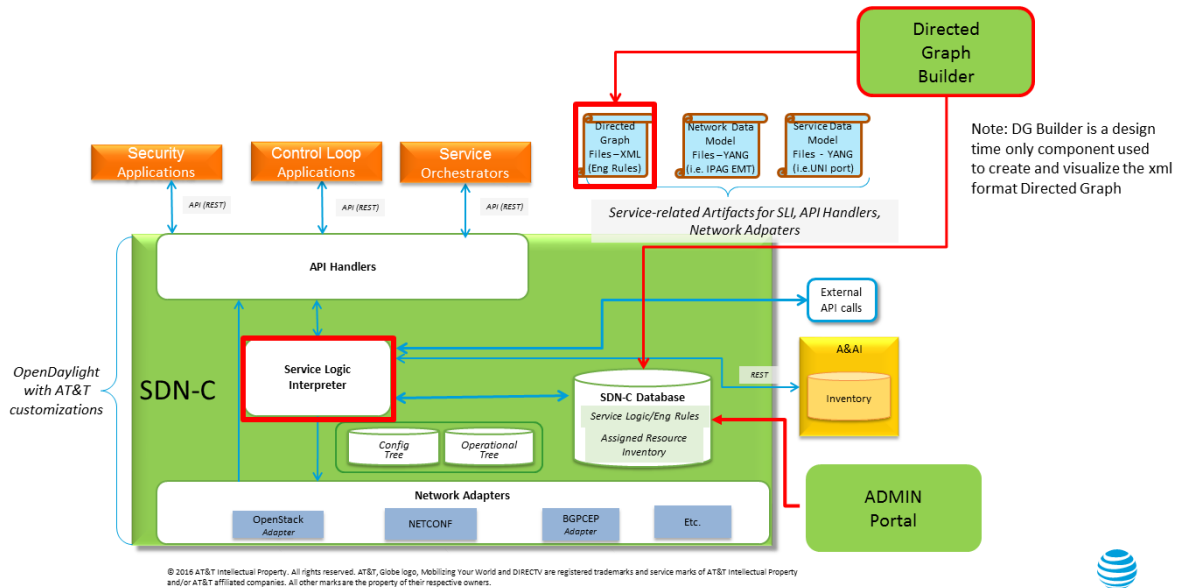
- How does this project fit into the rest of the ONAP Architecture?
 - This project provides the global network controller used by ONAP to manage network resources
- How does this align with external standards/specifications?
 - NETCONF, YANG
- Are there dependencies with other open source projects?
 - OpenDaylight
 - ONAP Common Controller SDK
 - Service Orchestrator (main client calling SDN-C)
 - Microservice Bus (if that is used for the SO - SDNC interface)

The slide below is the high level architecture vision for the SDN Controller showing all the various components in the vision and relationship to other entities. Not all of this vision is implemented in ONAP but it helps to show the breadth and depth of direction.



The picture below shows an example of an SDNC platform based component and the major components like the Admin portal, DG Builder and the mysql RDBMS as well as examples of adapters that might be used by SDNC-G or APPC in their applications.

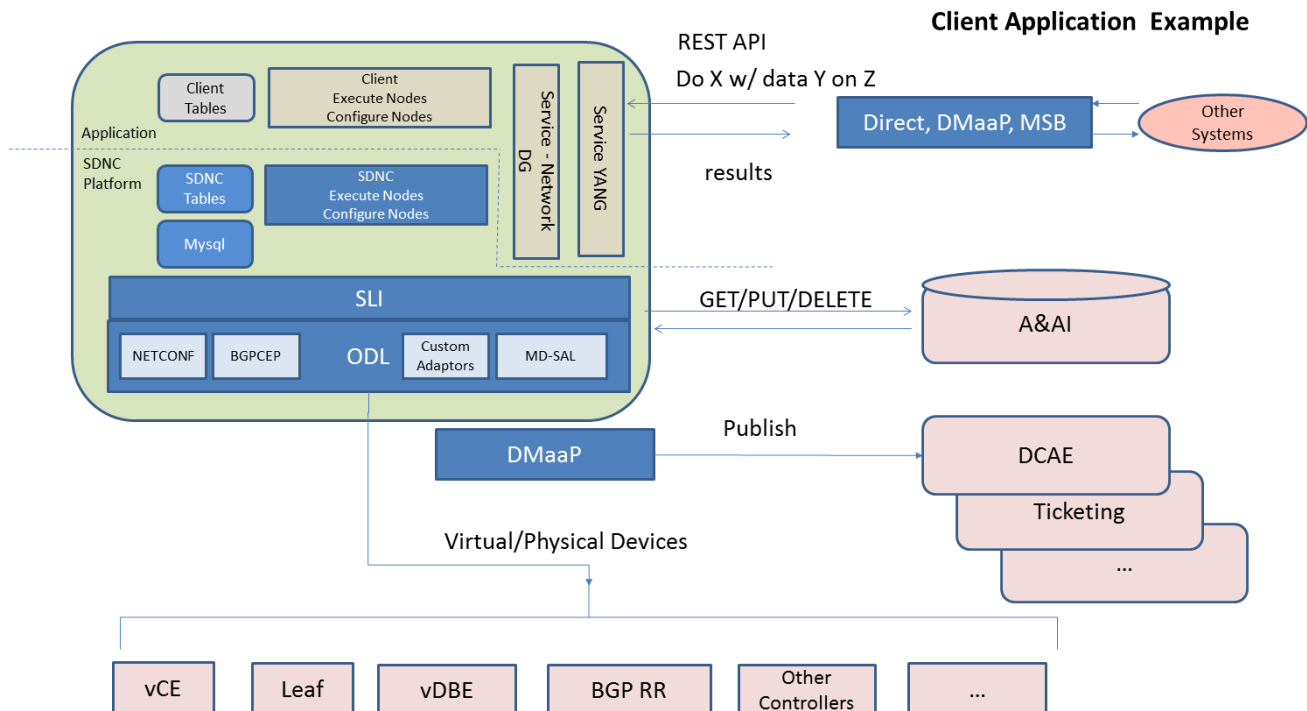
AT&T SDN Controller Framework



8

This diagram shows how applications on top of the SDNC platform relate to the SDNC platform. SDNC-G can have its own client tables, execute nodes, configure nodes and is uniquely defined by its Directed Graphs and Service YANG models.

The platform provides the SLI, the Mysql database and the installation and startup of OpenDaylight. Application can choose to use the DMaaP client provided by the SDNC platform or build their own as needed. Using DMaaP to publish events is a new feature required for some applications so that is part of the application and not part of the platform right now.



Resources:

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Key Project Facts

Project Name:

- JIRA project name: sdnc
- JIRA project prefix: sdnc

Repo name:

- org.onap.sdnc/architecture
- org.onap.sdnc/features
- ...

Lifecycle State: incubation

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Link to approval of additional submitters:

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