SDNC Roadmap

Dan Timoney – AT&T
Marcus Williams - Intel
SDNC Project Scope

• CCSDK vs SDNC
  - The Common Controller SDK (CCSDK) is a set of libraries and tools used to create controllers.
    • Based on OpenDaylight
    • Provides infrastructure needed to create, compile and execute directed graphs
    • Used in Amsterdam by APPC and SDNC
  - SDN Controller (SDNC) is the network controller for ONAP
    • Assigns resources and controls layer 1-3
    • Based on Common Controller SDK (CCSDK)
SDNC Amsterdam Release Scope

• Release goal was to establish base SDN controller platform, based on CCSDK
  - Features include:
    • Resource assignment
      • Automated assignments from local inventory pool
      • Assignments from preloaded data
    • Interface to third party SDN controller to create overlay and underlay networks
      • Southbound REST interface based on JSON templates
    • Interface to VPP based VNFs via Honeycomb
SDNC Amsterdam container architecture
SDNC Amsterdam Release : Incoming APIs

• Incoming APIs:
  - SDC interface:
    • Consumes TOSCA models, based on SDC TOSCA parser
  - DMAAP interface:
    • Subscribes to DHCP event
  - SO (REST) interface:
    • Supports 2 sets of APIs:
      • VNF-API
        • API for handling assignments for VNFs, using preloaded data
      • GENERIC-RESOURCE-API
        • API for handling generic resource assignments
        • Supports automated assignments
        • Intended as replacement for VNF-API, but first feature gaps must be resolved
          • Does not currently support preloads
SDNC Amsterdam Release: Outgoing APIs

- **Outgoing APIs:**
  - A&AI
    - VNF, VF data read/write
  - Third party SDN controllers
    - REST API adaptor
  - VPP Honeycomb VNFs
    - REST API adaptor
SDNC Beijing Release Highlights

• Primary goal of Beijing release is platform hardening (S3P)
  - Improve resiliency by introducing clustering based on Kubernetes
  - Greater focus on:
    • Scalability
    • Security
    • Stability
    • Performance

• New subproject SDN-R for wireless networks
SDNC Clustering on Kubernetes
SDNC Beijing Release : Incoming APIs

• Incoming APIs:
  - SDC interface:
    • More or less same as Amsterdam, except newer version of SDC client library
  - DMAAP interface:
    • TBD, but safe to assume there will be additional events identified
  - SO (REST) interface:
    • Plan to deprecate VNF-API in favor of GENERIC-RESOURCE-API
    • Will expose functionality of GENERIC-RESOURCE-API as microservices
SDNC Amsterdam Release : Outgoing APIs

• Outgoing APIs:
  - A&AI
    • Enhance to support Beijing version of A&AI interface/model
  - Third party SDN controllers
    • Add new netconf adaptor, to support interface to netconf based devices
    • Usability/programmability enhancements for REST API based interfaces
      • Make it simpler to support new interfaces without need to hand-code JSON templates
SDNC Future Directions

• Configuration management
  - Support for saving and rolling back to known good state on device
  - Support for adding new types of devices / controllers easily, without need for custom Java development

• Directed Graph technology improvements
  - Current building blocks are fairly low level
    • Add ability to create higher level building blocks, suitable for use by service experts with little programming knowledge

• Other ideas?
  - Interface from Domain Controller, to update A&AI