BBS Broadband Service Use Case (Frankfurt)

Sponsors

Frankfurt Goals

In Frankfurt, we will focus on bug fixes and improving the BBS use case documentation. No new features are planned in R6.

Overview

This use case proposes using ONAP for the design, provisioning, life-cycle management and assurance of broadband services. In a first step, multi-Gigabit Internet Connectivity services based on PON (Passive Optical Network) access technology will be considered. The use case covers new scenarios, such as nomadic ONT (Optical Network Terminal) and service subscription plan changes.

BBS use case shows the extensibility of the ONAP platform in supporting the orchestration of services across different locations (e.g., Central Office, Core) and technology domains (e.g., Access, Edge) within the locations.

In a joint collaboration with BBF (Broadband Forum) members, BBS implements/tests some of the specifications defined in the architectural framework of CloudCO (Cloud Central Office), Technical Report TR-384, among others. CloudCO aims at re-architecting the broadband network using SDN and NFV technologies and a cloud-like infrastructure deployed at Central Offices.

The definition of External API capabilities supporting this use case will be performed in collaboration with TM Forum and MEF LSO.

Features delivered in Dublin (R4):

1. **Establishment of a subscriber's HSIA (High Speed Internet Access) service** from an ONT to the Internet drain
    a. The HSIA service is designed and deployed using ONAP's design and deployment capabilities
    b. The HSIA service activation is initiated via ONAP's External APIs and orchestrated and controlled using ONAP orchestration and control capabilities. The control capabilities leverage a 3rd party controller to implement the requested action within the technology domain/location represented by the domain specific SDN management and control function.
2. **Change of location for ONT devices (Nomadic ONT devices)**
    a. PNF (Re-)Registration for an ONT
        i. Subscriber association to an ONT via ONAP's External APIs
        ii. ONT association with a expected Access UNI (PON port) when a HSIA service is created/deployed for a subscriber
        iii. PNF (Re-)Registration using ONAP's PNF registration capabilities
    b. Service location modification that is detected by ONAP's analytic and initiated via the closed loop capabilities
        i. The closed loop capabilities invoke a HSIA location change service that is orchestrated and controlled using ONAP capabilities and 3rd party controllers

BBS Documentation

Documentation on how to set up the use case:

- BBS Documentation (Frankfurt) (wiki)
- BBS Documentation. Dublin release (docs.onap.org)

Demo videos: BBS Documentation (Dublin) #BBSServiceConfiguration

Rocket Chat Channel: https://open.rocket.chat/channel/onap-bbs-public

BBS Use Case Presentations

Date	Event	Presentation Material
2020.01.13	2020 Jan LFN DDF	LFN_DeveloperTestingForum_BBS_Frankfurt.pptx
2019.11.11	ONAP-BBF Update	MSDO_ONAP_BBF_Nov_2019v4.pptx
2019.09.25	Open Networking Summit Europe (ONS Europe) 2019	20190925_ONS_ONAP_BBS_Broadband_Service_final_.pdf
2019.06.13	2019 June LFN DDF & Plugfest	20190613_ONAP_DDF_BBS_Broadband_Services.pptx 20190613_ONAP_DDF_BBS_UseCase_Demo.mp4

BBS Use Case Team Meetings

Weekly Meeting

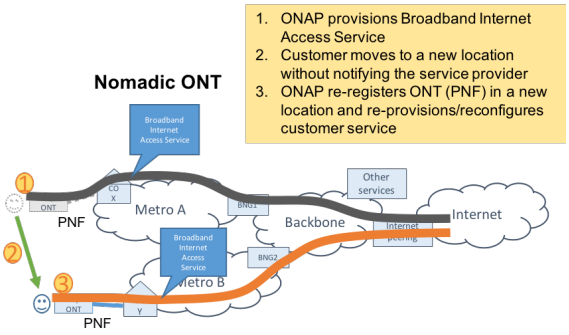
Next Call: on demand (onap-bbs@groups.io)

Chat

Rocket Chat Channel: https://open.rocket.chat/channel/onap-bbs-public

Impacts

The BBS Use Case for Frankfurt will focus on bug fixes and documentation



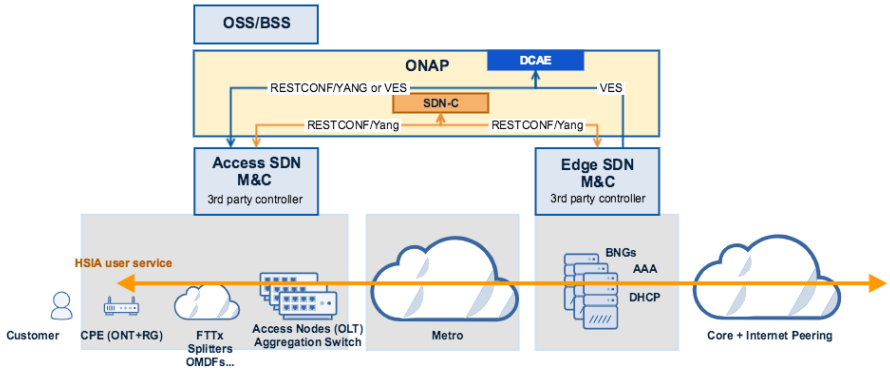
Business Requirements

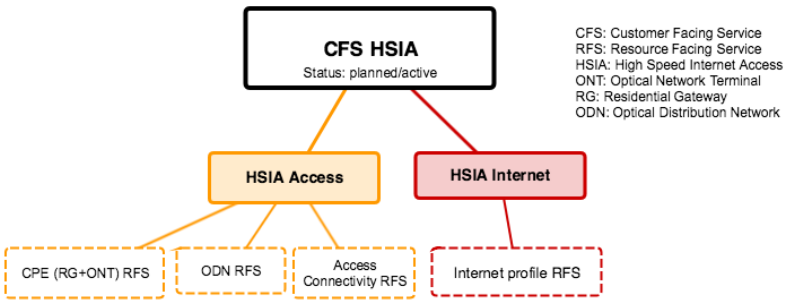
- Service providers need a flexible platform that integrates Broadband services using standardized APIs towards domain specific management and control systems, e.g. Access domain controller/orchestrator.
- Equipment vendors and systems integrators benefit from well defined, standardized APIs to which they can develop products and services.
- By closely collaborating with Industry consortiums, such as BBF, the BBS use case outcomes will serve as a basis for the definition of new standard interfaces and the evaluation and refinement of existing specifications.

Scope

The work leverages the CloudCO reference architectural framework (TR-384) by implementing the organization's work for integration of CloudCO to ONAP as defined in Cloud-CO-APPN-015: Cloud-CO-APPN-446: ONAP Integration for HSIA Service (Access) Integration for HSIA Service (Access). This use case implementated this application note in Dublin release. As the Broadband Forum develops additional Broadband Service application notes that are applicable for integration with ONAP, this use case will be extended over time to incorporate the new application notes.

System topology

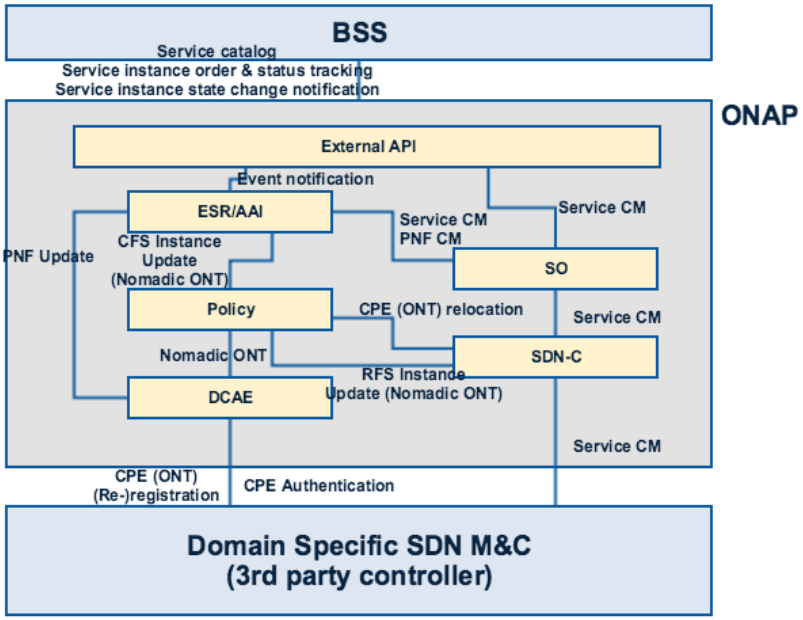




CFS: Customer Facing Service
RFS: Resource Facing Service
HSIA: High Speed Internet Access
ONT: Optical Network Terminal
RG: Residential Gateway
ODN: Optical Distribution Network

See BBS Modeling

Full System Context



Interface	Description
BSS External API	Advertise service catalog to external systems, e.g. BSS, service instance ordering and order status tracking, and service instance state change notifications to external systems.
External API AAI	This interface provides for notification of service instance state changes
External API SDC/SO	This interface provides invocation for the service catalog, LCM operations on the CFS HSIA instances, event notification on service instance order status
Policy DCAE	This interface provides closed loop policies for activation of the CFS HSIA and relocation of ONT
Policy SDN-C	This interface supports RFS re-configuration triggered by ONT relocation as well as device PnP
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DCAE Domain Specific SDN M&C	This interface provides event collection for Service and ONT health as well as notification of an ONT registration to a new Access attachment interface.
SDN-C Domain Specific SDN M&C	This interface provides the resource facing HSIA services for Access and Edge elements. In addition ONT application layer configuration is provided.

Sponsors

swisscom HUAWEI NOKIA

Frankfurt Goals

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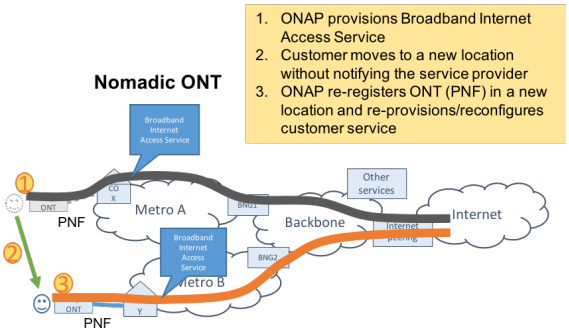

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BBS Use Case Team Meetings

Weekly Meeting

Every Tuesday 2:00pm to 3:00pm (UTC+00:00)
https://zoom.us/j/895776501

Next Call: **Tuesday Apr 21, 2020**

Chat

Rocket Chat Channel: https://open.rocket.chat/channel/onap-bbs-public

Impacts

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Project Commitments

Project	PTL	Commitment	Notes
AAI			
CLAMP			
DCAE			
External API			
Policy			
SDNC			
SO			

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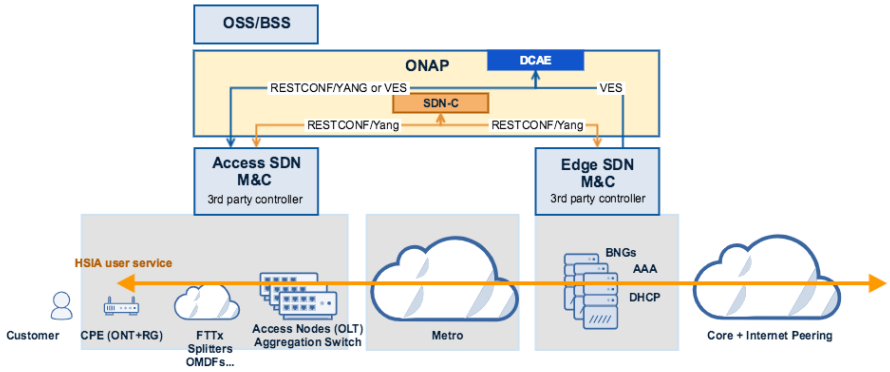

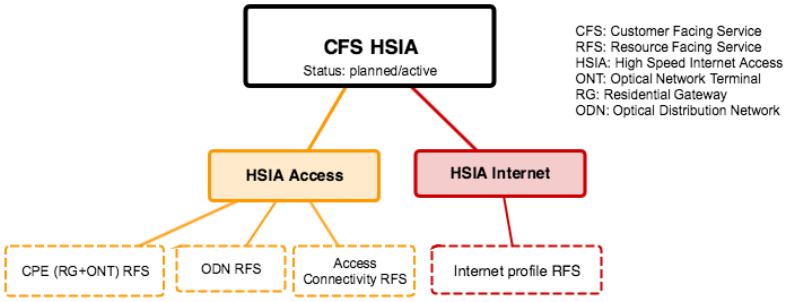

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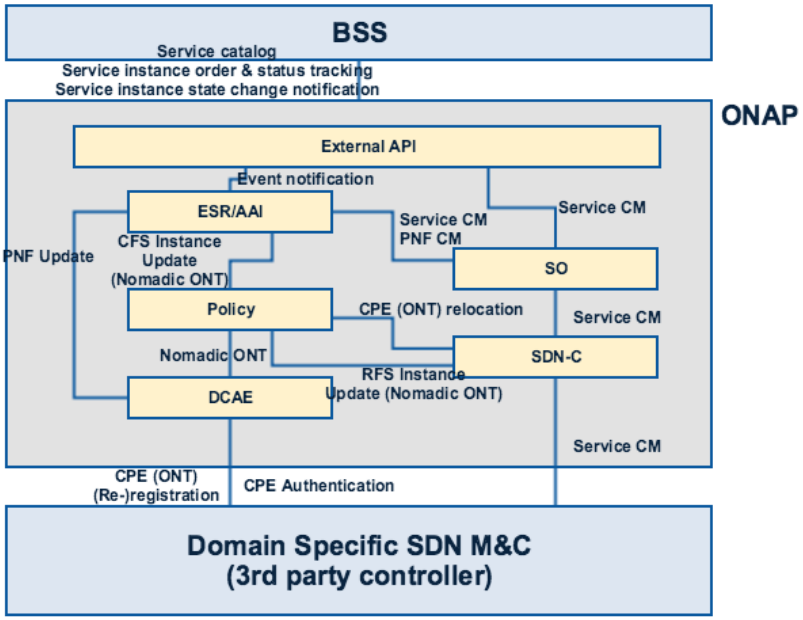

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