

2020 October Virtual Technical Meetings Daily Summaries

13 Oct 2020

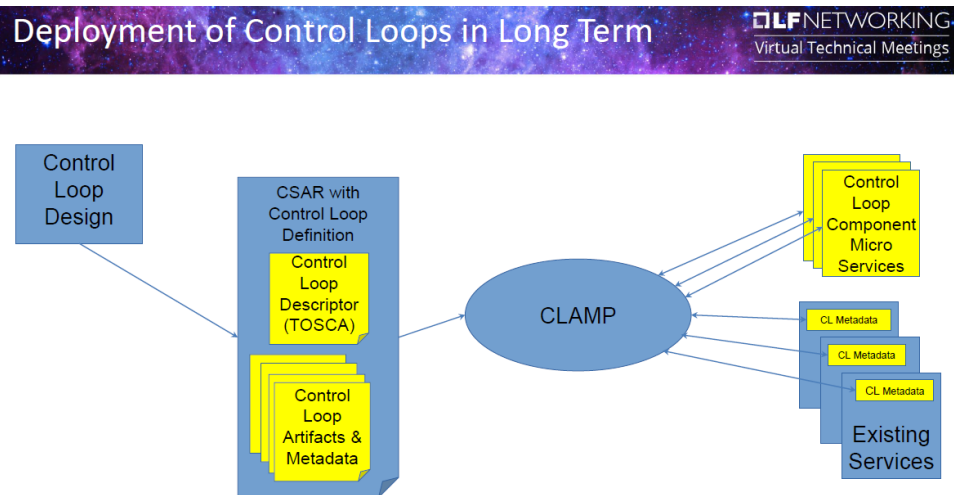
Track	Key Points	Challenges	Action Items
Cross-Community	Good discussions on how to build a trusting community. Targeted at the CNTT/OPNFV Meld activities, but applies across the LFN and Open Source communities.		
ONAP	<p>Session on E2E Network Slicing - Honolulu release Scope and Future Roadmap (Presenters: LIN MENG, Swaminathan Seetharaman, Milind Jalwadi, Henry Yu)</p> <p>This session covered what functionality has been realized in Guilin, and the proposal for Honolulu and beyond for each of the following tracks of the E2E Network Slicing use case:</p> <ul style="list-style-type: none"> Enhancements in CSMF and NSMF for E2E Network Slice allocation, standards alignment, operator intervention, etc. RAN, Core and Transport Slicing related aspects, including alignment with O-RAN (RAN) and ETSI ZSM & IETF (Transport) KPI Monitoring, Closed Loop Control & Intelligent Slicing <p>Feedback from the ONAP community was sought on topics such as Network Slicing in roaming scenarios (i.e., true e2e slicing), interaction of slice management & orchestration functions (NxMF) with the Core NFs such as NSSF and NWDAF, collaboration with C&PS project, etc.</p> <p>Presentation Slides are available here.</p> <p>ONAP-based Slice Management: Overall Architecture Choices</p> <p>In H-release, we will mainly continue with enhancements for Scenario 1, and address a few gaps in Scenario 4.</p>		
	<p>ONAP Multi Tenancy - Demo of Guilin work and Roadmap</p> <p>Multi-tenancy: Centralized and Distributed Components</p> <p>Multi-tenancy requires that some ONAP components are:</p> <ul style="list-style-type: none"> Centralized components Single logical instances with multi-tenancy isolation built in. <ul style="list-style-type: none"> Service Design – Service and Resource design Inventory – Available inventory data Service Orchestration – Service and Resource orchestration Distributed components Several logical instances, where configuration/management can be handled independently by end-users running in tenant namespaces <ul style="list-style-type: none"> Collectors – Outbound or Inbound data coming from Network Element's network interfaces/networks. Controllers – Outbound for configuration on Network Element's management interfaces/networks. Analytics applications – which uses primarily Kafka, but also external data sources used to process data coming from Collectors and publish events Policy executors – act upon certain network events to trigger configuration/orchestration flows, consuming from DMaaP and triggering actions via REST, gRPC or DMaaP <p>To be efficient in building, testing and operating those components the teams need as much flexibility as possible within the platform, while maintaining certain levels of isolation (especially with regards to data).</p>		

ONAP Demo of O-RAN-SC O1 interface simulator configuration via CDS



CDS-ORAN-NETCO...lator-Demo.pdf

ONAP Control Loop in TOSCA PoC and Rel H evolution



ONAP Orchestration of Free 5G Core CNFs using ONAP4K8s (EMCO)



Free5GC CNF On...ONAP Preso.pdf

CNTT
/OPNFV



CNTT K8S SURVEY

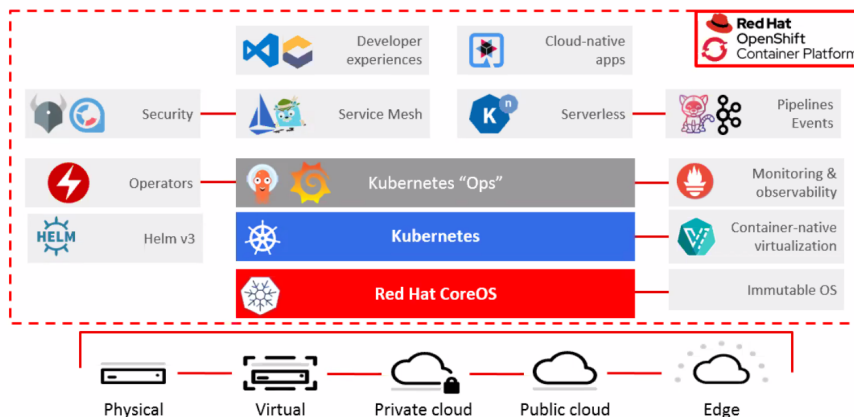
OPNFV TSC Meeting

- Jerma M2 scheduled for Oct 20
 - Functional freeze - Readiness Review
 - Document significant accomplishments
 - Release Management Tasks sent to for M2
- Goal for Documentation outline in Jerma Release -Agreed
- Revisions to RELREQ-13 on Storage testing requirements and clarifications - Agreed
- OPNFV Input to LFN Governing Board meeting on Project's Priority Activities - Agreed
- Meld Meeting
- Meld work continues to make great progress. All three workstreams have actions and activities working towards a January 1 transition.
- Likely that new TSC will be interim to align with the election processes of OPNFV and get the Meld org in sync with rest of LFN

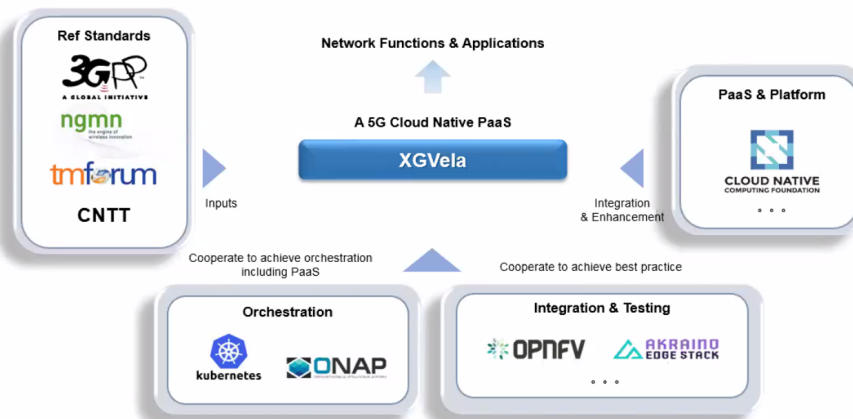
XGVela
Project
Update &
Discussion


XGVela

Telco PaaS - Much more than Kubernetes



XGVela Update | Cross-Community Collaboration

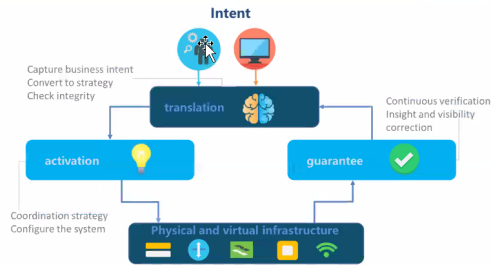


EUAG and SDN	 <p>EUAG and...N v1.pdf</p>		
EUAG and Software Defined Networking by Ahmed El Sawaf			

14 Oct 2020

Track	Key Points	Challenges	Action Items													
Cross-Community	<p>Multiple engaging discussions on EUAG</p> <ul style="list-style-type: none">• Exploration of how to expand the scope of EUAG to better address the community needs• Telcom operators discussing how to bring a joint operator/vendor perspective.															
ONAP	<p>ONAP Requirements Subcommittee - new requirements for Honolulu</p> <p>#1 ONAP ETSI-Alignment (SOL004, SOL005 v3.3.1)</p> <p>#2 E2E Network Slicing use case</p> <div><div><h2>ONAP-based Slice Management – NSI Life Cycle view</h2><div><div>DLFNETWORKING</div><div>Virtual Technical Meetings</div></div><div><p>Objective: Demonstrate e2e slice design, instantiation and operation, including RAN, core and transport slice sub-nets</p></div><div><div><div><div>Preparation</div><div>Design → On-boarding</div><div>Network environment preparation</div></div><div>→</div><div><div>Commissioning</div><div>Creation → Activation</div></div><div><div>Operation</div><div>Supervision → Reporting</div><div>Modification</div></div><div>→</div><div><div>Decommissioning</div><div>De-activation → Termination</div></div></div><div><div>Ref.: 3GPP TS 28.530</div></div><div><div><div>Enhancements in Guilin</div><div>Focus area for Honolulu for new functionality</div></div><div><ul style="list-style-type: none">• Design and pre-provision: Creation of necessary slice/slice sub-net templates.• Instantiation/Configuration & Activation/Deactivation of NSIs, including instantiation/mapping of its constituent slice sub-nets (RAN, Core and Transport).</div></div></div></div></div>	<p>#2 E2E Network Slicing</p> <p>Comment: O-RAN a topics such as slicing</p> <p>Comment: Clarify w/</p>														
	<div><div><h2>Summary of Honolulu Requirements</h2><div><div>DLFNETWORKING</div><div>Virtual Technical Meetings</div></div><table><thead><tr><th>Requirement</th><th>Content</th></tr></thead><tbody><tr><td>Provide a full E2E Slicing solution involving Core, RAN & Transport NSSMF</td><td><div><div>1. Enhancements in the E2E Slice allocation & stitching together all subnets</div><div>2. Slice selection taking into account capacity, resource occupancy levels, etc.</div><div>3. TMF 641 API support for slice LCM operations (stretch goal)</div></div></td></tr><tr><td>RAN Slicing enhancements</td><td><div><div>1. Instantiation of RAN NFs and initial configuration (RAN service) (O2 – stretch goal)</div><div>2. Enhancements in interactions with NSMF (endpoints, slice profile) and TN NSSMF</div><div>3. Mapping Slice Profile to each Near-RT RIC</div><div>4. Use of A1 interface for Closed Loop and AI/ML</div><div>5. RAN (re) configuration enhancements</div></div></td></tr><tr><td>Core Slicing enhancements</td><td><div><div>1. Configurations of Core Slice Subnet</div><div>2. Placement of Core NFs (stretch goal)</div></div></td></tr><tr><td>Transport Slicing enhancements</td><td><div><div>1. Enable reuse of existing TN NSSI (consider also endpoints)</div><div>2. Resource occupancy levels of TN NSSI</div><div>3. Standard interfaces and info model enhancements</div><div>4. Support MP2MP connectivity (stretch goal)</div></div></td></tr><tr><td>Modeling (indicated as a separate track but many aspects are linked with other tracks)</td><td><div><div>1. Service and Slice Profile, endpoints related enhancements</div><div>2. RAN slice sub-net modeling enhancements (including front-haul and mid-haul)</div><div>3. NST not containing NSST list, but only sub-net list (stretch goal)</div></div></td></tr><tr><td>KPI Monitoring, Closed Loop and use of AI/ML</td><td><div><div>1. PM data collection and KPI computation (Guilin carry-over)</div><div>2. Closed Loop and AI/ML at e2e slice and slice subnet level for RAN & Core</div><div>3. TMF 628 for PM data collection – first steps (stretch goal)</div></div></td></tr></tbody></table></div></div>	Requirement	Content	Provide a full E2E Slicing solution involving Core, RAN & Transport NSSMF	<div><div>1. Enhancements in the E2E Slice allocation & stitching together all subnets</div><div>2. Slice selection taking into account capacity, resource occupancy levels, etc.</div><div>3. TMF 641 API support for slice LCM operations (stretch goal)</div></div>	RAN Slicing enhancements	<div><div>1. Instantiation of RAN NFs and initial configuration (RAN service) (O2 – stretch goal)</div><div>2. Enhancements in interactions with NSMF (endpoints, slice profile) and TN NSSMF</div><div>3. Mapping Slice Profile to each Near-RT RIC</div><div>4. Use of A1 interface for Closed Loop and AI/ML</div><div>5. RAN (re) configuration enhancements</div></div>	Core Slicing enhancements	<div><div>1. Configurations of Core Slice Subnet</div><div>2. Placement of Core NFs (stretch goal)</div></div>	Transport Slicing enhancements	<div><div>1. Enable reuse of existing TN NSSI (consider also endpoints)</div><div>2. Resource occupancy levels of TN NSSI</div><div>3. Standard interfaces and info model enhancements</div><div>4. Support MP2MP connectivity (stretch goal)</div></div>	Modeling (indicated as a separate track but many aspects are linked with other tracks)	<div><div>1. Service and Slice Profile, endpoints related enhancements</div><div>2. RAN slice sub-net modeling enhancements (including front-haul and mid-haul)</div><div>3. NST not containing NSST list, but only sub-net list (stretch goal)</div></div>	KPI Monitoring, Closed Loop and use of AI/ML	<div><div>1. PM data collection and KPI computation (Guilin carry-over)</div><div>2. Closed Loop and AI/ML at e2e slice and slice subnet level for RAN & Core</div><div>3. TMF 628 for PM data collection – first steps (stretch goal)</div></div>	<p>#3 Smart Operator Intent -based Network & 5G Slicing Support</p>
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3. Overview of IBN in ONAP (reference)

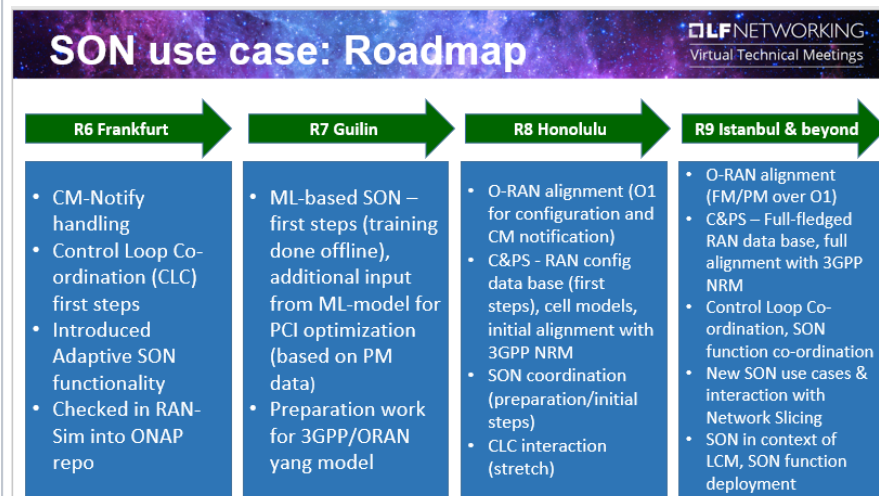


ITU-T High-Level Framework of Intent-Based Network





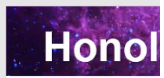
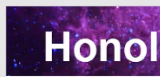
The target architecture of the Intent-Based Network is divided into a Intent orchestration layer (hereinafter referred to as the Intent layer), a control layer and a network layer.

The intent orchestration layer contains 4 key operational steps ("intention collection" – "intention conversion" – "intention and configuration verification" – "decision and optimization remediation"), cooperates with the configuration release of the control layer and network status collection to achieve a complete Closed loop operation process.

#4 5G OOF SON use case



Honolulu Requirement Summary			
Category	Requirement	Content	Priority
Interoperability	O-RAN alignment (VES, O1 interface)	1. Receive Configuration Management (CM) notifications over VES 2. Align with relevant aspects of O-RAN O1 interface (netconf configuration, PM and FM notifications)	HIGH
Functional	RAN Database (C&PS DB), including new RAN models	1. Data models/DB schema & APIs to be generated from yang models 2. Details of cells to be stored with PNF reference in AAI 3. Modeling of RAN functions and objects (align with NRM)	HIGH
Platform	Control Loop Coordination (CLC) extensions	Collaborate on CLC extensions (queueing, priority, ...) (stretch goal)	HIGH
Functional	SON co-ordination	Co-ordination across SON functions – initial steps	MEDIUM
Functional	SON function to evolve ONAP platform	1. (New) SON use case based on data/KPI analysis 2. Machine Learning (ML) SON aspects in DCAE (extension) 3. Interaction with Network Slicing (stretch goal) 4. CLC interaction (stretch goal)	MEDIUM
Functional	SON in the context of LCM	Role of SO (e.g., new cell discovery/addition) (beyond H-release)	LOW
Platform	SON function deployment	SDC & CLAMP (for SON service/feature deployment) (beyond H-release)	LOW
Interoperability	Real gNB interaction	Interaction with real gNodeB in lab (over O1 interface)	LOW

ONAP	<p>ONAP Impact of the current ONAP release- and branching strategy on documentation</p> <p>Discussed the possible solutions for branching documentation and project / Cross release issues.</p> <div data-bbox="224 218 1175 294">  <h2>Proposal for Improvement</h2> </div> <ul style="list-style-type: none"> Create and maintain a <u>full</u> list of (sub)components and provided documentation as part of an ONAP release <ul style="list-style-type: none"> Work started, clarification with PTLs ongoing (See Jira and List) Includes functional and non-functional components (e.g. Architecture, Security, Modelling, VNF Requirements, Use Cases). List should be part of the Release Lifecycle process Release Process improvements <ul style="list-style-type: none"> <u>All</u> (sub)components that are part of a release must create a release branch (see Branching Strategy) All documentation content must be validated (and changed if required) to ensure that it fits to the release. A note about this validation (or update) must be made in the (sub)project release note. (<u>also for not changed components</u>) The availability of the described information and the execution of described tasks must be ensured by corresponding milestones of the Release Lifecycle process 	<p>Several projects have deprecated repos</p> <p>Documentation update tracking should be part of release process</p> <p>should documentation be in a single repo ?</p>	<div data-bbox="1338 134 1500 210">  <h2>Decision</h2> </div> <ul style="list-style-type: none"> Fixing of Fr <ul style="list-style-type: none"> Trigger R LFN ? Create Fr DOC upd Guilin impr <ul style="list-style-type: none"> Complete Creation Creation Update o Release pr <ul style="list-style-type: none"> Honolulu Documer Maintain
ONAP	<p>ONAP Security Subcommittee Kanban</p> <p>Review Helm, OS, Python/java updates</p> <p>Update Vulnerable direct dependencies (tracking through wiki)</p> <p>M1 (TBD) commit resources</p> <p>M4 (TBD) complete upgrades</p> <p>Guilin seccom retrospective : lots of improvements in this release</p> <div data-bbox="224 982 794 1281">  <h3>Guilin SECCOM retrospective 1/2</h3> <p>PRIORITY 1</p> <ul style="list-style-type: none"> Updates of the languages (java from v8 -> v11 (REQ-351) and Python 2.7 -> to 3.8 (REQ-373)) Actual status based on the script run and waiver exceptions. Updates of directly dependent software components (REQ-323) Automated security testing – containers not running as root (REQ-362) Increase the number of CIS Docker Benchmark checks in the Integration healthchecks (REQ-357) <p>PRIORITY 2</p> <ul style="list-style-type: none"> Secrets management No root access for apps (REQ-358) All config files inside the main container should be ReadOnly (REQ-359) </div> <div data-bbox="224 1285 769 1583">  <h3>Guilin SECCOM retrospective 2/2</h3> <p>PRIORITY 3</p> <ul style="list-style-type: none"> Increase of code coverage (REQ-349) CII badging (REQ-350) <p>PRIORITY 4</p> <ul style="list-style-type: none"> High Priority SECCOM initiative: service mesh recommendation SECCOM initiative: OJSIs to be solved: hardcoded passwords removal (REQ-361) SECCOM initiative: https communication User access management ONAP MVP Flow management (REQ-376) Logs management (REQ-374) </div> <p>Reviewed H release priorities</p>		<div data-bbox="1338 764 1500 840">  <h2>Honolulu</h2> </div> <ul style="list-style-type: none"> Continue Continue After Ser Harbor re <ul style="list-style-type: none"> you can push the possibili Harbor c Logs mar <ul style="list-style-type: none"> commor for next commor release) <div data-bbox="1338 1285 1500 1360">  <h2>Honolulu</h2> </div> <ul style="list-style-type: none"> SIEM inte <ul style="list-style-type: none"> integrati logs fror alarms v CII Badgii <ul style="list-style-type: none"> Crypto Implen Crypto HELMv3

Release Theme, Focus Area

LF NETWORKING
Virtual Technical Meetings

- The Release Theme for Guilin was “API Documentation”) New
 - i. Swagger.json
 - ii. Focused on the Modeling subcommittee recommendations on best practices for the API swagger files
 - iii. API Spec are Referenced the updated links to the API Specs in the Component Architecture Template
 - iv. Future Releases Proposed Themes:
 - i. Honolulu (R8) - Information and Data Models
 - ii. Istanbul (R9) - Flows
 - iii. Koyoto (R10) - Modularity

ONAP

ONAP TCC Network Management

- ETSI
 - ETSI NFV update – Thinh Nguyenphu
 - ONAP Conformance to ETSI – Byung-Woo Jun
- 3GPP
 - RAN Slicing: 5G NR Resource Configuration Management – Kamel Idir
- TM Forum
 - Digital Transformation World – Magnus Buhrgard
 - Catalysts, rapid-fire proof-of-concept projects – Magnus Buhrgard



TCC Generic Ne...Management.pdf



LFNTECH_ETSI_NF...2020_final1.pdf

ONAP

ONAP Honolulu - CNF Task Force Requirements

ONAP Added Values for Cloud Native

OLFNETWORKING
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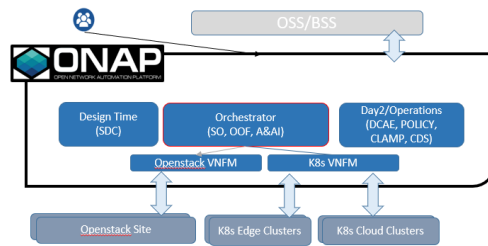
ONAP itself uses Micro-service architecture & uses Cloud Native principles

ONAP Manages Network-service & application LCM across Multiple VIMs (Openstack, K8s)

ONAP Design tools support multiple descriptions (Helm, TOSCA, HEAT etc.)

ONAP OOF (Optimization) chooses the right locations to place workloads

ONAP DCAE collects telemetry from remote sites, analyzes them and generate any control loop actions (Scale, Heal)



ONAP supports standard models & APIs as per ETSI, TMF, MEF, 3GPP

ONAP enables Day2 configuration of Network functions via RESTful API, NetConf, K8s CRDs

ONAP AAI is the central repository that keeps site/network element inventory and network service status.

ONAP SO (Service Orchestrator) is orchestrating different workloads: VNFs, PNFs, CNFs

ONAP is a comprehensive E2E Network Management Platform Solution

Presentation of REQ-334 (ETSI Alignment-CNF Support) - SOL004, SOL005 v3.3.1

ONAP ETSI-Alignment for Honolulu+

CNF Mission Statement

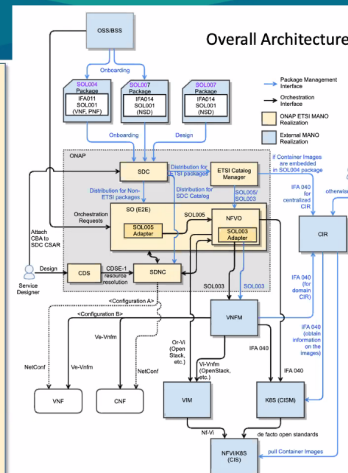
- CNF Support is one of the highest priority work items for ONAP and operators
 - Define a fast path to CNF support, and accomplish it across multiple releases (Honolulu+)
 - For now, leverage currently available ETSI Stage 2 specifications, without waiting for ETSI Stage 3 (SOL)
- Collaborate between ONAP and ETSI NFV to complete CNF Stage 3 specifications promptly

CNF Support Scope for ONAP Honolulu

- CNF modeling, onboarding and distribution support
- Software image (for VNF) and Container Image (for CNF) Handling via NFVO, ETSI Catalog Manager and CIR
- CNF LCM through SO, SO NFVO (or VFC) and VNFM via standard APIs (covering instantiation and Day 0 configuration based on Helm Charts)
 - Create / Instantiate / Terminate / Delete CNF
 - Note: CNF support level from VNFM is vendor-specific
 - Note: Assuming the interfaces between VNFM and CISM are based on Kubernetes APIs (it is under discussion with ETSI NFV team)
- OOF-based Granting support by SO NFVO only for both VNF/CNF instantiation and Termination, not for VNF/CNF Healing or Scaling
- Collaboration with non-ETSI-based CNF support in SO; SO launches the proper CNF LCM path based on models (i.e., model-driven)

Configuration Support (Stretch Goal)

- Leverage CBA design and SDC distribution (CBA + CSAR) for model-driven configuration
- Leverage the existing CDS, SDNC / MultiCloud path, or ETSI-based configuration support thru *Ve-Vnfm* (SOL002)
 - For Honolulu, leverage the ONAP existing path



REQ-341 (CNF Orchestrator)

Proposed scope for REQ-341 - Honolulu+ (1)

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- SDC Enhancements
 - Continuation of native Helm support changes
 - Helm validation [stretch]
- AAI model changes
 - K8s resource type created from helm package -> similar role to vservice object
 - Snapshot of Status API result in AAI
- AAI API - Exposure of Status API result with conversion to JSON
- SO Changes
 - SO E2E API Improvements
 - SO CNF Adapter
 - Status API in CNF Adapter
 - AAI synchronization after each change -> Notification based
 - SO Integration ETSI Flow -> We need to make sure the flow will coexist with REQ-334

REQ-341



Call for Developers 1

If any interest then p

REQ-334: [Fernando](#)

REQ-341: [Lukasz R](#)

☐ Consider port

Proposed scope for REQ-341 - Honolulu+ (2)

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Virtual Technical Meetings

REQ-341

- Integration of K8s API v2 -> Investment for the future development
 - Configuration API for v2
 - v2 in OOM + adaptation of existing helm charts for NFR
 - SO CNF adapter must be changed in SO
 - ArtifactBroker must be modified for v2 or replaced by CNF adapter distribution
 - Native Profile Handler in CDS must be switched into v2
 - v2 in ONAP python-sdk?
- CCSDK/CDS
 - Native Configuration API Handler for v1 or v2
 - Native Status API Handler for v1 or v2
- Dedicated CNF Health Check Workflow in SO
 - Status Check -> Status API result verification
 - CNF Health Check with Dedicated Health Check Job Execution
- **We may want to switch to another pure CNF use case**
 - CNF use case CBA + Integration scripts
 - Reference Health Check Job Implementation for selected CNF use case
 - **Prometheus for collection of metrics**



ONAP

ONAP: Hands-on session on ONAP Optimization Framework (OOF)

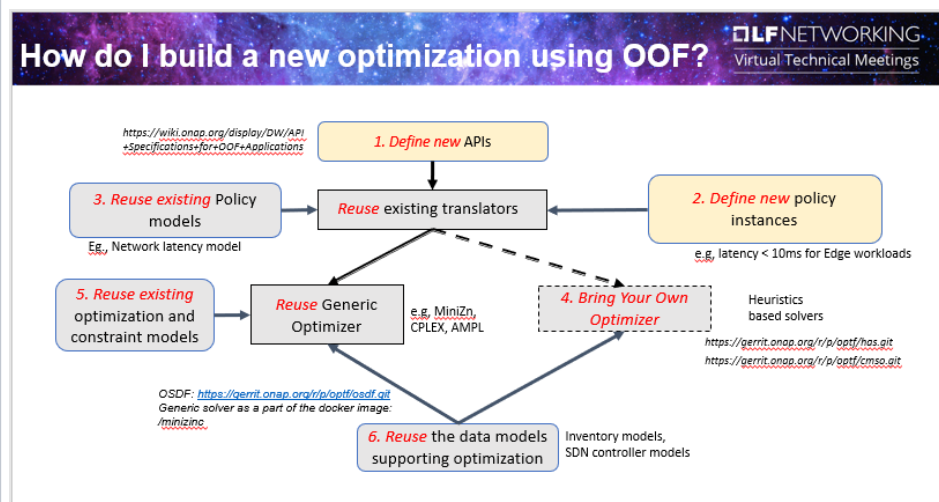
This session provided an overview of OOF, its modular architecture, capabilities and ease of reuse w.r.to onboarding a new use case or requirement that needs some sort of optimization functionality. It also described the typical realization steps to follow for any use case or requirement needing optimization (provided by OOF). It was followed by a guided walk-through with an example of how the E2E Network Slicing use case realized the optimization needs easily through a lot of reuse of existing functionality with some enhancements.

Comment: Policy team highly appreciated the work done by OOF team for effective usage of the new Policy framework.

Query: A query on how subnet instance's resource occupancy levels and capability of an existing instance to cater to a new request are considered by OOF.

Response: This isn't yet considered by OOF, however, it is proposed to be realized in Honolulu release, with OOF getting the required info on available resources and capacity through an "inventory provider" which for example could be AAI or DCAE, which leverages existing OOF capabilities to a large extent.

Presentation slides are available [here](#).



CNTT /OPNFV

Field trial by Orange reviewed

Next OVP revision documentation update planning

Very engaged conversation on Telemetry and Observability

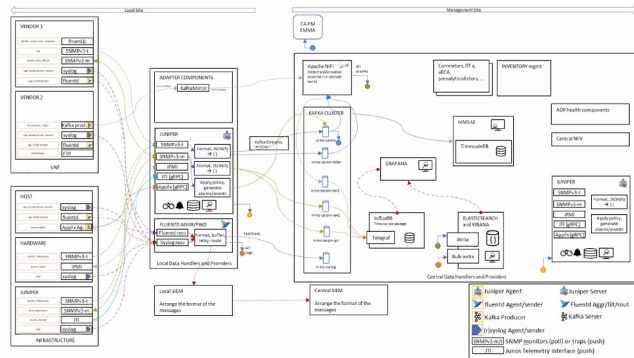
HA requirements got into the obligation of defining the test approach vs. implementation.

ODIM Project gave an overview of the project, with the CNTT RM team describing how the Hardware Interface Manager (HIM) concept can be addressed by ODIM. Several key areas were identified for collaboration. The ODIM team will continue the dialog in RM meetings and RA meetings afterwards, at the appropriate time.

this session presented an architecture for the Telemetry/Observability of VNFs and Cloud Infrastructure (NFVI) to achieve full automation leading to zero touch operation.

This architecture is based on a central telemetry data BUS on which are connected Providers Consumers and Subscribers of telemetry data.

IMPLEMENTATION AT DEUTSCHE TELEKOM



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OLFNWORKING

14

THE SUMMARY

- › Juniper and DT jointly put together this architecture
- › The joint solution is implemented and deployed in production
- › All Telcos need this in their desire to “zero touch” operations
- › CNTT RM should adopt this architecture
 - › Win for Telcos
 - › Win for Vendors
 - › VNF/CNF and NFVI vendors support this model/API
 - › True multi-vendor solution
 - › Simplifies VNF/NFVI integration
 - › No more silo'd solutions

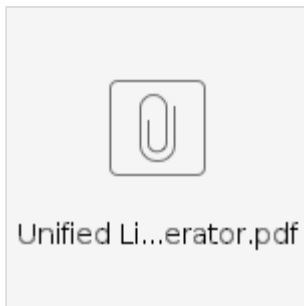
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15

Unified Life Cycle Management using TF Operator - integration with Airship

Discussed approach on unification of life cycle management of Tungsten Fabric using Tungsten Fabric operator and provided reference implementation of an integration with Airship



Transparency of TF Community

Shared details around documentation, governance, release management and related topics, community has made significant progress in recent days. looking forward to take it further as a collaborative effort. Callout for new contributors and participants for Tungsten Fabric community

☐ Sukhdev Kapu
drive to wiki.tu

Tungsten Fabric	TF Feature Development Roadmap Discussed details on the 2020/2021 roadmap items with focus around cloud-native, dpdk, datapath and some other areas		Prabhjot Singh Seth discussions around : <input type="checkbox"/> Prabhjot Singh native effort
Tungsten Fabric	TF vRouter - New debug and troubleshooting tools Presented a session on new debug and troubleshooting tools inducted for datapath		consider further ses: <input type="checkbox"/> Kiran KN need
Tungsten Fabric	TF Cloud Native Discussion Discussion around cloud native work happening in tungsten fabric. Also presented a demo on Tungsten Fabric integration with envoy proxy		

15 Oct 2020

Track	Key Points	Challenges	Action Items
Cross-Community	PLEASE FILL OUT THE EVENT SURVEY: https://www.surveymonkey.com/r/LFNTech PLEASE REGISTER IF YOU HAVE NOT: https://www.cvent.com/d/k7q1mh/4W?ct=50221cf5-5496-4c34-9ec0-3b52b1bf1204&_ga=2.21073848.2005020082.1597615801-222812119.1571605958&_gac=1.250209970.1597348253.EAlaIQobChMluJ2I9vmY6wIvEh-tBh3_KApSEAAyASAAEgLU1fD_BwE		
ONAP	<ul style="list-style-type: none"> Policy Framework Guili key updates. Detailed working session & demo of Xacml-PDP engine. Detailed working session & demo of Apex-PDP. Detailed working session & demo of Drools-PDP engine. Plans for Honolulu release <p>All the details (slides, postman collection etc) are available here - https://wiki.onap.org/display/DW/2020-10-15+October+LFN+Virtual+Technical+Meetings</p>		

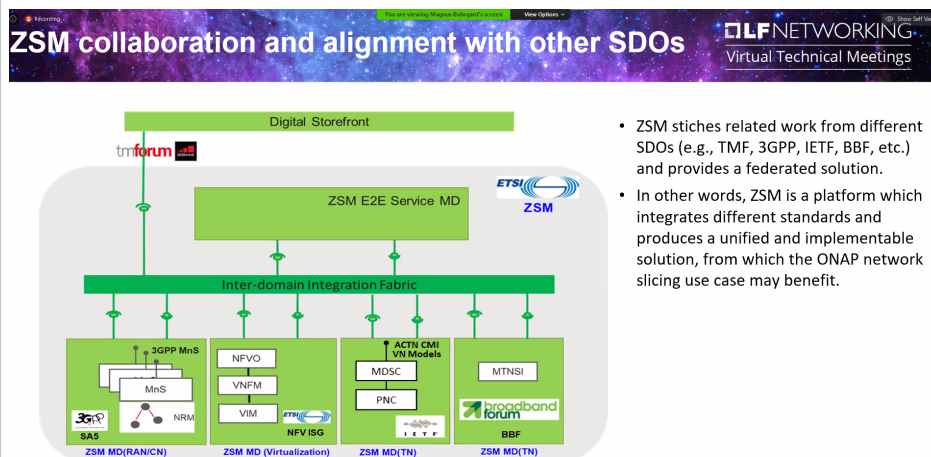
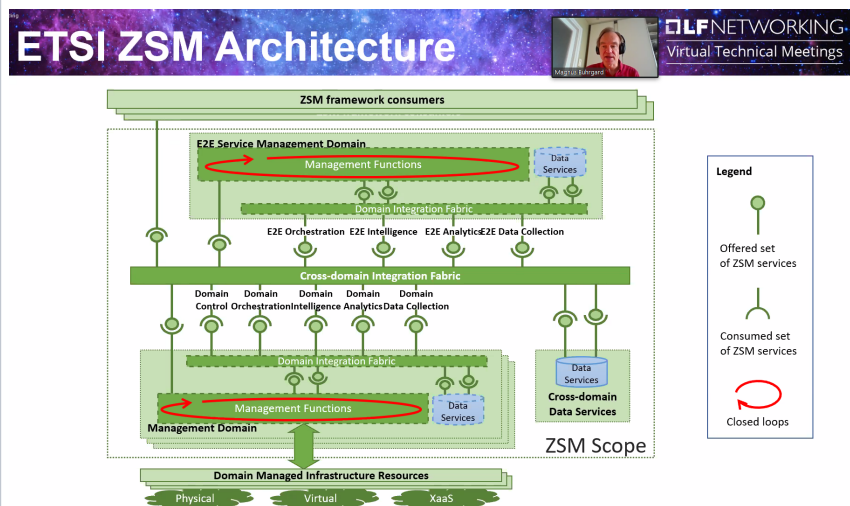
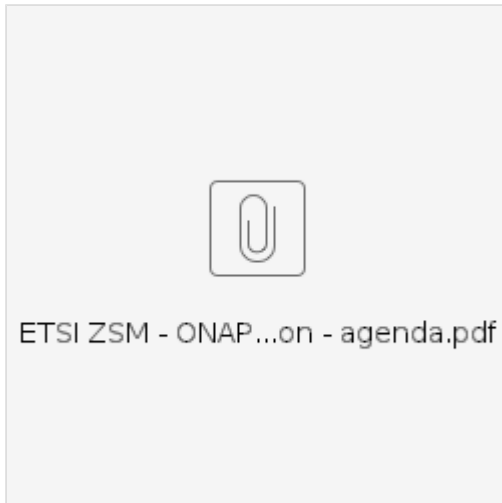
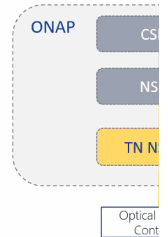


Illustration of the relation between the scopes of ZSM and other groups (source: ZSM 003)

- External interfe

Otherwise the TN

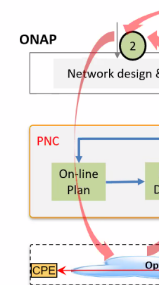
Implementa



TS: Transport Slice
TSC: Transport Slice Controller
TSC: Transport Slice Connectivity
Interface
NBI: Northbound interface
SBI: Southbound interface
ACTN: Abstract & Control of TE
Network
MDSC: Multi-Domain Service
Coordinator
PNC: Physical Network Controller
ACTN/NBI: ACTN MDSC to PNC
Interface

- Call for Develo

Future roadm
Automation



- 2021: New CPE deployment (and service activation)

ONAP

ONAP: O-RAN Collaboration and Alignment

Presentation slides are available [here](#).

ONAP & O-RAN

- O-RAN yang models for O1 interface
- Yang models and interface to Near-RT RIC
- A1 enhancements and usage scenarios
- O2 interface specification (for RAN Slicing, and RAN “service”)
- Use cases and requirements in ONAP (SMO/Non-Realtime-RIC) involving RAN
- SON – functional split and interactions (including A1 enhancements)
- Closed Loop and ML-based scenarios for E2E Network Slicing (including A1 enhancements)
- Insights w.r.to RAN deployments, configuration & dependencies
- Inputs w.r.to O-RAN focus areas, new specifications & timelines

ONAP & O-RAN SC

- Synergy in development of simulators (O-RAN components)
- Collaboration for:
 - Identification of joint use cases
 - E2E use case realization and joint demos
 - [Plugfests](#) and LFN events
- Alignment w.r.to realization of SMO, Non-RT RIC and Near-RT RIC functionality

ONAP 5G & PNF use cases aligned with O-RAN & 3GPP

5G USE CASE	DESCRIPTION	Req vs U/C	5G Specific
BULK PM – PM control	PM data collection control provides a dynamic and efficient way to configure performance measurement collection on a selected subset of xNFs and complements the existing PM data collection and processing capabilities.	Requirements	General
OOF - SON PCI (5G)	Optimization and SON functions for 5G RAN. Self-optimization, Self-Healing, Self-configuration.	Requirements	5G
5G SERVICE MODELING & DEFINITION (5G)	Defining and modeling a 5G Service (in Design Time) and associated Modeling (Platform Info & Data Model).	Requirements	5G
CONFIGURATION & PERSISTENCY SERVICE	Configuration Persistency Service using internal Database for storing Network related data for use in LCM, OSS, Network, Operational applications.	Requirements	General
xNF LICENSING MANAGEMENT	Continue xNF License Management UC analysis for xNF onboarding, PNF introduction/ONAP PnP and VNF instantiation. Bring in new UCs like usage monitoring for the purpose of invoicing.	Requirements	General
ONAP/3GPP & ORAN Alignment	Standards Defined Notifications over VES Introducing the capability to receive, validate and process standards defined notifications encapsulated in VES events in ONAP. Also with A1 Adaptor extension.	Requirements	General
ONAP/ORAN Alignment - A1 adapter	A1 adapter: Enhancing the A1 adapter/interface capabilities in ONAP to manage A1 Policies, support multiple A1 targets in the RAN and multi-version A1 interface for different A1 targets, introduce secure TLS communication.	Requirements	General
E2E NETWORK SLICING (5G Use Case)	Network Slicing defines Slices for 5G RAN systems. Network Slicing is a long-lead (multi-release) development. (will be presented in its own lecture at the Virtual Face to Face)	E2E Use Case	5G

- Provide a mor
- O-RAN memb
- Feel free to cc
- [Tracy Van Bra](#)
- Link to ONAP [/Technical+Co](#)
- [Rittwik Jana](#) is
- Document the
- Continue the a Wed.

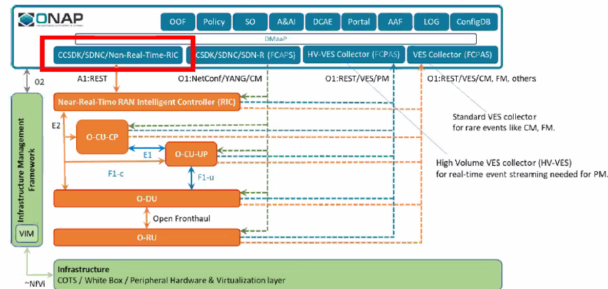
ONAP

ONAP: A1 Policy enforcement with Non-RT RIC

What is Non-RT RIC

- A new component in ONAP
- A part of O-RAN Architecture
- Added to ONAP in Guilin

- For non-real-time control of RAN infrastructure
 - Optimization
 - Performance monitoring and evaluation
 - Provisioning of policies
 - Training and provisioning of AI/ML models



Source: O-RAN Alliance

- Control Loops > 1s

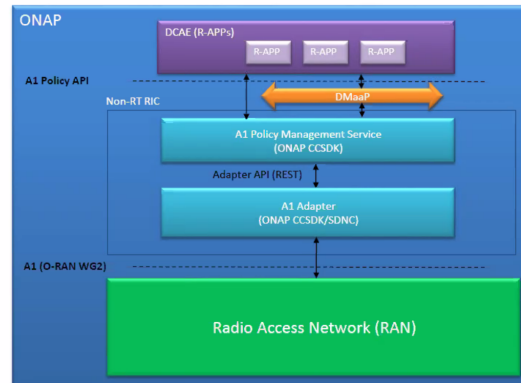
Non-RT RIC as a part of ONAP platform

In ONAP "G" release, only A1 Policy Management function is supported

Components focus:

- A1 Policy Management Service: CCSDK micro service ([community design](#))
- A1 Adapter: SDNC plugin ([community design](#))
- R-APPs: DCAE micro services ([proposed option](#))

A1 policy: Declarative *Set of rules* to guide the near-RT RIC function, and hence the RAN, towards better fulfillment of the RAN operational or business goals.



ONAP

ONAP Honolulu - What Should We Improve?

ONAP TSC Next Priorities

In Progress

- Promote "What we have done" – Thank you to all ONAP "Demo Makers"
- Deliver Guilin Release (November 2020)

Next

- Implement the new Release Cadence Strategy with Honolulu
- Setup ONAP Project Maintenance Task Force

What Else?

- Review TSC Composition
- How can we manage multiple releases i.e. N-2 (El Alto, Dublin)
 - Today we only support N (latest official release i.e. Frankfurt) and N+1 (release under development i.e. Guilin)?
- Document to describe "How to operate ONAP" beyond the use cases and functional requirements
- Sharing "Best Practices" about how to use ONAP (from an operational perspective) across companies
- Continue to promote "What we have done" (Webinars, Demos, ONAP Certifications)
- Increase Test Automation (including Regression of previous Use Cases) + Demos for Use Cases (Do not wait RCx to start)
- Learn from CNCF about how we could optimize our ONAP Deployment (K8s and more)
- Resume our E2E Load/Performance/Stretch Testing to help us to define capacity management and to identify potential bottlenecks in our E2E Architecture

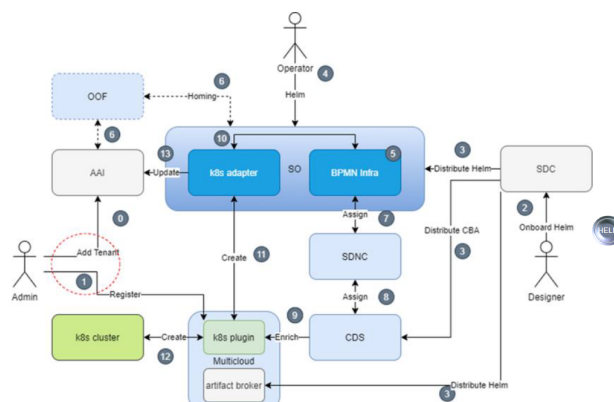


OLF
 NETWORKING
 Virtual Technical Meetings

CNFO | Guilin CNF Improvements Overview

Seshu Kumar M (Huawei)
 Lukasz Rajewski (Orange)
 Konrad Bańka (Samsung)

Guilin – CNF/Helm Day0/I Flow

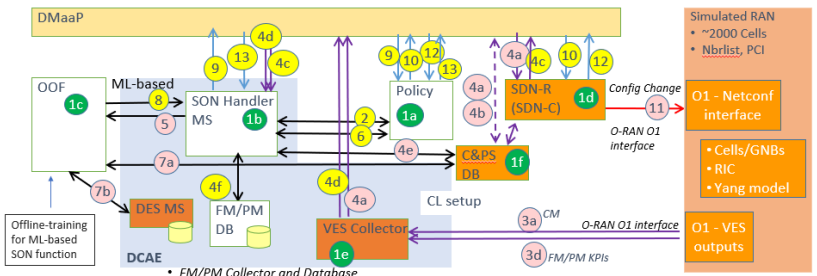
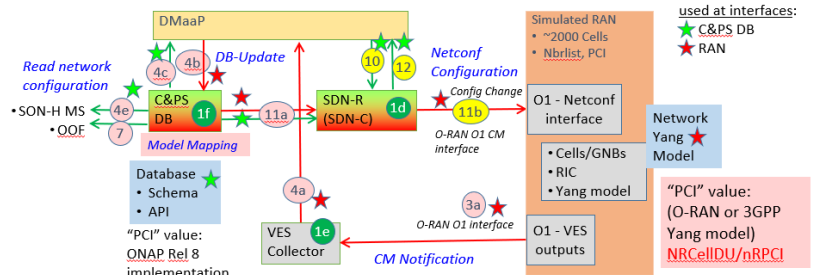



Guilin – Design and Implementation Grounds

- Instantiation of Helm Package with existing VNF model
- Status and synchronization of instantiated k8s resources
 - ✓ Helm Resource Artifact in SDC/SO
 - ✓ Update of AAI Information by SO: vf-module
- SO Orchestrates Helm Package -> not Heat Template
- K8s Plugin as a standalone MS
 - ✓ K8s Adapter in SO to interact directly with the K8s Plugin
 - ✓ Enhance it to support the functions like the monitoring resources and status update (stretch)
- Improvements in Helm customization/enrichment
- Backward compatibility with CNF Macro Instantiation Workflow [Frankfurt] -> cvFW Example
- Validation through flows cvFW Use Case

REQ-341

ONAP	CONFIGURATION PERSISTENCE SERVICE		
<div style="text-align: center;">  <p>ConfigurationPe...2010Oc15v13.pdf</p> </div>			

ONAP	<p>ONAP: 5G OOF SON use case - Honolulu release requirements, dependencies and roadmap</p> <p>Presentation slides are available here.</p> <div> <div> <h3>ONAP SON aligning with O-RAN: Release 8 Target</h3> <p>DLF NETWORKING Virtual Technical Meetings</p> <ul style="list-style-type: none"> CM via VES collector C&PS DB model based on O-RAN network yang model  <p>Interface enhancements:</p> <ul style="list-style-type: none"> REST API DMaaP Control Loop messages CM-FM-PM messages from RAN Config updated to RAN (netconf) </div> <div> <h3>Network yang models & ONAP DB models/API – Rel 8 (proposed)</h3> <p>DLF NETWORKING Virtual Technical Meetings</p>  <p>“Data model” used at interfaces:</p> <ul style="list-style-type: none"> C&PS DB RAN <p>Network Yang Model</p> <p>“PCI” value: (O-RAN or 3GPP Yang model) NRCeII DU/nRPCI</p> </div> </div>		
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ONAP	<p>What's New in ONAP Frankfurt</p> <div data-bbox="228 180 730 682">  </div>		
CNTT /OPNFV	<p>Edge Workstream</p> <ul style="list-style-type: none"> Review of Edge Workstreams work on what profiles need to be addressed in the reference architectures and model. 2020-10-15 - CNTT Edge Work stream Working Session CNTT Edge - RA01 (OpenStack) Architecture - Scenario <p>OVP 2.0 Input on CNF Workload requirements - Requirements for the Infrastructure make sense and there should be a test on the infrastructure to ensure that the workload requirements are met. Requirements drive the tests that are developed. --- having Workload requirements BEYOND the above is thought to be out of scope for CNTT & OPNFV. Several people agreed or seemed to agree on this.</p> <p>OPNFV Investigates CNTT Telemetry Req.</p> <ul style="list-style-type: none"> with AIRSHIP and Barometer Projects Study of current coverage with Prometheus and need for collectd support: CNTT provides the Use Case for OpenStack dev that was missing before. <ul style="list-style-type: none"> Reviewed status of collectd and Prometheus capabilities studies (RELREQ-18) Discussed possibility of reviving collectd effort in OS Helm that was abandoned about 3 years ago for lack of a compelling use case Emma / James to review code and scope the effort to get it running AI to request item on CNTT TSC agenda for next week to approach OS Helm about enabling collectd <p>OPNFV Kuberef project review -</p> <ul style="list-style-type: none"> Relies on BMRA (new) installer for now, others welcome. Testing the new Gitlab CI/CD environment from a green-field point of view (new project). 		
xGVela			
OpenDaylight	<p>ODL-Micro Aluminium updates</p> <ul style="list-style-type: none"> Meeting Notes ODL-Micro VDF Slides 		