2021-01-13 5G-xHaul Meeting notes

Date

23 Dec 2020| 6am PST | 6am EST | **10:00 UTC** | 11:00 CET | 12:00 EET | 15:30 IST | 18:00 CST | 19:00 JST |

Web Conference:

https://thorsten-heinze-telefonica-de.webex.com/join/andreas.lattoch.external

Attendees

- Alex Stancu ⭐
- Andrea Delmonte ⭐
- @Andreas Lattoch ⭐ (partly)
- Alok Surve
- Daniela Spreafico ⭐
- Daniel Perez Calvo ⭐
- Danilo Pala ⭐
- Eduardo Yusta ⭐
- Hubing
- Hsudarsa
- Jorge Lopez
- Istvan Vencz ⭐
- Jasper Yang
- Leo
- Ma Yong
- Michael Binder ⭐
- Nader Zein ⭐
- Paul Parva
- Pawel Krecicki
- Petr Jurcik
- Prathiba ⭐
- Roberto Servadio ⭐
- Shuzhan
- Thomas Seitz
- Thomas Schulze ⭐
- Tian Zhu
- Thorsten Heinze ⭐
- Yossi ⭐
- Zhang Dong
- Martin Skorupski ⭐

(please feel free to correct and update your names 😉 Thank you very much!!!)

Info to:

- Tracy Van Brakle

Goals

- going forward

Discussion items

Time	Item	Who	Notes
00:00	chair topic		no update
00:00	Admin		**Next meetings** 2020-01-13: Martin Skorupski 2020-01-20: Martin Skorupski 2020-01-27: Martin Skorupski 2020-02-03: ?

00:15	Firmware	@Eduardo Yusta	Eduardo explained his proposal about how to describe firmware (https://groups.google.com/a/opennetworking.org/g/wireless-transport/c/3BJHnPa5PRU) and addressed a couple of questions to the vendors.
			
			Continuing the discussion about firmware. NEC provided input and it was consolidated in the proposal.
			
			How to activate a software package: leaf or RPC?
			
			Discussions still needed, **RPC is preferred, need to see how to model and how to integrate in our processes (Papyrus, UML2YANG etc.)**
			
			Alex Stancu to provide example from O-RAN FH model about how it is done in o-ran-software-management; then we can assess how we can adapt it to our needs.
			
			SIAE is checking if RPC is feasible; Nokia will also do some checking. **maybe RPCs will be useful in other situations as well, we need to see**
			
			Do we need also a Download RPC? Probably. But this could be considered outside of the package model, does not really influence the inventory part.
			
			Is ImageName (string) and ImageVersion (string) combination enough for uniquely identify a software image?
			
			ImageSize proposed to be eliminated. No objections.
			
			ImageClass - need tot see what happens if the case vendors do not support it; same for ImageIdentifier
			
			ImageComparison proposed to be eliminated. No objections.
			
			Need further discussions.
			
			2020-10-13:
			
			Package Activation:
			
			- attribute vs RPC
			  - RPC seams to be the way forward
			  - impact on UML/UML2YANG/YANG
			  - similar discussion for FC(VLAN) creation via RPC
			  - UML/YANG modeling guideline uses term "operations" (not PRC)
			  - investigation ongoing Package Activation will gain by the VLAN-FC creation
			
			Parameter (status report and further discussion)
			
			- Package
			- Image
			  - regarding "imageIdentifier" - proposal to be discarded - however feedback from vendor will drive final descision
			
			Package and Image class should inherit from GlobalClass - same as for Profile

00:??	In VlanInterface historical-performance-data attribute name to be corrected	Thorsten Heinze	The following issue incl. proposal has been introduced https://github.com/openBackhaul/vlanInterface/issues/24. Decision has been scheduled for 9th of December.
	End of the meeting Discussions to be continued:		

00:00	VLAN FC creation	Thorsten Heinze	Creation of objects
			
			S1 use case
			
			- new VLAN must be configured
			- VLAN FC needs to be created
			- generation of IDs for local-ids and uuids
			- Up to know the idea is that the Device is the master of object identification
			  - main reason: mediator alignment/synchronization with the device
			- Process
			  - first LTP for VLANs must be created with a given identifier
			  - second FC for VLAN is created with a given identifier
			
			- minimum requirement for FC(VLAN)-uuids
			  - unique within the ~~ForwardingDomain(VLAN)~~ device
			
			- 3 proposals by E///
			  - **VLAN-ID FC identifier**
			  - drawback - same id for different object times (not universal unique) - unique "only" per device/object-type
			  - so not a big limitation
			  - **specific pattern** for identifier values, to indicate that the server will later sign the final value
			  - Example: :NEW:
			  - NetConf client needs to accept in the response a different identifier at least must re-synch
			  - Similar tasks expected for the NetConf Server
			  - netconf:merge vs netconf:create
			  - in both cases the identifier must be given
			  - NetConf server will use the given identifier
			  - seems to be impacting NetConf Server Platform implementations
			  - Define a specific **VLAN-FC-Creation RPC** Action
			  - RPC for entire object creation (except the identifier)
			  - Device can then define the final identifier
			  - Object Creation Notification required for the VLAN-FC (as in all other cases too)
			  - two procedures
			  - create **empty** FC first, then add later the interfaces references
			  - give interface reference as property to the creation RPC
			  -
			  - Alternative: RPC to get the next valid identification value
			  - function generateVlanFCuuid(parameter: vlanId)
			
			new proposal by SIAE:
			
			In order to provide to the application the "next" uuid an option could be the following:
			
			1) Add in the model in the section "status" the "next-uuid" parameter
			
			2) In case this "next-uuid" is influenced by some value: add in the section "configuration" the corresponding "influencer" values
			
			i.e. with reference to the VLAN creation, in VlanFd we could have something like:
			
			- In section "configuration": "next-vlan-fc-vlan-id"
			
			- In section "status": "next-vlan-fc-uuid"

00:00	Issues in General	Thorsten Heinze Martin Skorupski	INFO: https://github.com/openBackhaul/core/wiki/summary-of-issues

00:00	Firmware	@Eduardo Yusta	Use case discussion challenging the model proposal:
			
			Please see updated slides (thanks Eduardo).
			
			https://wiki.opennetworking.org/download/attachments/265093121/201102-TEF-working-document-FirmwareModeling.pptx?api=v2
			
			Feedback from vendors:
			
			• working assumption: (running) Firmware pointing to (actual) Equipment
			  • assumption
			  • 2 banks (logical structure of firmware)
			  • on running bank list of firmware
			  • some of the unused those wont have an associations to (actual) Equipment
			  • Question: is the "top-level" firmware a "bank"?
			  • software packages 1 and 2 bank 1 and 2 or active/inactive top-level firmware.
			  • Consideration: firmware without software package
			• SIAE: option to implement in addition also pointer from Equipment to Firmware
			
			Firmware inventory
			
			▪ UML and yang creation
			
			Firmware operations
			
			▪ download, activation, upgrade, downgrade
			▪ terms and definitions, needed before UML and yang

00:00	Reboot	Martin Skorupski	As a result of the discussion about Firmware, their might be a need for a "restart" trigger. The "software activation trigger" usually also leads to a "restart" but with new software, which a "restart" reboots using the currently running software. Other terms for the same? or similar? function: ▪ cold start (Power down, power up; traffic loss for sure) ▪ warm start (restarting software - may have - may not have traffic loss) ▪ ~~reboot~~ - this term should not be used as it is not clearly defined/used ▪ (factory) reset (configuration is lost) - not a field/remote-controller operation LCT operation should not be covered in your API models Questions: ▪ Is a "cold start/warm start" trigger beneficial on ControlConstruct level only? ▪ Is a "cold start/warm start" trigger beneficial on Equipment level only? There are devices offering such options: ▪ both? General reboot ▪ cold start / warm start on device level

	@Eduardo Yusta	License Management	Questions:
			
			• Are License be updated during life time of the device?
			  • Answer: yes - there are such cases, particularity for feature enhancements or for later enabling a license - xPIC may come later, when the second link is deployed.
			• Understanding association between License Firmware, LTP, Hardware, Features/Function?
			• Do all devices require a license?
			• Is a "feature-key" a "License" - from functional point: yes
			• What kind of License types needs to be supported - Software, Hardware, Interface, LTP, Capacity, Features, Function, ...
			  • Frist idea: focus on interface-capabilities
			
			First proposal:
			
			• ControlConstruct
			  • LicenseList
			  • License
			  • Name
			  • Type
			  • Description
			  • key (value; hash to be checked against, ...)
			  • additional-configuration - (e.g. max capacity is xyz MBit/s)
			  • State: activated; expired, no-active, ...
			  • pointing to "something"
			
			2020-11-18
			
			▪ further introduction of the last slide: https://wiki.opennetworking.org/download/attachments/265093121/201102-TEF-working-document-FirmwareModeling.pptx?api=v2
			▪ collection of ideas / use cases driving a model are ongoing.

00:00	PureEthernetStructure, HybridMwStructure	Daniela Spreafico	Please see email_ Please see related issues: • PureEthernetStructure #19 • HybridMwStructure #22 (alarms) • HybridMwStructure #19 (currentPerformance) • HybridMwStructure #18 (PM types) Please confirm by email to Martin Skorupski by end of this week (Nov6) that keeping FM and PM for xyzStructure is ok? **Status:** positive feedback to keep it as it is: **Decision:** we keep xyzStructure as they are and close the issues above.

00:00	Centralize RMON counters	Roberto Servadio	RMON counter
			
			▪ RMON counter in ETH-Container, while others are in MAC-Interface
			▪ Open question: Where centralize the RMON counter
			▪ Working assumption: All RMON counters should be part of the EthernetContainer_PAC (Status and PerformanceMonitoring)
			▪ Next Step:
			  ▪ update related ETH and MAC issues in OpenBackhaul for final proposal
			  ▪ AI Martin Skorupski consolidate proposed solutions
			
			Update:
			
			Support is welcome to consolidate with respect to RMON
			
			▪ https://github.com/openBackhaul/ethernetContainer/issues
			▪ https://github.com/openBackhaul/macInterface/issues

00:00	Layering discussion (FCs, FDs etc.)	Thorsten Heinze	• Will publish in wiki the latest slide which is the result of discussions:
			 
			
			•
			• link to the contribution: 2020-09-16 5G-xHaul Meeting notes
			
			• Continue discussion from last week
			• Question:
			  • 1x VLAN FD and 2x VLAN FC
			  • Impact on MAC interfaces
			• 1:1 betweeen VLAN-IF-LTP and EthernetContainer-LTP
			• 1x physical only one MAC-Interface?
			• MacSwitch attributes: mac-address-learning, aging-time - are such attributes sufficient to instantiate a new FD/FC objects.
			• MacFC could give a better overview - further clarifications
			
			Agenda: 2020-09-30
			
			Discussion and agreement about the following proposal:
			
			▪ Link to email with the proposal
			
			Discussion
			
			The following aspects are proposed to be decided by the 5G-xhaul subproject.
			
			- The ForwardingDomain shall be interpreted as a Potential for Forwarding (e.g. SDH Matrix).
			
			[sko] Potential: something which allows the creation of “forwarding” based in the FD:LTP
			
			- The ForwardingConstruct shall be interpreted as an Actual Forwarding (e.g. Connection between two VC-12 endpoints at the SDH Matrix).
			
			[sko] Actual: configured Forwarding – check operational states and traffic flow
			
			- There might be 0 .. * ForwardingConstructs inside a ForwardingDomain.
			
			[sko] ok
			
			Discussion on dependencies between LTPs, FD, FC and between the layers will continue...
			
			Agenda: 2020-10-07
			
			▪ Last week we started discussing a HUB presentation using FD and FCs: but there are several ways to represent a HUB: Depending on the chosen representation there are different consequences. ... (see attachment: link)

Action items