

2021-01-20 5G-xHaul Meeting notes

Date

20 Jan 2021 | 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](#) ★

Info to:

- [Tracy Van Brakle](#)

Goals

- going forward

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

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: Martin Skorupski 2020-02-10: Martin Skorupski

00:05	FC VLAN Creation	Thorsten Heinze	<p>RPC for FD:VLAN-FC creation</p> <ul style="list-style-type: none"> ▪ yang RPC- FC creation <ul style="list-style-type: none"> ▪ input <ul style="list-style-type: none"> ▪ FD:uuid to address the FD ▪ vlanId the "real" interesting parameter ▪ output <ul style="list-style-type: none"> ▪ FC:uuid <p>now the FC:uuid is known to all application.</p> <p>The FC has no FCports at this point in time.</p> <ul style="list-style-type: none"> ▪ yang RCP - target: creation for FCPorts <ul style="list-style-type: none"> ▪ input <ul style="list-style-type: none"> ▪ FC:uuid ▪ port role?!?! ▪ associations to LTP(VLAN) <p>Continue the discussion on 2020-10-21</p> <p>(TODO Sko): Add link: FC diagrams</p>
00:25	Firmware	@Eduardo Yusta	<p>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.</p> <p>Continuing the discussion about firmware. NEC provided input and it was consolidated in the proposal.</p> <p>How to activate a software package: leaf or RPC?</p> <p>Discussions still needed, RPC is preferred, need to see how to model and how to integrate in our processes (Papyrus, UML2YANG etc.)</p> <p>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.</p> <p>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</p> <p>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.</p> <p>Is ImageName (string) and ImageVersion (string) combination enough for uniquely identify a software image?</p> <p>ImageSize proposed to be eliminated. No objections.</p> <p>ImageClass - need tot see what happens if the case vendors do not support it; same for ImageIdentifier</p> <p>ImageComparison proposed to be eliminated. No objections.</p> <p>Need further discussions.</p> <p>2020-01-13:</p> <p>Package Activation:</p> <ul style="list-style-type: none"> ▪ attribute vs RPC <ul style="list-style-type: none"> ▪ RPC seems to be the way forward <ul style="list-style-type: none"> ▪ 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 <p>Parameter (status report and further discussion)</p> <ul style="list-style-type: none"> ▪ Package ▪ Image <ul style="list-style-type: none"> ▪ regarding "imageIdentifier" - proposal to be discarded - however feedback from vendor will drive final decision <p>Package and Image class should inherit from GlobalClass - same as for Profile</p> <p>2020-01-20</p> <p>UML for Firmware</p>
	End of the meeting		Discussions to be continued:

	O-RAN WG9 (Transport)	Alex Stancu	WG9 made a "gap analysis" of the ONF-Microwave and is looking for feedback/cooperation ...
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.
00:00	VLAN FC creation	Thorsten Heinze	<p>Creation of objects</p> <p>S1 use case</p> <ul style="list-style-type: none"> ▪ 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 <ul style="list-style-type: none"> ▪ main reason: mediator alignment/synchronization with the device ▪ Process <ul style="list-style-type: none"> ▪ 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 <ul style="list-style-type: none"> ▪ unique within the ForwardingDomain(VLAN) device ▪ 3 proposals by E// <ul style="list-style-type: none"> ▪ VLAN-ID FC identifier <ul style="list-style-type: none"> ▪ drawback - same id for different object times (not universal unique) - unique "only" per device/object-type <ul style="list-style-type: none"> ▪ so not a big limitation ▪ specific pattern for identifier values, to indicate that the server will later sign the final value <ul style="list-style-type: none"> ▪ 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 <ul style="list-style-type: none"> ▪ in both cases the identifier must be given ▪ NetConf server will use the given identifier <ul style="list-style-type: none"> ▪ seems to be impacting NetConf Server Platform implementations ▪ Define a specific VLAN-FC-Creation RPC Action <ul style="list-style-type: none"> ▪ RPC for entire object creation (except the identifier) <ul style="list-style-type: none"> ▪ Device can then define the final identifier ▪ Object Creation Notification required for the VLAN-FC (as in all other cases too) ▪ two procedures <ul style="list-style-type: none"> ▪ 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 <ul style="list-style-type: none"> ▪ function generateVlanFCuid(parameter: vlanId) <p>new proposal by SIAE:</p> <p>In order to provide to the application the "next" uuid an option could be the following:</p> <ol style="list-style-type: none"> 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 <p>i.e. with reference to the VLAN creation, in VlanFd we could have something like:</p> <ul style="list-style-type: none"> - 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	<p>Use case discussion challenging the model proposal:</p> <p>Please see updated slides (thanks Eduardo).</p> <p>https://wiki.opennetworking.org/download/attachments/265093121/201102-TEF-working-document-FirmwareModeling.pptx?api=v2</p> <p>Feedback from vendors:</p> <ul style="list-style-type: none"> • working assumption: (running) Firmware pointing to (actual) Equipment <ul style="list-style-type: none"> • assumption <ul style="list-style-type: none"> • 2 banks (logical structure of firmware) <ul style="list-style-type: none"> • on running bank list of firmware <ul style="list-style-type: none"> • some of the unused those wont have an associations to (actual) Equipment • Question: is the "top-level" firmware a "bank"? <ul style="list-style-type: none"> • 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 <p>Firmware inventory</p> <ul style="list-style-type: none"> ▪ UML and yang creation <p>Firmware operations</p> <ul style="list-style-type: none"> ▪ download, activation, upgrade, downgrade ▪ terms and definitions, needed before UML and yang
00:00	Reboot	Martin Skorupski	<p>As a result of the discussion about Firmware, there might be a need for a "restart" trigger.</p> <p>The "software activation trigger" usually also leads to a "restart" but with new software, which a "restart" reboots using the currently running software.</p> <p>Other terms for the same? or similar? function:</p> <ul style="list-style-type: none"> ▪ 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 <ul style="list-style-type: none"> ▪ (factory) reset (configuration is lost) - not a field/remote-controller operation LCT operation should not be covered in your API models <p>Questions:</p> <ul style="list-style-type: none"> ▪ 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? <p>General reboot</p> <ul style="list-style-type: none"> ▪ cold start / warm start on device level

	@Eduardo Yusta	License Management	<p>Questions:</p> <ul style="list-style-type: none"> • Are License be updated during life time of the device? <ul style="list-style-type: none"> • Answer: yes - there are such cases, particularly 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, <ul style="list-style-type: none"> • Frist idea: focus on interface-capabilities <p>First proposal:</p> <ul style="list-style-type: none"> • ControlConstruct <ul style="list-style-type: none"> • LicenseList <ul style="list-style-type: none"> • License <ul style="list-style-type: none"> • 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" <p>2020-11-18</p> <ul style="list-style-type: none"> ▪ 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, HybridMw Structure	Daniela Spreafico	<p>Please see email_</p> <p>Please see related issues:</p> <ul style="list-style-type: none"> • PureEthernetStructure #19 • HybridMwStructure #22 (alarms) • HybridMwStructure #19 (currentPerformance) • HybridMwStructure #18 (PM types) <p>Please confirm by email to Martin Skorupski by end of this week (Nov6) that keeping FM and PM for xyzStructure is ok?</p> <p>Status: positive feedback to keep it as it is:</p> <p>Decision: we keep xyzStructure as they are and close the issues above.</p>
00:00	Centralize RMON counters	Roberto Servadio	<p>RMON counter</p> <ul style="list-style-type: none"> ▪ 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: <ul style="list-style-type: none"> ▪ update related ETH and MAC issues in OpenBackhaul for final proposal ▪ AI Martin Skorupski consolidate proposed solutions <p>Update:</p> <p>Support is welcome to consolidate with respect to RMON</p> <ul style="list-style-type: none"> ▪ https://github.com/openBackhaul/ethernetContainer/issues ▪ https://github.com/openBackhaul/macInterface/issues

00:00	Layering discussion (FCs, FDs etc.)	Thorsten Heinze	<ul style="list-style-type: none"> • Will publish in wiki the latest slide which is the result of discussions: <div data-bbox="667 182 1170 684" style="border: 1px solid gray; padding: 10px; text-align: center;">  <p>slides to be published.pptx</p> </div> <ul style="list-style-type: none"> • link to the contribution: 2020-09-16 5G-xHaul Meeting notes • Continue discussion from last week • Question: <ul style="list-style-type: none"> • 1x VLAN FD and 2x VLAN FC <ul style="list-style-type: none"> • Impact on MAC interfaces • 1:1 between 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 <p>Agenda: 2020-09-30</p> <p>Discussion and agreement about the following proposal:</p> <ul style="list-style-type: none"> ▪ Link to email with the proposal <p>Discussion</p> <p>The following aspects are proposed to be decided by the 5G-xhaul subproject.</p> <ul style="list-style-type: none"> - 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 <p>Discussion on dependencies between LTPs, FD, FC and between the layers will continue...</p> <p>Agenda: 2020-10-07</p> <ul style="list-style-type: none"> ▪ 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)
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Action items