Broadband Forum (BBF) YANG Activities

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Overview

- Timeline
- Visibility
- Processes and procedures
- Modeling approach
- YANG development projects
- Developing in GitHub
- Will release to GitHub
- Plan to release draft YANG

Timeline

- 2014: due diligence and decision to use NETCONF and YANG for DPU management (DPU = Distribution Point Unit; see BBF TR-301)
- 2015: new project for DPU management YANG
- 2015: VDSL then G.fast models, then xDSL + G.hs, MELT and SELT
- 2015: new project for Access Node YANG (a DPU is a specialized access node)
- 2016: first phase of DPU management nearing completion; 8 modules; *many* sub-modules
- 2016: second phase of DPU management has already started
- 2016: new project investigating translation of TR-069 CPE management models to YANG
- 2016: new project for G.hn YANG

Visibility

- All work is listed at https://www.broadband-forum.org/technical/technicalwip.php
- Some details can be inferred from http://www.claise.be/2016/03/ietf-yang-modules-statistiques
- For example, the names of module/submodule files; e.g. http://www.claise.be/BBFFASTYANGPageCompilation.html
- Also plan to create public draft releases

Visibility

- Generated on 02/04/2016 by Benoit Claise: BBF: YANG Data Models compilation from https://github.com/BroadbandForum/WT-355/tree/master/FAST

YANG Model	Compilation	Compilation Result (pyang --lint)	Compilation Result (pyang)
bbf-fast-base.yang	PASSED		
bbf-fast-channel-performance-body.yang	PASSED		
bbf-fast-channel-status-body.yang	PASSED		
bbf-fast-channel-threshold-profile-body.yang	PASSED		
bbf-fast-data-rate-profile-body.yang	PASSED		
bbf-fast-fast-rate-adaptation-profile-body.yang	PASSED		
bbf-fast-fast-retrain-policy-profile-body.yang	PASSED		
bbf-fast-ftu-inventory-body.yang	PASSED		
bbf-fast-inventory.yang	PASSED		
bbf-fast-line-performance-body.yang	PASSED		
bbf-fast-line-spectrum-profile-body.yang	PASSED		
bbf-fast-line-status-body.yang	PASSED		
bbf-fast-line-threshold-profile-body.yang	PASSED		
bbf-fast-link-state-body.yang	PASSED		
bbf-fast-noise-margin-profile-body.yang	PASSED		
bbf-fast-perf-types.yang	PASSED		
bbf-fast-performance-management.yang	PASSED		
bbf-fast-pointers.yang	PASSED		
bbf-fast-quality-profiles.yang	PASSED		
bbf-fast-retransmission-profile-body.yang	PASSED		
bbf-fast-rfi-profile-body.yang	PASSED		
bbf-fast-service-profiles.yang	PASSED		
bbf-fast-spectrum-profiles.yang	PASSED		
bbf-fast-status-monitoring.yang	PASSED		
bbf-fast-tdd-profile-body.yang	PASSED		
bbf-fast-tdd-profiles.yang	PASSED		
bbf-fast-test-diagnostics.yang	PASSED		
bbf-fast-test-mode-body.yang	PASSED		
bbf-fast-threshold-management.yang	PASSED		
bbf-fast-update-test-body.yang	PASSED		
bbf-fast-upstream-power-back-off-profile-body.yang	PASSED		
bbf-fast-vectoring-profile-body.yang	PASSED		
bbf-fast.yang	PASSED		

- http://www.claise.be/BBFFASTYANGPageCompilation.html

Processes and procedures (P&Ps)

- Evolutionary change; currently working within existing P&Ps
- WTs (Working Texts) for “drafts”; TRs (Technical Reports) for “RFCs”
  - ODs (Other Documents) for P&Ps etc.
- OD-360
  - Best Current Practices for developing YANG models
  - Strongly based on RFC 6020bis and RFC 6087bis
  - Additional BBF-specific rules and guidelines as needed
  - Building on IETF and SME SDO YANG modules where possible

Modeling approach

- IETF
  - ietf-yang-types
  - ietf-interfaces
  - draft-entitydt-netmod-entity
  - draft-wilton-netmod-intf-ext-yang (sub-interfaces)
  - More…
- BBF
  - Forwarding, DHCP, QoS
  - Firmware/software management
  - Reverse power feed
  - More…

YANG development projects

- WT-355
  - YANG Modules for FTTdp Management
    - Phase 1: physical interfaces
    - Phase 2: forwarding, DHCP, QoS etc
    - More…
- WT-368
  - YANG Models for Access Nodes in SDN
- WT-374
  - YANG Models for Management of G.hn Systems
- SD-376
  - CWMP (TR-069) Data Model/YANG Translation Rules and Tools

Developing in GitHub

- A (private) repository per project (username = BroadbandForum)
  - WT-355
  - WT-368
  - Etc.
- Separate repositories for new project phases
  - WT-355a1 etc. (a1 = Amendment 1)
  - Not necessary to use separate repository, but simpler
- As for IETF, there is also a text specification
  - This is the Working Text (WT)
  - The YANG is part of the text specification

Will release to GitHub

- All published YANG will be in single (public) repository
  - https://github.com/BroadbandForum/yang
  - Layout modeled on https://github.com/YangModels/yang
  - Anyone can comment via GitHub issues
- Organized into five categories: common, equipment, interface, networking, application
- Includes some docs: README, tree etc.
- Might also upstream BBF YANG to YangModels repository
- Expect first public YANG in 2016 Q3 (early August)
- As for IETF, there is also a text specification
  - This is the Technical Report (TR)
  - https://www.broadband-forum.org/technical/trlist.php
  - The YANG is part of the text specification

Plan to release draft YANG

- Draft area in the same repository
  - Anyone can comment via GitHub issues
- Drafts would expire: timer or on publication
- Drafts would be licensed for evaluation only

Thank You

- Questions?