

YANG Model Coordination Group Update

IETF 93
Prague

What is this?

- Directorate reporting to the OPS AD
 - Carl Moberg
 - Dean Bogdanovic
 - Eric Osborne (was: Dave Meyer)
- Spending 1/3rd of our time, for one year period
 - Started on February 2015
- Mission: Help with the development and coordination of the numerous YANG models within the IETF, and the promotion of YANG modeling in the industry.
- <http://www.ietf.org/iesg/directorate/yang-model-coordination-group.html>

Job Description

- **Compiling, publishing, and maintaining an inventory of YANG models** both produced by the IETF and available at other locations.
- **Evaluating and documenting how the existing YANG models fit together.** Example: can the IGP, QoS, and ACL YANG models work together?
- **Documenting and tracking open issues** (especially the issues crossing drafts, WGs, and areas) including issues of interaction and overlap of YANG models.
- **Generating and leading the discussions on the resolution of the open issues**, in collaboration with the authors, WGs, WG chairs, YANG doctors, **rtg-yang-coord** mailing list, and the appropriate ADs
- **Participating in YANG model related design teams**, as needed, to assist in the coordination as well as technical work.

Initial Job Description (part 2)

- **Assisting** with the coordination of **design teams** working to produce YANG models that describe and enable the provisioning and management of services.
- **Documenting and tracking functionality missing** from YANG models including entire missing models.
- **Documenting YANG issues** arising from YANG models
- **Producing monthly reports** for the IETF community and present a summary of progress at each IETF meeting in the OPS-AREA meeting.
- **Close work with the OPS AD on building a community of YANG modelers** that will bring YANG work into the IETF as appropriate, and that will enable interactions between IETF YANG models and models produced outside the IETF

Phase Approach

Phase 1: List of the YANG models

Phase 2: Tooling

Phase 3: Help with compilation

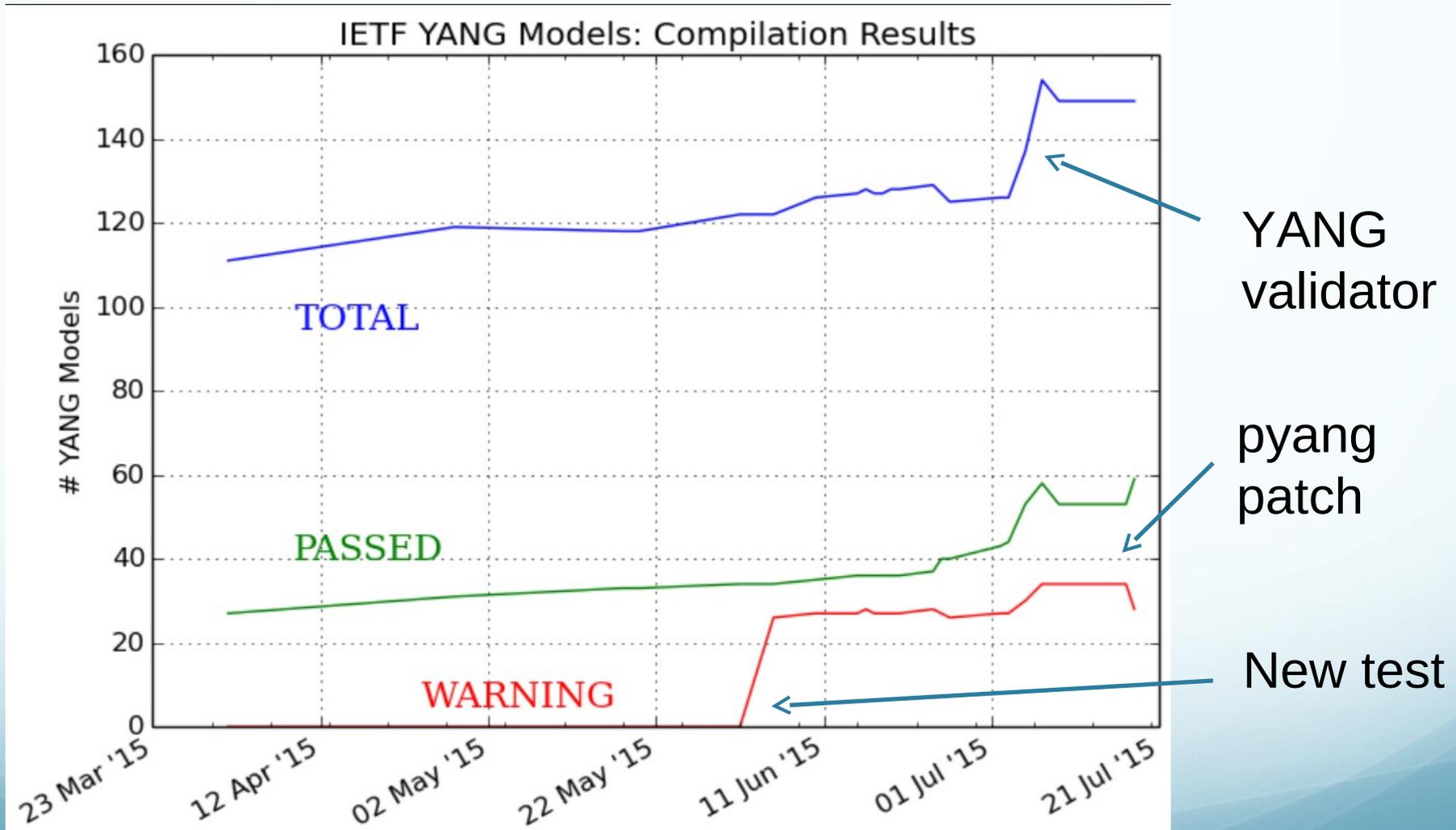
Phase 4: Training/Education

Phase 5: Coordination across SDOs/Opensource

Phase 6: Standardization Priorities?

Phase 7: Model Coordination within the IETF

Phase 1: List of the YANG models



<http://claise.be/IETFYANGPageCompilation.png>

Phase 1: List of the YANG models

- IETF

YANG models that passed compilation without warnings: 59/149

YANG models that passed compilation with warnings: 28/149

All YANG models in IETF (example, badly formatted, etc.): 255

- MEF YANG MODELS

MEF models from standard: 2

YANG models that passed compilation without warnings: 0/5

YANG models that passed compilation with warnings: 3/5

Phase 1: List of the YANG models

- IEEE YANG MODELS

YANG models that passed compilation without warnings: 0/7

YANG models that passed compilation with warnings: 0/7

- OPENDAYLIGHT YANG MODELS

Number of YANG models in Hydrogen release: 117

Number of YANG models in Helium release: 220

Number of YANG models in Lithium release: 473

TAR files available (for imports)

<http://www.claise.be/2015/07/ietf-yang-modules-statistiques/>

Phase 2: Tooling

- xym: YANG model extraction from IETF draft
 - Developed during IETF 92 hackathon
- <http://www.yangvalidator.com/>
 - Can post your drafts
 - Extraction and compilation issues
 - Next step is to integrate with IETF document lifecycle (e.g. idnits)
- YANG explorer now opensource
 - See the bit&bytes Hackathon table

Phase 2: Tooling

- Tool to extract typedefs, identities, and groupings from YANG models: list of YANG models
- pyang improvements:
 - Up to date error message:
"warning: IETF rule (RFC 6087: 4.9): too many top-level data nodes"
 - New flag to extract the module name
Important when file name <> module name

Phase 3: Help with Compilation

service-function-chain@2014-07-01.yang	draft-penno-sfc-yang-13.txt	Email Authors	FAILED	characters service-function-chain@2014-07-01.ya top-level data nodes: service-function- service-function-chain@2014-07-01.ya value should be "urn:ietf:params:xml:r service-function-chain@2014-07-01.ya service-function-chain@2014-07-01.ya service-function-chain@2014-07-01.ya service-function-chain@2014-07-01.ya service-function-chain@2014-07-01.ya exceeds 70 characters service-function-chain@2014-07-01.ya "revision" must have a "reference" sub service-function-chain@2014-07-01.ya service-function-chain@2014-07-01.ya must have a "description" substatemen service-function-chain@2014-07-01.ya exceeds 70 characters service-function-chain@2014-07-01.ya
mpls-ldp.yang	draft-openconfig-mpls-consolidated-model-00.txt	Email Authors	FAILED	mpls-ldp.yang:6: warning: IETF rule (0 "urn:ietf:params:xml:ns:yang:mpls-ldp mpls-ldp.yang:58: warning: IETF rule mpls-ldp.yang:63: warning: IETF rule mpls-ldp.yang:111: warning: IETF rule

<http://www.claise.be/IETFYANGPageCompilation.html>

Phase 3: Help with Compilation

- Most draft authors have been notified
- YANG **advice** and editing session
 - Free YANG consulting
 - Organized by the YANG doctors
 - On the Sunday before the IETF week

Phase 4: Training/Education

- Develop NETCONF and YANG training material
 - First section (YANG) done, published in two weeks
 - second (NETCONF) being developed
 - A note about professional services
- draft-bogdanovic-netmod-yang-model-classification

“A consistent terminology would help with the categorization of models, assist in the analysis the YANG data modeling efforts in the IETF and in other places, and bring clarity to the YANG-related discussions between the different groups.”

Phase 5: Coordination across SDOs/Opensource

- Development in different SDOs and opensource project?
 - IETF, IEEE, Metro Ethernet Forum, CableLabs, Opendaylight, ETSI NFV, Broadband Forum, Open Networking Foundation
- <http://trac.tools.ietf.org/area/ops/trac/wiki/YANGModelingEffortsInTheIndustry>
- Developed and submitted EVC services YANG to MEF
 - Full specification of EVC-based services
- In contact with IEEE, BBF

Phase 6: Standardization Priorities

- Survey: YANG models required by operators
- Ideally, a combination of technology and RFC
- Conclusion: all the YANG models to be used for the L3VPN service model (L3SM)

Phase 7: Model coordination within the IETF

- Working with multiple design teams
 - ACL, class of service, VLAN interface,
 - Etc.
- Great job by the routing YANG coordination team
 - “An overall architecture for the protocols and functionality contained inside the Routing Area”

Phase Approach

Status

Phase 1: List of the YANG models	IETF: Complete
Phase 2: Tooling	Ongoing
Phase 3: Help with compilation	Ongoing
Phase 4: Training/Education	Almost done
Phase 5: Coordination across SDOs/Opensource	Getting there
Phase 6: Standardization Priorities	Done
Phase 7: Model coordination within the IETF	Should do more

Any questions?

- Next: continue on all fronts
- If interested (real time commitment required), let me know
- Note: yang-coord@ietf.org mailing list is open, but the bi-weekly calls are not