

YANG Model Coordination Group Update

IETF 94, Yokohama
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What is this?

- Directorate reporting to the OPS AD
 - Carl Moberg
 - Dean Bogdanovic
 - Eric Osborne
 - But help from others...
- 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

Initial Job Description (part 2)

Reference only

- **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 (inventory)

Phase 2: Tooling

Phase 3: Help with compilation

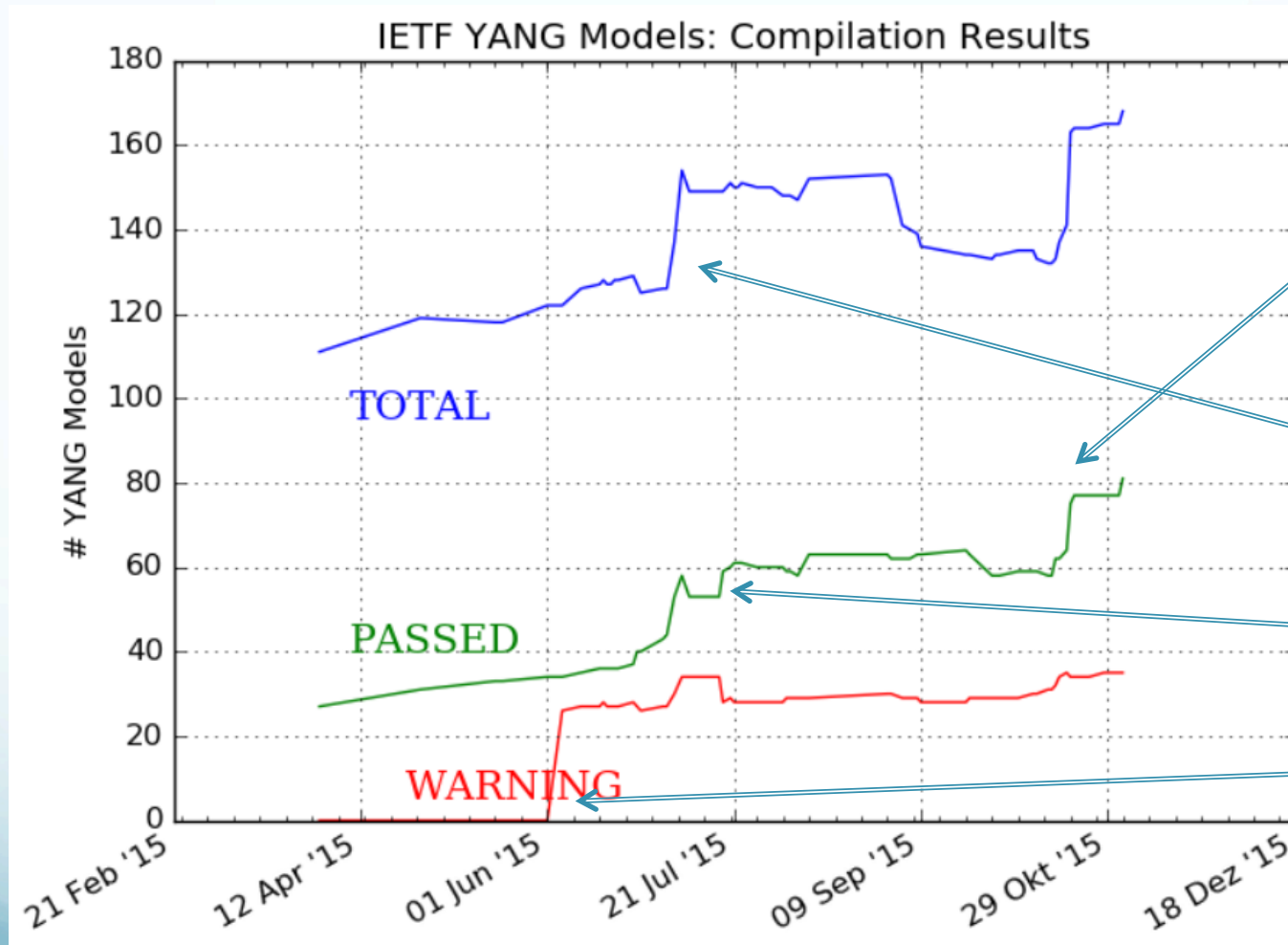
Phase 4: Training/Education

Phase 5: Coordination across SDOs/Opensource

Phase 6: Model Coordination within the IETF

Phase 7: Standardization Priorities

Phase 1: List of the YANG models



Pyang
1.6 +
direct
emails

YANG
validator

pyang
patch

New test

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

Phase 1: List of the YANG models

- IETF: between 168 and 261
 - “example-” => <CODE BEGINS> <CODE ENDS>
- OpenDaylight: 547
- IEEE:
 - Some models
- MEF:
 - Some models
 - Working on a URN for MEF
- <http://www.claise.be>
 - Improvements during the Hackathon (ex: daily tar files)

Phase 2: Tooling (Past)

- xym: YANG model extraction from IETF draft
 - Developed during IETF 92 hackathon
- <http://www.yangvalidator.com/>
 - Extraction and compilation issues
 - Next step is to integrate with IETF document lifecycle (e.g. idnits) => January 2016
- YANG explorer now opensource
 - See the bit&bytes Hackathon table

Phase 2: Tooling (Past)

- 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 2: Tooling

- Dependency and impact analysis tool (Jan Medved, Hackathon)

```
ietf-interfaces: *
```

```
  ietf-sfc-oam
```

```
  ietf-trill-oam
```

```
  ietf-segment-routing
```

```
  ietf-pim-sm
```

```
  ...
```

```
ietf-ip: *
```

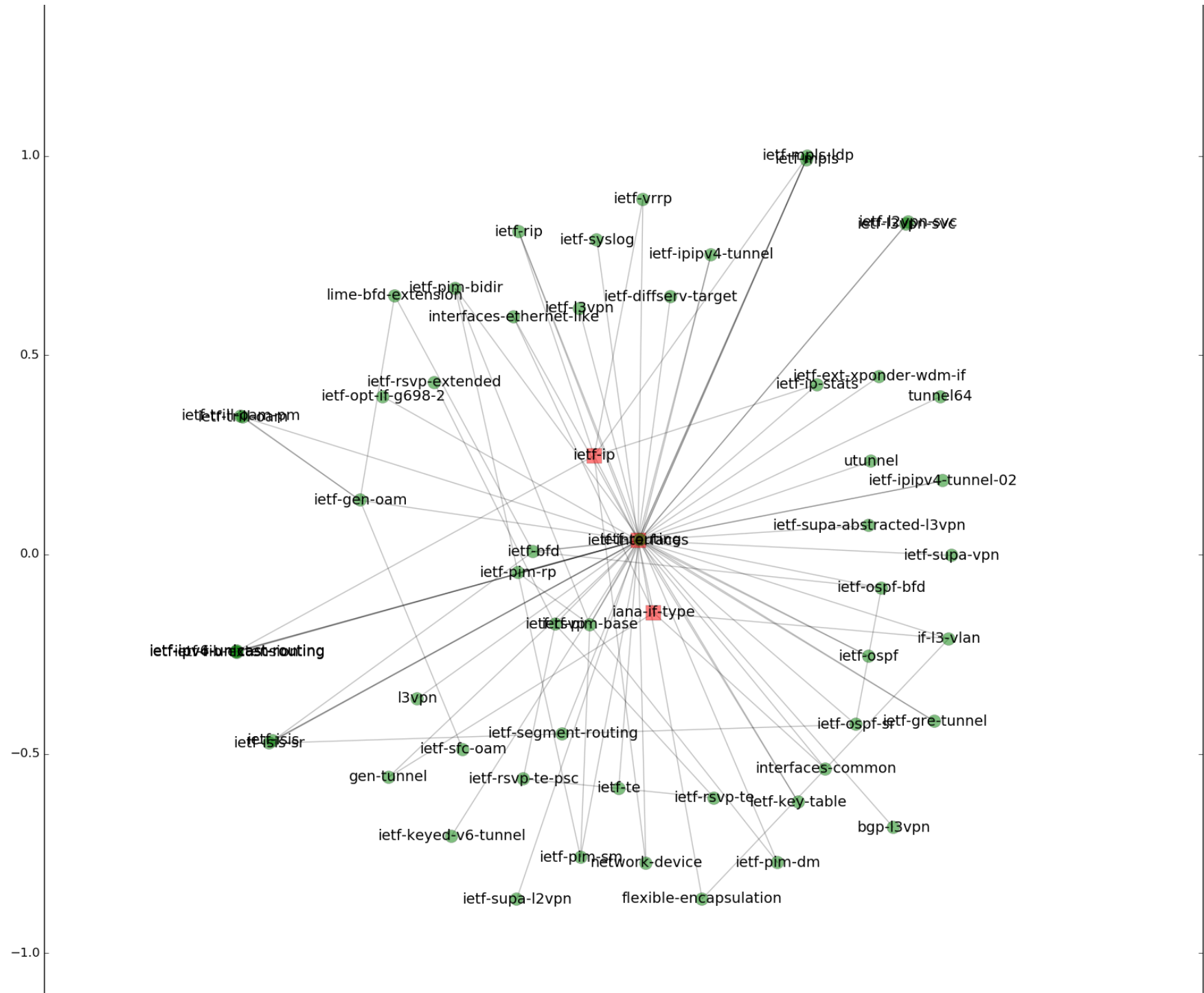
```
  |
```

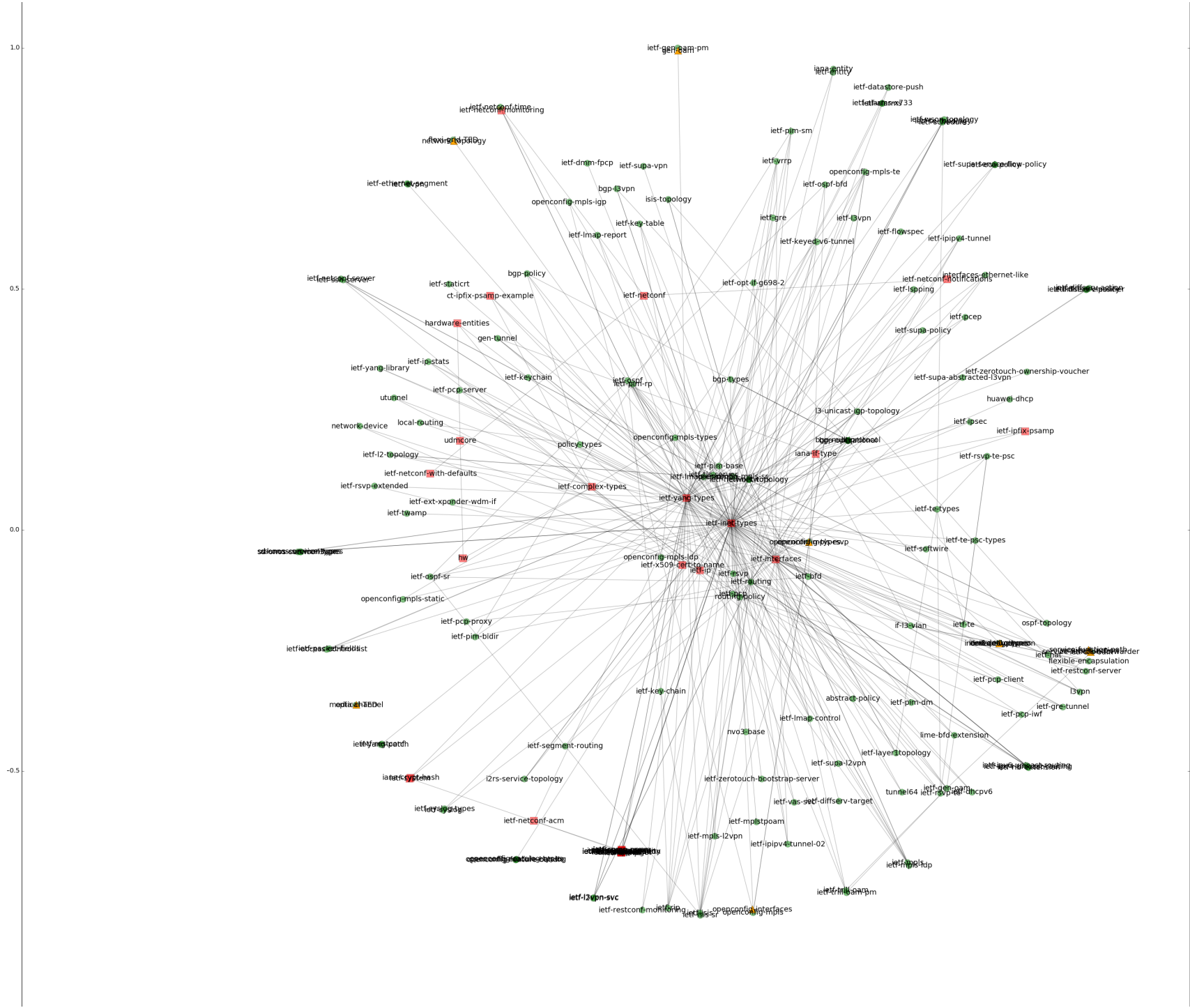
```
  +--> ietf-inet-types *
```

```
  +--> ietf-yang-types *
```

```
  +--> ietf-interfaces *
```

```
  ...
```





Phase 2: Tooling => Catalog (Hackathon this weekend)



NSO 4.0.1

Commit

Jobs

/cat:organizations/organization{ietf}/modules/module

module

Selected 0 Total 13



Show All

	name (k)	namespace	prefix	revision	summary	module-version
1	<input type="checkbox"/> iana-if-type	urn:ietf.par...	ianaift			
2	<input type="checkbox"/> ietf-comple...	urn:ietf.par...	ct			
3	<input type="checkbox"/> ietf-inet-types	urn:ietf.par...	inet			
4	<input type="checkbox"/> ietf-interfaces	urn:ietf.par...	if	2014-05-08		
5	<input type="checkbox"/> ietf-ipfix-ps...	urn:ietf.par...	ipfix			
6	<input type="checkbox"/> ietf-netconf...	urn:ietf.par...	nacm			
7	<input type="checkbox"/> ietf-netconf...	urn:ietf.par...	ncm			
8	<input type="checkbox"/> ietf-netconf...	urn:ietf.par...	ncn			
9	<input type="checkbox"/> ietf-snmp	urn:ietf.par...	snmp			
10	<input type="checkbox"/> ietf-system	urn:ietf.par...	sys			
11	<input type="checkbox"/> ietf-x509-c...	urn:ietf.par...	x509c2n			
12	<input type="checkbox"/> ietf-yang-s...	urn:ietf.par...	smiv2			

Phase 3: Help with Compilation

Reference only

				characters
service-function-chain@2014-07-01.yang	draft-penno-sfc-yang-13.txt	Email Authors	FAILED	<p>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:</p>
mpls-ldp.yang	draft-openconfig-mpls-consolidated-model-00.txt	Email Authors	FAILED	<p>mpls-ldp.yang:6: warning: IETF rule (l "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 lman_control@2014-10-27.yang:1: wa</p>

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

Phase 3: Help with Compilation

Reference only

- 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

- NETCONF and YANG Tutorial at this IETF
 - Recorded
 - Next steps: RESTCONF, developer point of view
- Pyang tutorial by Lada
- draft-bogdanovic-netmod-yang-model-classification
- Thinking about a “YANG model design document” by the next IETF

Phase 5: Coordination across SDOs/OpenSource

- IEEE
 - YANG models now in github
 - Approved a project for 802.1x and 802.1q models
- MEF
 - working on EVC based services as defined in MEF 6.2 and 7.3.
 - Working on URN
- Many contacts with different SDOs (formal, informal)

- <http://trac.tools.ietf.org/area/ops/trac/wiki/YANGModelingEffortsInTheIndustry>

Phase 6: Model Coordination within the IETF

- Working with multiple design teams
 - ACL, class of service, etc.
- Great job by the routing YANG coordination team
 - “An overall architecture for the protocols and functionality contained inside the Routing Area”
- Do we enough?
 - Clearly not. Dependency tool will help

Phase 7: Standardization Priorities

- All the YANG models to be used for the L3VPN service model (L3SM)
- Versioning
- New:
 - Service catalog
 - Service composition

Any questions?

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