Routing Area Open Meeting
IETF 92 - Dallas

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I E T F

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Note Also...

- Please state your name clearly before speaking at the microphone
- Audio streams and jabber
  - http://tools.ietf.org/agenda/91/
  - xmpp:rtgarea@jabber.ietf.org
- Routing Area mailing list
  - routing-discussion@ietf.org
- Routing Area wiki
  - http://trac.tools.ietf.org/area/rtg/trac/wiki/WikiStart
- Routing Directorate
  - http://trac.tools.ietf.org/area/rtg/trac/wiki/RtgDir
- Blue Sheets
  - Are now scanned and published
- Minutes
  - Chairs please send your notes to Jon H.

Agenda

- Administrivia (5 min)
  - Agenda Bashing
  - Blue Sheets
- Update on Initiatives (15 min)
  - Area Tuning for 3 ADs
  - WG Chair training
- YANG Updates (20 min)
  - Update from rtg-yang coordinators
  - L3SM Working Group Intro

- ANRP Presentation (30 min)
  - "OpenNF: Enabling Innovation in Network Function Control"
    - Aaron Gember-Jacobson
- Working Group and BoF Reports (45 min)
  - Routing Directorate Report
  - WG Chair Reports
- Open Discussion / Any other business

Area Status

- WG Status Changes
  - Closed: forces
  - Re-chartered: mpls, ccamp, pce, i2rs
  - New: teas, bier
  - New (to RTG): l2tpext, lisp, trill (after IETF 92)
- 3 Area Directors
  - Many Thanks Adrian!!
  - Balanced work distribution (IESG)
  - All 3 will ballot during IESG review

WG Distribution

WG	AD
bess	Alvaro
bfd	Alvaro
bier	Alia
ccamp	Deborah
i2rs	Alia
idr	Alvaro
isis	Alia
l2tpext	Deborah
lisp	Deborah
manet	Alvaro
mpls	Deborah
nvo3	Alia
ospf	Alia
pals	Deborah
pce	Deborah
pim	Alvaro
roll	Alvaro
rtgwg	Alia
sfc	Alia
sidr	Alvaro
spring	Alvaro
teas	Deborah
trill	Alia

WG Chair Training

- WG Chair Training sessions have been happening since June 2014.
- Previous sessions can be found at:

  http://wiki.tools.ietf.org/area/rtg/trac/wiki/WGChairTraining

  – (If you only pick one – watch the one On Consensus)
- Upcoming Sessions on:
  – Key Knowledge on Yang and Netconf (tentative)
  – Charters and Milestones: What are They For?
  – Document Shepherds: Doing It Well
- We also have periodic Routing Area WG Chair Chats.
- The IETF keeps working between physical meetings. So should you ☺

Routing Area YANG Coordination

- There is an explosion of YANG work in the IETF in general and the Routing Area in particular

- It is very important that all of these YANG models stay coordinated

- Those writing or thinking of writing YANG-related drafts in Routing Area WGs should:

  - Read the YANG Coordination Wiki at http://trac.tools.ietf.org/area/rtg/trac/wiki/RtgYangCoord and follow the instructions to include your draft in the wiki.

  - Join the Routing Area YANG Coordination email list at https://www.ietf.org/mailman/listinfo/rtg-yang-coord

I E T F

Handling Cross-WG Yang Models

- Some models cover work in multiple WGs.
- That is FINE if it is the right network management perspective.
- One WG will take ownership and we'll do cross-WG review and discussion.

- Some models need to be used by multiple models in different WGs.
- One of the WGs with a primary use-case interest will own that model and progress it.

- We can't overfill rtgwg with YANG models.
- Our excellent WG Chairs can discuss and decide on which WG will own a model.

IETF

L3VPN Service Model New WG

IETF 92

Dallas, Texas

What is this?

- A new WG, approved this week

- Chairs: Adrian Farrel, Qin Wu

- Based on a design team,
  - Driven by operators
  - Who created draft-l3vpn-service-yang

Charter

The Layer Three Virtual Private Network Service Model (L3SM) working group is a short-lived WG tasked to create a YANG data model that describes a L3VPN service (a L3VPN service model) that can be used for communication between customers and network operators, and to provide input to automated control and configuration applications.

Charter

It needs to be clearly understood that ==this L3VPN service model is not an L3VPN configuration model==. ==That is, it does not provide details for configuring network elements or protocols.== Instead it contains the characteristics of the service, as discussed between the operators and their customers. A separate process is responsible for mapping this service model onto the protocols and network elements depending on how the network operator chooses to realise the service.

Charter

The deliverable from this working group will provide information to evaluate the set of YANG models that have already been developed or are under development, and will help identify any missing models or details. The deliverable can be viewed as driving requirements for protocol configuration model so that the service parameters can be mapped into inputs used by the protocol models.

Charter

The working group should consider draft-l3vpn-service-yang as a starting point.

Milestones

Jan 2016   L3VPN Service (YANG) Model to the IESG for publication as Proposed Standard RFC

Jan 2016   Close the working group

Any questions?

ANRP Presentation

WG/BOF Reports

- bess
- bfd
- bier
- ccamp
- forces
- i2rs
- idr
- isis

- l2tpext
- lisp
- manet
- mpls
- nvo3
- ospf
- pals
- pce

- pim
- roll
- rtgwg
- sfc
- sidr
- spring
- teas
- trill

I E T F®

BESS

- Thank you Adrian
- Welcome Alvaro
- Group in good shape
  - Attendance stable over 100, with constructive discussions at the microphone
  - Activity on the list (peak mode)
  - +25 wg documents and same for indiv I-Ds
- EVPN, MVPN, IANA regs, …

BFD Status (1/2)

- **http://wiki.tools.ietf.org/wg/bfd/trac/**
- RFC 7492 – BFD Karp requirements (KARP document) published.
- RFC 7419 – BFD intervals published.
- BFD Auth documents still stalled (but look for presentations on making this more deployable in this IETF's proceedings)
- BFD Multipoint document has been split into a core section that should receive WG review toward last call and an active tail document that we should adopt.

BFD Status (2/2)

- Seamless BFD progressing slowly
  - Use case document has finished WGLC – needs final edits integrated.
  - Alert discriminator document recently refreshed and will be presented.
  - No actions on base and – IP document recently.
- RFC 5884 clarification probably about ready for WGLC
- BFD Yang design team published first I-D. Please review!
- Non-WG doc of interest: Making Route-Servers Aware of Data Link Failures at IXPs – 2 competing drafts
  - draft-ymbk-idr-rs-bfd
  - Draft-jdurand-idr-next-hop-liveliness

BIER @ IETF 92

- BIER met Wed 1300 to 1500 – minutes were online that same day.
  - Inaugural WG Meeting
- Seven drafts called for adoption
  - No dissention in the room
  - Call to the list next

CCAMP

- 1 Session: Monday 1520-1650

- Rechartered after RTG Area Re-org + New milestones

- 2 new RFCs:
  - RFC7487: draft-ietf-ccamp-rsvp-te-mpls-tp-oam-ext
  - RFC7447: draft-ietf-ccamp-rwa-info

- Completed IESG Processing/ Pending RFC Editor's Queue:
  - draft-ietf-ccamp-general-constraint-encode
  - draft-ietf-ccamp-gmpls-general-constraints-ospf-te
  - draft-ietf-ccamp-rwa-wson-encode

- IESG Processing
  - draft-ietf-ccamp-wson-signal-compatibility-ospf
  - draft-ietf-ccamp-wson-signaling

- Active documents:
  - 10 WG: Flexigrid, Black links (LMP, MIB), 3 YANG drafts
  - 6 Individual

ForCES status

- Updates since IETF 91:
  - Model extension RFC7408 published
  - Parallelization RFC7409 published
  - Inter-FE document started publication process
  - Subsidiary management
    - Completed implementation review
    - One more publication to be sent to WG around IETF week or the week after
    - WG LC for SM before publication process

ForCES status

- **WG shutdown at IETF 92**
  - <u>Much thanks</u> to Adrian Farrel for his guidance and perseverance through both good and hard times.
    - Ross Callon before Adrian
    - Alex Zinin before Ross
  - Publications to continue
    - ADs to sponsor the IFE and SM drafts to publication
    - 8 new known (mostly LFB) drafts coming up
      - Mostly Informational
    - If something shows up that needs us to re-open the WG we will make a formal request

I2RS Chair Slides: Agenda & Status

Sue Hares and Jeff Haas

3/27/2015

09:00-11:30 CT

Chair's Status

Shepherds

- **D**rafts at IESG
    - draft-ietf-i2rs-architecture-09   [Mach Chen]
    - draft-ietf-i2rs-problem-statement-06   [Qin Wu]
- **WG Drafts**
    - draft-ietf-i2rs-rib-info-model-06
    - draft-ietf-i2rs-usecase-reqs-summary-00
    - draft-ietf-i2rs-pub-sub-requirements-01
    - draft-ietf-i2rs-traceability-02
- **Adoption in Progress**
    - draft-clemm-i2rs-yang-l3-topo-00
    - draft-wang-i2rs-rib-data-model-02

Document status

- Topology Drafts (WG Adoption 4/2 to 4/16)
  - [draft-zhang-i2rs-l1-topo-yang-model-01](#)
  - [draft-dong-i2rs-l2-network-topology-01](#)
  - [draft-clemm-i2rs-yang-l3-topo-00](#)
  - [draft-wang-i2rs-yang-sff-dm](#)
- Protocol Requirements Design Team (4/2 – 4/30)
  - [draft-haas-i2rs-netmod-netconf-requirements-01](#)
  - [draft-ietf-i2rs-pub-sub-requirements-01](#)
  - [draft-ietf-i2rs-traceability-02](#)
  - If interested, 2+ conference calls per week (4/2 to 4/17)
  - WG LC (4/18 to 4/30)
- FB-RIB – Design team Starting (4/1 to 5/30)
  - [draft-kini-i2rs-fb-rib-info-model-00](#) (Info-model)
  - [draft-dunbar-i2rs-discover-traffic-rules-00](#) (SFC Filter rules)

I2RS work for May

- Interims planned:
  - 4/16, 4/30: Topics Topology and I2RS Protocol
  - 5/14, 5/28: Filter-Based RIB drafts
  - 6/11, 6/25: I2RS protocol
- WG LC and Interims planned in May
  - 4/2 to 4/17: Topology drafts
  - 4/18 to 4/30: I2RS protocol (4/30 interim)
- WG LC in June
  - FB-RIB drafts

Agenda

- I2RS status [9:00 – 9:15]
- I2RS RIB Model [9:15 – 9:45]
- Topology [9:45-10:45]
- Charter Discussion [10:45 – 11:00]
- Lighting Round [11:00 – 11:30]

IDR

- Met Tuesday (in a large broom closet)
- Documents:
  - three drafts w/ RFC Ed or IESG (draft-ietf-idr-{as0, error-handling, flowspec-redirect-rt-bis})
  - One in IETF LC (-ls-distribution)
  - Two pending post-WGLC revision (-ls-distribution-impl, -as-migration)
  - Four completed WGLC (-add-paths, -add-paths-guidelines, -ix-bgp-route-server, -sla-exchange)
  - Eight new WG documents adopted
  - … not to mention multiple adoption requests pending!

IDR Virtual Interims

- Focused work on e.g. resolving multiple drafts, completing WGLC, or simply making progress
- Mondays 10:00 – 11:30 ET
  - 4/13 – YANG modules
  - 4/27 – Route server + oscillation + communities
  - 5/11 – Flow spec + custom decision + RTC
  - 6/1 – Next hop + traffic engineering
  - 6/15 – TBD
- All subject to confirmation

IS-IS WG

New Docs

      draft-ietf-isis-mrt-00

Active Docs

      draft-ietf-isis-route-preference-00

      draft-ietf-isis-sbfd-discriminator-02

      draft-ietf-isis-yang-isis-cfg-02

      draft-ietf-isis-segment-routing-extensions-03

IETF Last Call

      draft-ietf-isis-extended-sequence-no-tlv-04

IS-IS Agenda Items

- YANG Data Model for ISIS protocol
- IS-IS Path Computation and Reservation (IEEE 802.1Qca)
- BIER support via ISIS
- IS-IS Prefix Attributes for Extended IP and IPv6 Reachability
- IS-IS Route Preference for Extended IP and IPv6 Reachability
- draft-ietf-isis-sbfd-discriminator
- Advertising Encapsulation Capability Using IS-IS
- ISIS Link Overload
- IS-IS Topology-Transparent Zone

L2TPEXT report

LISP WG Report

92nd IETF

Dallas (USA)

Progress on Documents

	draft-ietf-lisp-crypto-00	LISP Data-Plane Confidentiality	I-D Exists WG Document
🟡	draft-ietf-lisp-ddt-02	LISP Delegated Database Tree	I-D Exists WG Consensus: Waiting for Write-Up
🟢	draft-ietf-lisp-eid-block-10	LISP EID Block	AD Evaluation::External Party (for 57 days) Submitted to IESG for Publication
🟢	draft-ietf-lisp-eid-block-mgmnt-04	LISP EID Block Management Guidelines	AD Evaluation::External Party (for 57 days) Submitted to IESG for Publication
🟡	draft-ietf-lisp-impact-01	LISP Impact	I-D Exists WG Document
🟢	draft-ietf-lisp-introduction-12	An Architectural Introduction to the Locator/ID Separation Protocol (LISP)	IESG Evaluation::Revised I-D Needed (for 16 days) Submitted to IESG for Publication
	draft-ietf-lisp-lcaf-07	LISP Canonical Address Format (LCAF)	I-D Exists WG Document
	draft-ietf-lisp-sec-07	LISP-Security (LISP-SEC)	I-D Exists WG Document
	draft-ietf-lisp-threats-12	LISP Threats Analysis	I-D Exists In WG Last Call

From Last Meeting:
- Draft-ietf-lisp-introduction is now under IESG review
- Draft-ietf-lisp-ddt wend through WG LC and now waiting shepherd writeup
- Draft-ietf-lisp-impact is under WG LC

During this meeting:
- Consensus for WG LC for draft-ietf-lisp-threats
- Agreed with authors of draft-ietf-lisp-lcaf and draft-ietf-lisp-sec to have a final review from the chairs, then move them forward to WG LC

Milestones

TBD   Mar 2013   Summarize results of specifying, implementing, and testing LISP and forward to IESG and/or IRTF

Almost Done Oct 2012   Submit a LISP threats analysis document to the IESG for publication as an Experimental RFC

WG LC   Sep 2012 Submit a LISP impact discussion document to the IESG for publication as an Experimental RFC

Waiting Writeup   Jan 2013   Submit an alternate mapping system designs to the IESG for publication as an Experimental RFC

AD & IESG   Oct 2012   Submit an EID allocation document to the IESG for publication as an Experimental RFC
Sep 2012 Submit an architecture description to the IESG for publication as an Experimental RFC

Published   ~~Done~~   ~~Submit a deployment model document to the IESG for publication as an Experimental RFC~~
~~Done~~   ~~Submit a data model (e.g., a MIB) document to the IESG for publication as an Experimental RFC~~

MANET status IETF 92 Dallas

- OLSRv2 related documents progressing
- DLEP to be last called
- AODVv2 one last chance to get in shape 4 LC
- Re-chartering discussion ongoing as current work is wrapping up (one way or another)
  - Multicast work
  - Extensions work for NHDP/OLSRv2/AODVv2/DLEP
  - Many other topics being considered

MPLS WG

- Charter updated based on routing area reorg
  - Some work offloaded to new TEAS WG
  - See https://datatracker.ietf.org/wg/mpls/charter/
- 7 new RFCs, 5 in RFC ed Q, 5 with AD/IESG
- Met Tuesday pm
  - WG status plus 9 other presentations
  - lengthy discussion related to rings
- Will meet Friday pm
  - 12 more presentations
- Much work is still in progress

NVO3 WG Status @ IETF-92

- 3 virtual interim meetings (via WebEx) so far this year
- 2 in-person meetings this week at IETF-92
  - 1.5hr + 1hr = less conflict *(at least until you all adapt…)*
- 2 RFCs published previously; No new RFCs since IETF-91
- Publication of Requirements delayed *(on purpose)*
  - Will co-publish or merge with Solutions
- Architecture and Use-cases drafts need some final review
  - May WGLC soon, depending on list discussion
- In period of Call for Adoption of 3 Data Plane Encap drafts
  - *(in no particular order)* VXLAN-GPE, GUE, GENEVE
- Currently discussing Control Plane, OAM, etc.

OSPF WG Status

- New OSPF TE Metric and OSPFv2 Security RFCs
- Want to move forward with OSPFv2 Prefix/Link Attributes and RFC4970-BIS WG Last Calls
- Multi-Vendor OSPF YANG Model moving along well – looking for OpenConfig alignment
- OSPFv3 Extended LSAs has gotten good review but need some implementations
- Exploring WG acceptance of new drafts on flow spec, entropy label, and dual-stack TE.
- Goal is WG last call for OSPFv2 SR before Yokohama.
- Other new ideas to discuss before Prague.

PALS @ IETF 92

- PALS met Monday 9 to 10.30 – minutes were online that afternoon.

- Two new RFCs, one: RFC7436 published as Historic after 12 years

- One draft in IESG Review

- Five drafts in or completed WG LC

- We are getting close to finishing RFC4447bis (PW/MPLS/LDP signalling). In view of the importance of this RFC review is encouraged.

PCE

- Three new RFCs since Honolulu

  - RFC 7420: PCEP MIB (yes: SNMP...)

  - RFC 7449: Requirements for WDM RWA

  - RFC 7470: Vendors' Constraints (a.k.a. RFC7150bis)

- Passed Last Call

  - PCEP extensions for GMPLS

  - set of 4 stateful PCE I-Ds

- (Almost) ready for WG LC

  - draft-ietf-pce-hierarchy-extensions

  - draft-ietf-pce-wson-rwa-ext

  - draft-ietf-pce-pcep-service-aware (IGP-related)

  - draft-ietf-pce-pceps

- On the agenda (Wednesday): next step for PCE scope and charter?

IETF 92 pim wg summary

pim wg summary 1/2

- RFC 4601bis about to be published
  - PIM-SM (4601) advanced to Internet Standard
- 3 other drafts with the IESG or soon to be submitted

- Working group is in the process of getting rechartered
  - May take on new multicast protocol work in addition to PIM (IGMP/MLD already in the old charter)

pim wg summary 2/2

- We are forming a YANG multicast model design team
  - Contact the chairs if you want to join, would like more operators involved

- We met Tuesday and had a fairly lively meeting, including several multicast topics apart from the PIM protocols

ROLL - IETF 92

- IETF 92 - No ROLL Meeting

- Recharter: to handle NHC++(how to compress RFC6553, RFC6554 and IPinIP headers in the NHC context.), current discussion with 6lo

- draft-ietf-roll-admin-local-policy → Submitted to IESG for publication

- draft-ietf-roll-applicability-ami → WGLC finished

- draft-ietf-roll-applicability-home-building → Submitted to IESG for publication

- draft-ietf-roll-mpl-parameter-configuration → Currently in Last Call

- draft-ietf-roll-trickle-mcast → In the IESG, the authors have to address some last call comments

- draft-ietf-roll-security-threats → RFC7416

rtgwg Summary (IETF 92)

- New co-chair (Chris Bowers)
- Work Progress
  - [publication] Remote LFA FRR
  - [publication] Multicast only Fast Re-Route
  - [WGLC Complete] Operational management of Loop Free Alternates
- Meeting Agenda (14 items over 2 meetings):
  - Encapsulation Considerations design team report
  - 3 FRR-related drafts
  - 3 IGP's enhancements drafts
  - 8 YANG data models drafts

I E T F

SFC IETF 92 Summary

- Service Function Chaining (SFC) chairs: Guichard/Narten
- Key documents:
  - draft-ietf-sfc-problem-statement (in RFC queue for publication)
  - draft-ietf-sfc-architecture (sent to IESG for publication)
  - draft-ietf-sfc-nsh (just adopted as WG document)
    - Converged on a single encapsulation document
- Use case documents (intended to feed requirements/architecture
  - 3 documents adopted by the WG
  - All 3 ready for IESG review; final WG reviews ongoing
- WG started to define control plane framework for SFC

SIDR

SIDR met Monday morning.

Since the IETF91, two drafts have been through wg last call. Publication was requested for one draft but AD comments need to be addressed. One draft is in the RFC Editor queue -- since IETF91. The holdup was consideration with IETF Trust of how to deal with templates.

A new transport protocol for RPKI (instead of rsync) was adopted as a new work item for the working group.

Publication request imminent for another draft (before end of week)

In the meeting:

Two long dormant drafts were revived and presented.

Responses to the BGPSEC protocol wglc were covered, as well as errata on existing RFC.

The newly adopted transport protocol work was discussed – positive comments from wg

The results of a survey about deployment of RPKI and DNSSEC were presented – some interesting statistics of deployment, why and why not.

SPRING

- Meeting (next slot, 17:40, Venetian)
- Short meeting, focusing on key work to advance charter
- Main problem statement draft passed WGLC, being readied for IESG
- Architecture adopted, hoping to WGLC it (and additional use cases) soon
- Related work in many WGs (routing protocol groups, MPLS, 6man, more)

TEAS 92 Status Update

- 1 Session – Thursday Morning

- Highlights:
  - WG Formed!
    - As part of RTG Area "tuning"
  - New WG Chair – Vishnu Pavan Beeram
  - 3 documents in RFC Ed Queue
  - Yang, Yang, Yang
    - Several TE-related drafts/discussions
    - Still working out management of TEAS/MPLS cross-group drafts
  - ACTN discussion
  - A few smaller topics discussed

TRILL Working Group

TRansparent Interconnection of Lots of Links

Mailing list address: trill@ietf.org
Tools site: http://tools.ietf.org/wg/trill/
Website: http://www.postel.org/rbridge

Co-Chair: Sue Hares (Hickory Hill Consulting) shares@ndzh.com Co-Chair: Jon Hudson (Brocade) jon.hudson@gmail.com
Secretary: Donald Eastlake, 3rd (Huawei) d3e3e3@gmail.com

Area Director: Ted Lemon (nominum)

Major Effort Priorities

- The Co-Chairs believe that the relative priority of the current major (multi-document) specification efforts in the TRILL WG is as below.

  1. OAM – Base RFCs 7455 and 7456 published. MIB / YANG documents in process.

  2. Active-Active – Base cluster of documents now in the IESG (trill-cmt, trill-pseudonode-nickname, and trill-aa-multi-attach)

  3. Directory Assist / ARP&ND Optimization

  4. Multi-level TRILL and Multi-topology TRILL

OPEN DISCUSSION

Feedback to ADs

- How are we doing?

- How can we do things better?

- What's broken with the area?

- What's working with the area?