DetNet WG
IETF 111

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Online Agenda and Slides at:
https://datatracker.ietf.org/meeting/111/session/detnet

WG Information: https://datatracker.ietf.org/wg/detnet/

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Definitive information is in the documents listed below and other IETF BCPs. For advice, please talk to WG chairs or ADs:

- BCP 9 (Internet Standards Process)
- BCP 25 (Working Group processes)
- BCP 25 (Anti-Harassment Procedures)
- BCP 54 (Code of Conduct)
- BCP 78 (Copyright)
- BCP 79 (Patents, Participation)
- https://www.ietf.org/privacy-policy/ (Privacy Policy)

Also see: http://www.ietf.org/about/note-well.html

Meeting Administrativia

- Meetecho
  - Using meetecho queue control
  - Chat/Jabber available for use
  - Blue sheets
- Note taking
  - https://codimd.ietf.org/notes-ietf-111-detnet
  - Please help with minute taking (only discussion needs to be captured)
- Online Agenda and Slides at: https://datatracker.ietf.org/meeting/111/session/detnet
- Data tracker: http://datatracker.ietf.org/wg/detnet/
- Jabber: xmpp:detnet@jabber.ietf.org?join

IETF 111 Sessions

- **Joint Session with PALS and MPLS on Tuesday Session III – July 27**
  - 16:00-18:00 (PDT, UTC-7) – 23:00-01:00 (UTC)

- **Friday Session II – July 30**
  - 14:30-15:30 (PDT, UTC-7) – 21:30-22:30 (UTC)

Agenda

Presentation	Start Time (UTC-7)	Duration	Information	Friday Session II
1	14:30	5	Title:	Intro, WG Status, Draft Status
			Presenter:	Chairs
2	14:35	10	Title:	OAM Framework
			Presenter:	Greg Mirsky
			Draft:	https://datatracker.ietf.org/doc/html/draft-ietf-detnet-oam-framework-03
3	14:45	5	Title:	OAM for The Service Sub-Layer
			Presenter:	Balázs Varga
			Draft:	https://datatracker.ietf.org/doc/html/draft-varga-detnet-service-sub-layer-oam-00
4	14:50	5	Title:	PREOF for DetNet IP
			Presenter:	Balázs Varga
			Draft:	https://datatracker.ietf.org/doc/html/draft-varga-detnet-ip-preof-00
5	14:55	5	Title:	IPv6 Hop-by-Hop Options for DetNet
			Presenter:	Pascal Thubert
			Draft:	https://datatracker.ietf.org/doc/html/draft-pthubert-detnet-ipv6-hbh-04
6	15:00	5	Title:	Packet Ordering Function
			Presenter:	Balázs Varga
			Draft:	https://datatracker.ietf.org/doc/html/draft-varga-detnet-pof-01
7	15:05	5	Title:	RSVP for TSN Networks
			Presenter:	Dirk Trossen
			Draft:	https://datatracker.ietf.org/doc/html/draft-trossen-detnet-rsvp-tsn-00
8	15:10	5	Title:	BGP Flow Specification for DetNet Flow Mapping
			Presenter:	Quan Xiong
			Draft:	https://datatracker.ietf.org/doc/html/draft-xiong-idr-detnet-flow-mapping-00
9	15:15	5	Title:	Services Deployment Guideline in DetNet Network
			Presenter:	Joanna Dang
			Draft:	https://datatracker.ietf.org/doc/html/draft-dang-detnet-deployment-00
10	15:20	5	Title:	Bounded Latency Problems
			Presenter:	Toerless Eckert
			Draft:	https://datatracker.ietf.org/doc/html/draft-eckert-detnet-bounded-latency-problems-00
11	15:25	5	Title:	Micro-burst Decreasing in Layer3 Network for Low-Latency Traffic
			Presenter:	Zongpeng Du
			Draft:	https://datatracker.ietf.org/doc/html/draft-du-detnet-layer3-low-latency-03
Adjourn	15:30			

WG Status

- Recent RFCs

RFC 9055 *(was draft-ietf-detnet-security)* **Deterministic Networking (DetNet) Security Considerations**	2021-06 50 pages	Informational RFC
RFC 9024 *(was draft-ietf-detnet-tsn-vpn-over-mpls)* **Deterministic Networking (DetNet) Data Plane: IEEE 802.1 Time-Sensitive Networking over MPLS**	2021-06 12 pages	Proposed Standard RFC
RFC 9037 *(was draft-ietf-detnet-mpls-over-tsn)* **Deterministic Networking (DetNet) Data Plane: MPLS over IEEE 802.1 Time-Sensitive Networking (TSN)**	2021-06 11 pages	Informational RFC
RFC 9023 *(was draft-ietf-detnet-ip-over-tsn)* **Deterministic Networking (DetNet) Data Plane: IP over IEEE 802.1 Time-Sensitive Networking (TSN)**	2021-06 10 pages	Informational RFC
RFC 9025 *(was draft-ietf-detnet-mpls-over-udp-ip)* **Deterministic Networking (DetNet) Data Plane: MPLS over UDP/IP**	2021-04 8 pages	Proposed Standard RFC

WG Status

- Publication requested

draft-ietf-detnet-bounded-latency-06 **DetNet Bounded Latency**	2021-05-17 28 pages	Publication Requested Submitted to IESG for Publication: Informational
draft-ietf-detnet-ip-over-mpls-09 **DetNet Data Plane: IP over MPLS**	2020-10-11 13 pages	RFC Ed Queue : AUTH48 AUTH48 for 269 days Submitted to IESG for Publication: Proposed Standard Reviews: genart, rtgdir, secdir, tsvart

- Post WG last call

draft-ietf-detnet-yang-12 **Deterministic Networking (DetNet) YANG Model**	2021-05-19 128 pages	I-D Exists WG Document:Proposed Standard Reviews: yangdoctors

- Not on agenda

draft-ietf-detnet-controller-plane-framework-00 **Deterministic Networking (DetNet) Controller Plane Framework**	2021-02-05 19 pages	I-D Exists WG Document

Liaisons and Communications

- Received:
  - From: ITU-T-SG-13
    - https://datatracker.ietf.org/liaison/1753/ -- with 3 interesting attachments
  - Received: 2021-07-27
  - Subject: *LS on Work items related to deterministic communication in ITU-T SG13*

    ITU-T Study Group 13 would like to inform you that Question 6 of SG13 has three on-going work items and one published Recommendation related to deterministic communication on the scope of local area networks and large-scale networks for IMT-2020 network and beyond.

    The information on the three on-going work items and the published Recommendation are shown below. Their corresponding documents are attached.

    …

    This information is for your consideration and we look forward to collaborating with you in this area.
  - No response is requested, but we can send an unsolicited response
    - Proposed responses can be sent to the list for discussion

Reminder: IPR Disclosure Process

- We follow process put in place in other groups as a result of very late IPR disclosures
  - This is not a required IETF process
- Includes

  Polling of draft authors & contributors:
  1. Prior to moving to next step in WG process
     a. Before an individual draft becomes a WG document and
     b. Before a WG document goes to last call
  2. Requires IPR compliance statement from ***all*** listed in draft
- New Step:
  - Request that an IPR statement be sent to the list by any new author or contributor when added to a WG document

Working Remote

- Utilize the mailing list!
  - Working Group consensus is determined on the mailing list
  - Mailing list is to be used for WG decision making and discussions
    - Resolving open issues
    - Reviewing changes to WG documents
    - Introducing new drafts
    - Potential new Working Group topics
- Virtual meetings
  - Virtual interims can be scheduled as needed
    - Periodically, or as needed to cover a specific topic WG members can make requests to chairs

  ➔ *Planning an interim on Queuing Topics*

  *– Proposed date **September 9, 12:00pm/Noon UTC** – please send objections to the list*
- Informal (working) meetings
  - WG WebEx is available WG members can make requests to chairs/secretary
  - These meetings will be announced on the WG list

For Information – Related Work: TSN

Time-Sensitive Networking (TSN) Profiles (Selection and Use of TSN tools)

Audio Video Bridging [802.1BA/Revision]	Fronthaul [802.1CM/de]	Industrial Automation [IEC/IEEE 60802]	Automotive In-Vehicle [P802.1DG]	Service Provider [P802.1DF]	Aerospace Onboard [IEEE P802.1DP / SAE AS6675]

TSN Components

(Tools of the TSN toolset)

Time synchronization:
- Timing and Synchronization [802.1AS-2020] (a profile of IEEE 1588)
- Hot Standby [P802.1ASdm]
- YANG [P802.1ASdn]
- Inclusive Terminology [P802.1ASdr]

Synchronization

Reliability

High availability / Ultra reliability:
- Frame Replication and Elimination [802.1CB]
- Path Control and Reservation [802.1Qca]
- Per-Stream Filtering and Policing [802.1Qci]
- Reliability for Time Sync [802.1AS-2020]

Latency

Bounded low latency:
- Credit Based Shaper [802.1Qav]
- Frame Preemption [802.1Qbu & 802.3br]
- Scheduled Traffic [802.1Qbv]
- Cyclic Queuing and Forwarding [802.1Qch]
- Asynchronous Traffic Shaping [802.1Qcr]
- Shaper Parameter Settings [P802.1Qdq]
- QoS Provisions [P802.1DC]

Resource Management

Dedicated resources & API:
- Stream Reservation Protocol [802.1Qat]
- Link-local Registration Protocol [802.1CS]
- TSN Configuration [802.1Qcc]
- Foundational Bridge YANG [802.1Qcp]
- YANG for CFM [P802.1Qcx]
- YANG for LLDP [P802.1ABcu]
- YANG for 802.1Qbv/Qbu/Qci [P802.1Qcw]
- YANG & MIB for FRER [P802.1CBcv]
- Extended Stream Identification [P802.1CBdb]
- Resource Allocation Protocol [P802.1Qdd]
- TSN Configuration Enhancements [P802.1Qdj]
- LLDPv2 for Multiframe Data Units [P802.1ABdh]
- Multicast and Local Address Assignment [P802.1CQ]

Zero congestion loss = Bounded latency

Note: A 'P' in front of '802.1' indicates an ongoing Project.

https://www.ieee802.org/1/tsn

For Information – Related Work

- IETF IAB – IEEE 802 Coordination
  - https://www.iab.org/liaisons/iab-ieee-coordination/
- Avnu Alliance
  - DetNet Study Group has been recently approved