

DetNet WG

IETF 111

Chairs:

Lou Berger lberger@labn.net

János Farkas janos.farkas@ericsson.com

Secretary:

Ethan Grossman ethan@ieee.org

Online Agenda and Slides at:

<https://datatracker.ietf.org/meeting/111/session/detnet>

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

IETF Note Well

This is a reminder of IETF policies in effect on various topics such as patents or code of conduct. It is only meant to point you in the right direction. Exceptions may apply. The IETF's patent policy and the definition of an IETF "contribution" and "participation" are set forth in BCP 79; please read it carefully.

As a reminder:

- By participating in the IETF, you agree to follow IETF processes and policies.
- If you are aware that any IETF contribution is covered by patents or patent applications that are owned or controlled by you or your sponsor, you must disclose that fact, or not participate in the discussion.
- As a participant in or attendee to any IETF activity you acknowledge that written, audio, video, and photographic records of meetings may be made public.
- Personal information that you provide to IETF will be handled in accordance with the IETF Privacy Statement.
- As a participant or attendee, you agree to work respectfully with other participants; please contact the ombudsteam (<https://www.ietf.org/contact/ombudsteam>) if you have questions or concerns about this.

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 Administrivia

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

WG Status

- Recent RFCs

RFC 9055 <i>(was draft-ietf-detnet-security)</i> Deterministic Networking (DetNet) Security Considerations	2021-06 50 pages	Informational RFC
RFC 9024 <i>(was draft-ietf-detnet-tsn-vpn-over-mpls)</i> Deterministic Networking (DetNet) Data Plane: IEEE 802.1 Time-Sensitive Networking over MPLS	2021-06 12 pages	Proposed Standard RFC
RFC 9037 <i>(was draft-ietf-detnet-mpls-over-tsn)</i> Deterministic Networking (DetNet) Data Plane: MPLS over IEEE 802.1 Time-Sensitive Networking (TSN)	2021-06 11 pages	Informational RFC
RFC 9023 <i>(was draft-ietf-detnet-ip-over-tsn)</i> Deterministic Networking (DetNet) Data Plane: IP over IEEE 802.1 Time-Sensitive Networking (TSN)	2021-06 10 pages	Informational RFC
RFC 9025 <i>(was draft-ietf-detnet-mpls-over-udp-ip)</i> 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 <small>AUTH48 for 269 days</small> 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
--	------------------------	---------------------------

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
 - ◻ *Do we want an interim on Queuing Topics?*
- 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

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]

Reliability

Latency

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]

Resource Management

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]

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