# APN进展 &

# IETF ART域 DISPATCH工作组介绍

彭书萍

IETF ART Area DISPATCH WG Co-Chair
IETF RTG Area SPRING WG Secretary
IETF RTG Area Directorate Member
IETF ART Area Review Team (artart) Member
CCSA TC3WG2 副组长

# 网络能力迅速提升，对业务的感知能力变得极为迫切

- 不断涌现的新型业务/应用的差异化需求明显
  - 大带宽、超低时延/确定性时延、超高可靠性、安全性


- 网络不断创新促使网络能力迅速提升
  - IPv6+整个技术体系使能网络差异化服务能力


- 网络运营商需要准确地感知业务的特征和需求
  - IETF APN Proposed WG https://datatracker.ietf.org/wg/apn/about/
  - CCSA APN6国标，系列行标（架构、数据面）

# APN工作组正在讨论Charter

始于2019年3月...

- 共发布文稿17篇

- 2次APN Side meeting

- 3次联合Hackathons

- 4次BoF申请

- 1次RTG域专题中期会议

- 1次WG-Forming BoF

- 获得来自中国、北美、欧洲等多家运营商和行业伙伴支持

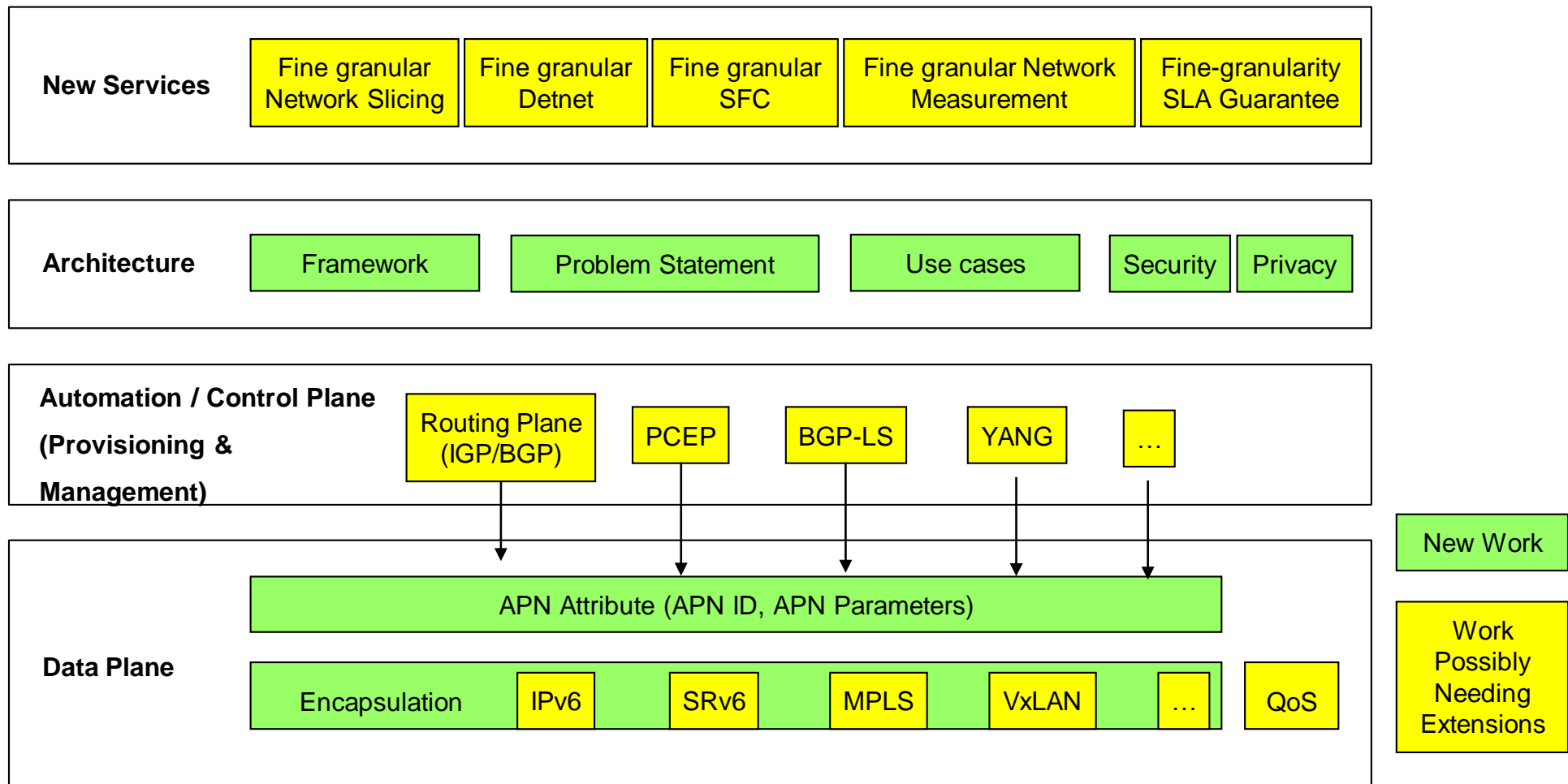- 成功吸引来自IETF 7个工作域的220+专家（10+IAB、20+工作组主席）参与BoF讨论，获得广泛关注，展现中国通信创新引领能力

- 进入APN WG Charter讨论阶段

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Datatracker

## Application-aware Networking (apn)    **Proposed WG**

About | Documents | Meetings | History | Photos | Email expansions | List archive »

| WG | | |
|---|---|---|
| | **Name** | **Application-aware Networking** |
| | **Acronym** | apn |
| | **Area** | Routing Area (rtg) |
| | **State** | Proposed |
| | **Charter** | charter-ietf-apn-00-00 |
| | | Start Chartering/Rechartering (Internal Steering Group/IAB Review) |
| | **Document dependencies** | ⊡ Show |
| **Personnel** | **Chairs** | Donald E. Eastlake 3rd, Melchior Aelmans |
| | **Area Director** | Andrew Alston |
| **Mailing list** | **Address** | apn@ietf.org |
| | **To subscribe** | https://www.ietf.org/mailman/listinfo/apn |
| | **Archive** | https://mailarchive.ietf.org/arch/browse/apn/ |
| **Chat** | **Room address** | https://zulip.ietf.org/#narrow/stream/apn |

## Charter for proposed Working Group

Application-aware Networking (APN) Working Group will develop a framework to provide fine-granularity services within the APN domain.

# APN工作总览



| New Services | Fine granular Network Slicing | Fine granular Detnet | Fine granular SFC | Fine granular Network Measurement | Fine-granularity SLA Guarantee |

| Architecture | Framework | Problem Statement | Use cases | Security | Privacy |

**Automation / Control Plane (Provisioning & Management)**

Routing Plane (IGP/BGP) · PCEP · BGP-LS · YANG · …

**Data Plane**

APN Attribute (APN ID, APN Parameters)

Encapsulation · IPv6 · SRv6 · MPLS · VxLAN · … · QoS

New Work

Work Possibly Needing Extensions

- **draft-li-apn-framework**
- **draft-li-apn-header**, **draft-li-apn-ipv6-encap**

# IETF ART域 DISPATCH工作组介绍

# IETF ART （Applications and Real-Time Area）

| Group | Name | Chairs |
|---|---|---|
| asap | Automatic SIP trunking And Peering | Jean Mahoney, Gonzalo Salgueiro |
| asdf | A Semantic Definition Format for Data and Interactions of Things | Michael Richardson, Niklas Widell |
| avtcore | Audio/Video Transport Core Maintenance | Dr. Bernard D. Aboba, Jonathan Lennox |
| calext | Calendaring Extensions | Bron Gondwana, Daniel Migault |
| cbor | Concise Binary Object Representation Maintenance and Extensions | Christian Amsüss, Barry Leiba |
| cdni | Content Delivery Networks Interconnection | Kevin J. Ma, Sanjay Mishra |
| cellar | Codec Encoding for LossLess Archiving and Realtime transmission | Spencer Dawkins, Michael Richardson |
| core | Constrained RESTful Environments | Carsten Bormann, Jaime Jimenez, Marco Tiloca |
| **dispatch** | Dispatch | Kirsty Paine, Shuping Peng |
| dmarc | Domain-based Message Authentication, Reporting & Conformance | Seth Blank, Barry Leiba |
| ecrit | Emergency Context Resolution with Internet Technologies | Randall Gellens, Allison Mankin, Roger Marshall |
| emailcore | Revision of core Email specifications | Todd Herr, Alexey Melnikov |
| extra | Email mailstore and eXtensions To Revise or Amend | Bron Gondwana, Jiankang Yao |
| httpapi | Building Blocks for HTTP APIs | Darrel Miller, Rich Salz |
| httpbis | HTTP | Mark Nottingham, Tommy Pauly |
| jmap | JSON Mail Access Protocol | Jim Fenton, Bron Gondwana |
| jsonpath | JSON Path | Tim Bray, James Gruessing |
| mediaman | Media Type Maintenance | Harald T. Alvestrand |
| mmusic | Multiparty Multimedia Session Control | Flemming Andreasen, Bo Burman |
| regext | Registration Protocols Extensions | James Galvin, Antoin Verschuren |
| rtcweb | Real-Time Communication in WEB-browsers | Ted Hardie, Sean Turner |
| rum | Relay User Machine | Paul Kyzivat, Brian Rosen |
| scim | System for Cross-domain Identity Management | Nancy Cam-Winget, Aaron Parecki (Assigned AD: Roman Danyliw) |
| sedate | Serialising Extended Data About Times and Events | Bron Gondwana, Mark McFadden |
| sframe | Secure Media Frames | Bobo Bose-Kolanu, Martin Thomson |
| sipcore | Session Initiation Protocol Core | Jean Mahoney, Brian Rosen |
| stir | Secure Telephone Identity Revisited | Ben Campbell, Russ Housley, Robert Sparks |
| uta | Using TLS in Applications | Leif Johansson, Valery Smyslov |
| webtrans | WebTransport | Dr. Bernard D. Aboba, David Schinazi |
| wish | WebRTC Ingest Signaling over HTTPS | Nils Ohlmeier, Sean Turner |
| wpack | Web Packaging | David C Lawrence, Sean Turner |

■ 应用
■ 协议
■ 数据格式和接口

# ART DISPATCH WG 做什么?

- ART：Applications and Real-Time Area

- DISPATCH（派遣） WG – ART域的创新枢纽

- The Dispatch working group is chartered to consider proposals for <span style="color:red">new</span> work in the ART area and identify, or help create, an appropriate venue for the work.

- A **major objective** of the DISPATCH WG is to provide timely, clear dispositions of new efforts.

- Options for handling new work include:
  - Directing the work to an existing WG.
  - Developing a proposal for a BOF.
  - Developing a charter for a new WG.
  - Making recommendations that documents be AD-sponsored (which ADs may or may not choose to follow).
  - By agreement with ART ADs, processing simple administrative documents.
  - Deferring the decision for the new work.
  - Rejecting the new work.

- Joint with ART
  - 开放
  - 积极关注其他域动态

DISPATCH WG

(ARTAREA)

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RTG WG
+
RTG AREA

# ART DISPATCH WG 最近热点?

**IETF109**

DISPATCH
- 0520-0550 -- The 'haptics' Top-level Media Type (Yeshwant)
- 0550-0620 -- WebRTC-HTTP ingestion protocol (Sergio)

ART Area
- 0620-0630 -- BoF and other meetings of interest (chairs)
- 0630-0700 -- IANA Registration of Content-Type Header Field Parameter (Bernie/Alexey)

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**IETF111**

- 2025-2030 -- FFV1 v4 - new codec spec from CELLAR WG (Michael Richardson)
- 2030-2040 -- IPv6 Zone Identifiers in URIs (RFC6874bis) (Brian Carpenter)  <span style="color:red">INT IPv6设计在DISPATCH宣讲</span>
- 2040-2050 -- Reliable (unreliable) streaming protocol (Kirill Pugin)

### Meetings of Interest

- BoFs:
  - Tues 1900 UTC DANE AutheNtication for Iot Service Hardening (DANISH)
  - Tues 2300 UTC Oblivious HTTP (ohttp)
  - Weds 1900 UTC MAC Address Device Identification for Network and Application Services (MADINAS)
  - Thurs 2030 UTC SCIM Industry Next Steps (SINS)
  - Fri 1900 UTC Application-aware Networking (APN)  <span style="color:red">APN BoF 被ART域宣传</span>
- New ART WGs:
  - Tues 1900 UTC Serialising Extended Data About Times and Events (SEDATE)

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**IETF113**

**DISPATCH Agenda**

- Status and Agenda Bash (10 min) - Chairs and ADs
- Complaint Feedback Loop Address Header (20 min) - Jan-Philipp Benecke   *DISPATCH Outcome: Possible new WG*
- Open Ethics Transparency Protocol (20 min) - Nikita Lukianets
- A well-known URI for publishing ECHConfigList values (20 mins) - Stephen Farrell
- Updated Use of the Expires Message Header Field (10 min) - John Levine
- Inside MLS Message Interop (IMMI) (10 min) - Rohan Mahy   *DISPATCH Outcome: WG-forming BoF*

**Meetings of interest (local time)**

BoFs:
- **Tues 10:00:** Computing-Aware Networking (**can**)
- **Weds 10:00:** Media Over QUIC (**moq**)
- **Thurs 10:00:** Source Address Validation in Intra-domain and Inter-domain Networks (**savnet**)

<span style="color:red">ART域也在关注网络的新动态 (CAN, SAVNET)</span>

<span style="color:blue">https://datatracker.ietf.org/meeting/113/materials/minutes-113-dispatch-01.html</span>

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**IETF110**

DISPATCH Meeting
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### Date and Time on the Internet (20 min)
Presenter: Ujjwal Sharma
### On Media-Types, Content-Types, and related terminology (20 min)
Presenter: Carsten Bormann
### HTTP content negotiation using profiles (10 min)
Presenter: Lars G. Svensson

## ART AREA Meeting
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### APN: Application-aware Networking (20 min)
Presenter: Shuping Peng/Zhenbin Li   <span style="color:red">APN在DISPATCH宣讲</span>
### qlog (logging for QUIC, HTTP/3 events and other protocols) (20 min)
Presenter: Robin Marx
### SDP Mapping into HTTP structured headers (10 min)
Presenter: James Gruessing
### SIP Extensions for High Availability and Load Balancing for Public Cloud (10 min)
Presenter: Jonathan Rosenberg

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**IETF112**

### Meetings of Interest (all times UTC)

BoFs:
- Weds 1600 Privacy Respecting Incorporation of Values (PRIV)

New and nearly-new ART WGs:
- Mon 14:30 Oblivious HTTP Application Intermediation (OHAI)
- Tues 1430 Media Type Maintenance (MEDIAMAN)
- Tues 1430 Serialising Extended Data About Times and Events (SEDATE)

- Planning two side meetings on "Media Over QUIC" at IETF 112
  - "Understand what's needed" from the IETF on Tuesday at 18:15 UTC
  - "Planning for next steps" (if needed) on Friday at 18:15 UTC

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**IETF114**

<span style="color:blue">https://datatracker.ietf.org/meeting/114/session/dispatch</span>

<span style="color:blue">https://mailarchive.ietf.org/arch/browse/dispatch/?gbt=1&index=</span>

# 欢迎来DISPATCH WG
## 讨论和宣讲网络与应用的相关创新理念

| Monday, November 7, 2022 | | | | |
|---|---|---|---|---|
| 09:30-<br>11:30 | **Monday Session I** | | | |
| | Kensington 1 | art | dispatch | Dispatch<br>Joint with ARTAREA |

相关链接：
MeetEcho
Notes
Zulip

## DISPATCH WG Meeting Agenda

**Status and Agenda Bash - Chairs and ADs (10 min)**

**vCon (20 min)**

Presenter: Thomas Howe & Dan Petrie (in-person)
draft-petrie-vcon
Messages
Mailing list

**SASL Authentication for SIP (20 min)**

Presenter: Rick van Rein
draft-vanrein-sipauth-sasl
Messages

**DKIM replay (20 min)**

Presenter: Wei Chuang
Four draft solutions to a common problem:

- draft-chuang-dkim-replay-problem

- draft-chuang-replay-resistant-arc

- draft-gondwana-email-mailpath

- draft-bradshaw-envelope-validation-extension-dkim

- draft-kucherawy-dkim-anti-replay
  Messages

**WebRTC-HTTP Egress Protocol (WHEP) (10 min)**

Presenter: Sergio Garcia Murillo, Cheng Chen
draft-murillo-whep
Messages

## ART AREA Meeting

**BoFs, updates and meetings of interest - ADs (10 min)**

**NGI funding for Internet open-source activities (5-10 min)**

Presenter: Stephen Farrell

**Flextime & AOB (30 min)**

# Metaverse Side Meeting

- Here is the tentative agenda:
  - 1) Introduction - Giuseppe Fioccola - 5min
  - 2) QuicR and standardization of the metaverse - Cullen Jennings - 10min
  - 3) ICN and networking for distributed AR/VR - Dirk Kutscher - 10min
  - 4) Low Latency, Low Loss, Scalable Throughput (L4S) Internet Service - Koen De Schepper - 10 min
  - 5) Blockchain and metaverse - Mike McBride - 10min
  - 6) Network innovation and standardization for metaverse - Robin Li - 10min
  - 7) Open Discussion - 35min
- Monday November 7 from 8:00 AM GMT to 9:30 AM GMT at the Hilton London Metropole (Room Mezzanine 12)
- Remote attendance is also available (https://welink.zhumu.com/j/131832648)

# *Thank you!*