IETF WG

Po co, jak, gdzie i co dalej?

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IETF w swoich słowach

- Międzynarodowa społeczność projektantów, operatorów, producentów i badaczy skupionych wokół ewolucji Internetu
- Praca odbywa się w grupach roboczych (working groups)
- “**The goal of the IETF is to make the Internet work better.**”

https://ietf.org

Jak to działa?

Tao of IETF:

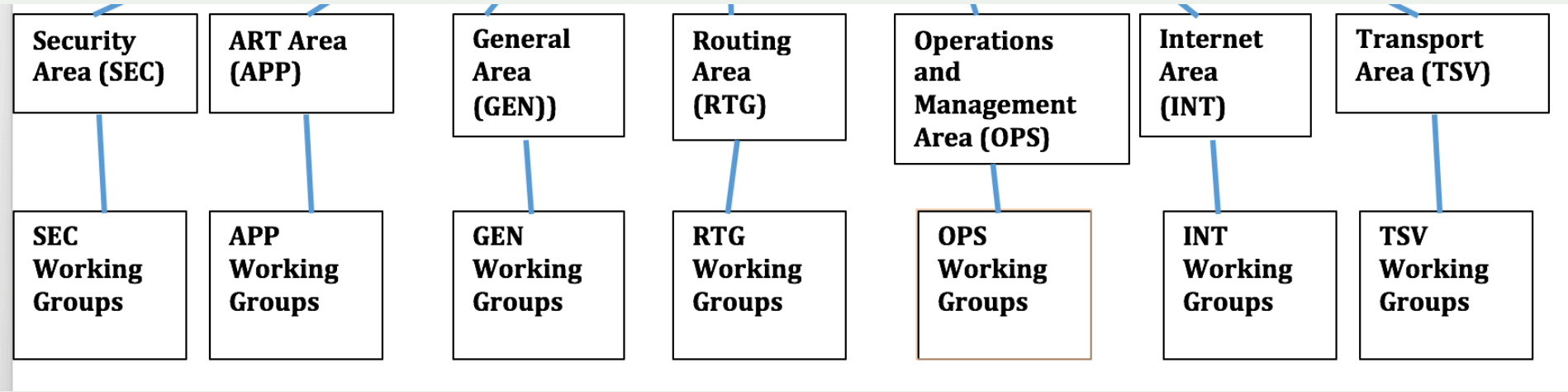
2. The guide

2.1. General description of workflow in the IETF

No single document formally covers this topic, although the Tao of the IETF (<http://www.ietf.org/tao.html>) offers most of it informally:

- How ideas for new work enter the IETF [RFC6771].
- How they reach a BOF (Birds of a Feather meeting) [RFC5434].
- How they enter formal discussion and possibly become material for a new or existing Working Group.
- How WGs are chartered and managed - the WG Chair's and Area Director's roles.
- How specific proposals become drafts and flow through the development, review and approval process [RFC7221]

Jak zorganizowana jest praca IETF?



Praca podzielona jest na 7 obszarów, każdy z nich ma swojego Area Directora (lub –ów) oraz zestaw Grup Roboczych (WG)

IETF Working Groups

- Wokół WG skupiona jest grupa osób pracująca nad dokumentami RFC
- WG tworzone są żeby rozwiązać konkretny problem
- …z natury rzeczy powinny być zatem „krótko żyjące”
- Decyzje podejmowane są przez „zgodę większości”

Aktywne WG - internet

int active WGs

Group	Responsible AD	Name	Chairs
6lo	Suresh	IPv6 over Networks of Resource-constrained Nodes	Samita Chakrabarti, Gabriel Montenegro
6man	Suresh	IPv6 Maintenance	Robert Hinden, Ole Troan
6tisch	Suresh	IPv6 over the TSCH mode of IEEE 802.15.4e	Pascal Thubert, Thomas Watteyne
dhc	Suresh	Dynamic Host Configuration	Tomek Mrugalski, Bernie Volz
dmm	Suresh	Distributed Mobility Management	Sri Gundavelli, Jouni Korhonen, Dapeng Liu
dnssd	Terry	Extensions for Scalable DNS Service Discovery	Tim Chown, Ralph Droms, David Schinazi
dprive	Terry	DNS PRIVate Exchange	Brian Haberman, Tim Wicinski
hip	Terry	Host Identity Protocol	Gonzalo Camarillo
homenet	Terry	Home Networking	Ray Bellis, Stephen Farrell, Barbara Stark
intarea	Suresh	Internet Area Working Group	Wassim Haddad, Juan-Carlos Zúñiga
ipwave	Suresh	IP Wireless Access in Vehicular Environments	Carlos Bernardos, Russ Housley
lpwan	Suresh	IPv6 over Low Power Wide-Area Networks	Alexander Pelov, Pascal Thubert
lwig	Suresh	Light-Weight Implementation Guidance	Zhen Cao, Mohit Sethi
ntp	Suresh	Network Time Protocol	Karen O'Donoghue, Dieter Sibold
pcp	Suresh	Port Control Protocol	Reinaldo Penno, Dave Thaler
savi	Suresh	Source Address Validation Improvements	Jean-Michel Combes
softwire	Terry	Softwires	Yong Cui, Ian Farrer
sunset4	Terry	Sunsetting IPv4	Marc Blanchet, Wesley George
tictoc	Suresh	Timing over IP Connection and Transfer of Clock	Karen O'Donoghue, Yaakov Stein

Aktywne WG - operations

ops active WGs

Group	Responsible AD	Name	Chairs
anima	Terry	Autonomic Networking Integrated Model and Approach	Toerless Eckert , Sheng Jiang (Assigned AD: Terry Manderson)
bmwg	Warren	Benchmarking Methodology	Sarah Banks , Al Morton
dime	Ben	Diameter Maintenance and Extensions	Jouni Korhonen , Lionel Morand (Assigned AD: Ben Campbell)
dnsop	Warren	Domain Name System Operations	Tim Wicinski , Suzanne Woolf
grow	Warren	Global Routing Operations	Christopher Morrow , Peter Schoenmaker
l2sm	Benoit	L2VPN Service Model	Adrian Farrel , Qin Wu
lime	Benoit	Layer Independent OAM Management in the Multi-Layer Environment	Ron Bonica , Carlos Pignataro
lmap	Benoit	Large-Scale Measurement of Broadband Performance	Dan Romascanu , Jason Weil
mboned	Warren	MBONE Deployment	Leonard Giuliano , Greg Shepherd
netconf	Benoit	Network Configuration	Mahesh Jethanandani , Kent Watsen
netmod	Benoit	Network Modeling	Lou Berger , Kent Watsen
opsawg	Warren	Operations and Management Area Working Group	Ignas Bagdonas , Joe Clarke , Tianran Zhou
opsec	Warren	Operational Security Capabilities for IP Network Infrastructure	Gunter Van de Velde , Eric Vyncke
radext	Kathleen	RADIUS EXTensions	Lionel Morand , Stefan Winter (Assigned AD: Kathleen Moriarty)
sidrops	Warren	SIDR Operations	Chris Morrow , Keyur Patel
v6ops	Warren	IPv6 Operations	Fred Baker , Ron Bonica , Lee Howard

Aktywne WG - routing

rtg active WGs

Group	Responsible AD	Name	Chairs
babel	Alia	Babel routing protocol	Donald Eastlake, Russ White
bess	Alvaro	BGP Enabled ServiceS	Thomas Morin, Martin Vigoureux
bfd	Alvaro	Bidirectional Forwarding Detection	Jeffrey Haas, Reshad Rahman
bier	Alia	Bit Indexed Explicit Replication	Tony Przygienda, Greg Shepherd
ccamp	Deborah	Common Control and Measurement Plane	Daniele Ceccarelli, Fatai Zhang
detnet	Deborah	Deterministic Networking	Lou Berger, Patricia Thaler
i2rs	Alia	Interface to the Routing System	Susan Hares, Russ White
idr	Alvaro	Inter-Domain Routing	Susan Hares, John Scudder
isis	Alia	IS-IS for IP Internets	Hannes Gredler, Christian Hopps
l2tpext	Deborah	Layer Two Tunneling Protocol Extensions	Ignacio Goyret, Carlos Pignataro
lisp	Deborah	Locator/ID Separation Protocol	Joel Halpern, Luigi Iannone
manet	Alvaro	Mobile Ad-hoc Networks	Justin Dean, Stan Ratliff
mpls	Deborah	Multiprotocol Label Switching	Loa Andersson, Nicolai Leymann, George Swallow
nvo3	Alia	Network Virtualization Overlays	Sam Aldrin, Matthew Bocci
ospf	Alia	Open Shortest Path First IGP	Acee Lindem, Abhay Roy
pals	Deborah	Pseudowire And LDP-enabled Services	Stewart Bryant, Andrew Malis
pce	Deborah	Path Computation Element	Jonathan Hardwick, Julien Meuric
pim	Alvaro	Protocols for IP Multicast	Mike McBride, Stig Venaas
roll	Alvaro	Routing Over Low power and Lossy networks	Ines Robles, Peter Van der Stok
rtgwg	Alia	Routing Area Working Group	Chris Bowers, Jeff Tantsura
sfc	Alia	Service Function Chaining	Jim Guichard, Joel Halpern
sidr	Alvaro	Secure Inter-Domain Routing	Chris Morrow, Sandra Murphy
spring	Alvaro	Source Packet Routing in Networking	Bruno Decraene, Martin Vigoureux
teas	Deborah	Traffic Engineering Architecture and Signaling	Vishnu Beeram, Lou Berger
trill	Alia	Transparent Interconnection of Lots of Links	Susan Hares, Jon Hudson

Aktywne WG - security

sec active WGs

Group	Responsible AD	Name	Chairs
ace	Kathleen	Authentication and Authorization for Constrained Environments	Kepeng Li, Hannes Tschofenig
acme	Kathleen	Automated Certificate Management Environment	Yoav Nir, Rich Salz
curdle	Eric	CURves, Deprecating and a Little more Encryption	Daniel Migault, Rich Salz
dots	Kathleen	DDoS Open Threat Signaling	Roman Danyliw, Tobias Gondrom
i2nsf	Kathleen	Interface to Network Security Functions	Linda Dunbar, Yoav Nir
ipsecme	Eric	IP Security Maintenance and Extensions	Tero Kivinen, David Waltermire
kitten	Eric	Common Authentication Technology Next Generation	Benjamin Kaduk, Matthew Miller
lamps	Eric	Limited Additional Mechanisms for PKIX and SMIME	Russ Housley
mile	Kathleen	Managed Incident Lightweight Exchange	Nancy Cam-Winget, Takeshi Takahashi
oauth	Eric	Web Authorization Protocol	Rifaat Shekh-Yusef, Hannes Tschofenig
openpgp	Eric	Open Specification for Pretty Good Privacy	Daniel Gillmor, Barry Leiba
sacm	Kathleen	Security Automation and Continuous Monitoring	Adam Montville, Karen O'Donoghue
secevent	Kathleen	Security Events	Dick Hardt, Yaron Sheffer
tls	Kathleen	Transport Layer Security	Joseph Salowey, Sean Turner
tokbind	Eric	Token Binding	John Bradley, Leif Johansson
trans	Eric	Public Notary Transparency	Melinda Shore, Paul Wouters

Aktywne WG - transport

tsv active WGs

Group	Responsible AD	Name	Chairs
alto	Mirja	Application-Layer Traffic Optimization	Vijay Gurbani, Jan Seedorf
aqm	Mirja	Active Queue Management and Packet Scheduling	Wesley Eddy, Richard Scheffenegger
dtn	Spencer	Delay/Disruption Tolerant Networking	Marc Blanchet, Rick Taylor
ippm	Spencer	IP Performance Measurement	Bill Cerveny, Brian Trammell
mptcp	Mirja	Multipath TCP	Philip Eardley, Yoshifumi Nishida
nfsv4	Spencer	Network File System Version 4	Brian Pawlowski, Spencer Shepler
quic	Spencer	QUIC	Lars Eggert, Mark Nottingham
rmcat	Mirja	RTP Media Congestion Avoidance Techniques	Anna Brunstrom, Colin Perkins, Martin Stiemerling
taps	Spencer	Transport Services	Aaron Falk, Zaheduzzaman Sarker
tcpinc	Mirja	TCP Increased Security	David Black, Kyle Rose
tcpm	Mirja	TCP Maintenance and Minor Extensions	Yoshifumi Nishida, Michael Scharf, Michael Tüxen
tram	Spencer	TURN Revised and Modernized	Gonzalo Camarillo, Simon Perreault
tsvwg	Spencer	Transport Area Working Group	David Black, Wesley Eddy, Gorry Fairhurst

Ostatnie ciekawostki z IETF – “Daily dose of IETF”

IETF TOOLS

IETF Home
About Tools
Tools:
diffs spell
xml2rfc idnits
tracker src
News
Get Passwd
IETF-99:
Rooms
Agenda
Calendar
Documents
RFCs
Doc fetch:

Wikis:
IESG IRTF
Dev RSOC
Chairs Edu
Tools BOFs
NomCom
Areas
WGs:
concluded...
6lo
6man
6tisch
Ace
Acme
Alto
Anima
Aqm
Avtcore
Babel
Bess

The Daily Dose of IETF

“Be conservative in what you send and liberal in what you accept”

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IETF-Announce List

- Protocol Action: 'Generalized Interface Switching Capability Descriptor - Switching Capability Specific Information' to Proposed Standard (draft-ietf-teas-gmpls-scsi-04.txt) (The IESG)
- Last Call: <draft-ietf-mpls-spring-lsp-ping-09.txt> (Label Switched Path (LSP) Ping/Traceroute for Segment Routing IGP Prefix and Adjacency SIDs with MPLS Data-plane) to Proposed Standard (The IESG)

more messages »

New RFCs

- RFC 8233 on Extensions to the Path Computation Element Communication Protocol (PCEP) to Compute Service-Aware Label Switched Paths (LSPs) (rfc-editor)
- RFC 8232 on Optimizations of Label Switched Path State Synchronization Procedures for a Stateful PCE (rfc-editor)
- RFC 8231 on Path Computation Element Communication Protocol (PCEP) Extensions for Stateful PCE (rfc-editor)

more recent RFCs »

New and Revived Drafts

- MISP galaxy format (draft-dulaunoy-misp-galaxy-format)
- MISP object template format (draft-dulaunoy-misp-object-template-format)
- Problem Statement of Supervised Heterogeneous Network Slicing (draft-geng-coms-problem-statement)
- CCN Packet Adaptation to IEEE 802.15.4 Networks (draft-gundogan-icnrg-ccnlowpan)
- Ground-Based LISP for the Aeronautical Telecommunications Network (draft-haindl-ground-lisp-atn)
- Technology Independent Information Model for Network Slicing (draft-qiang-coms-netslicing-information-model)

Drafts Sent to IESG

IESG Progress

- Cancel-Locks in Netnews articles (draft-baeuerle-netnews-cancel-lock): Waiting for Writeup::AD Followup » IESG Evaluation
- Automatic Certificate Management Environment (ACME) (draft-ietf-acme-acme): Publication Requested » AD Evaluation
- Use of EdDSA Signatures in the Cryptographic Message Syntax (CMS) (draft-ietf-curdle-cms-eddsa-signatures): Waiting for Writeup » IESG Evaluation
- Algorithm Identifiers for Ed25519, Ed448, X25519 and X448 for use in the Internet X.509 Public Key Infrastructure (draft-ietf-curdle-pkix): AD Evaluation::AD Followup » Last Call Requested
- Use of RSA Keys with SHA-2 256 and 512 in Secure Shell (SSH) (draft-ietf-curdle-rsa-sha2): Waiting for Writeup » IESG Evaluation
- Increase SSH minimum recommended DH modulus size to 2048 bits (draft-ietf-curdle-ssh-dh-group-exchange): Approved-announcement to be sent::Point Raised - writeup needed » Approved-announcement to be sent
- Extension Negotiation in Secure Shell (SSH) (draft-ietf-curdle-ssh-ext-info): IESG Evaluation::AD Followup » Approved-announcement to be sent
- More Modular Exponential (MODP) Diffie-Hellman (DH) Key Exchange (KEX) Groups for Secure Shell (SSH) (draft-ietf-curdle-ssh-modp-dh-sha2): Approved-announcement to be sent::Point Raised - writeup needed » Approved-announcement to be sent
- Internationalized Email Addresses in X.509 certificates (draft-ietf-lamps-eai-addresses): AD Evaluation::AD Followup » Last Call Requested
- Internationalization Updates to RFC 5280 (draft-ietf-lamps-rfc5280-i18n-update): Waiting for Writeup » IESG Evaluation

Ciekawostka ze świata IPv6 – 6CN

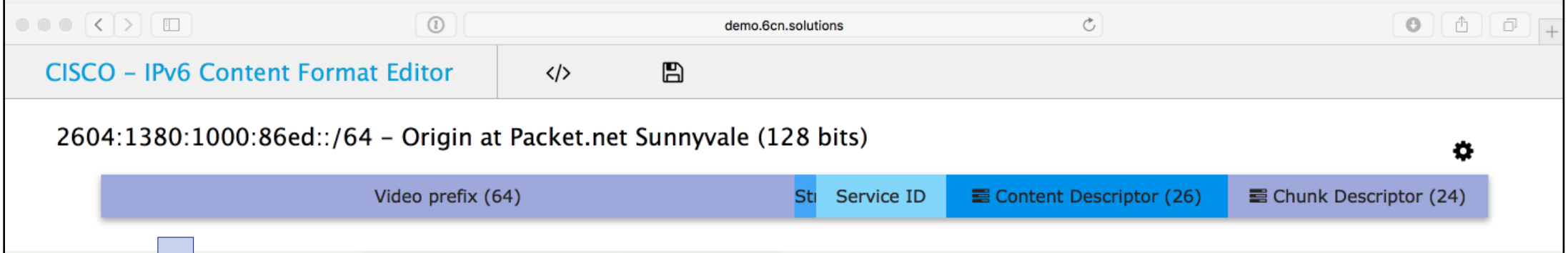
Identify each video chunk with a unique IPv6 address.

http://[2001:420:44f1:201a:c004:421:531:1]/

Instead of: http://cdn.example.com/video?cid=1af429fac&profile=12&[...]

```
<Representation bandwidth="3146352" codecs="avc3.640032" frameRate="3(
 <SegmentList duration="58050" timescale="30000">
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:1]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:2]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:3]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:4]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:5]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:6]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:7]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:8]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:9]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:a]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:b]" />
  <SegmentURL media="http://[2604:1380:1000:86ed:4000:100:691:c]" />
```

Narzędzie do definicji schematów 6CN




```
},
{
  "prefixes": [
    "2604:1380:1000:86ed:4000::/77"
  ],
  "id": "movies",
  "fields": [
    {
      "id": "source_id",
      "description": "Source ID",
      "length": 12,
      "valuesURI": "http://cdn.ciscolive.cisco
    },
    {
      "id": "movie_id",
      "description": "Movie ID",
      "length": 14,
      "valuesURI": "http://cdn.ciscolive.cisco
    }
  ]
}
```


Schemat 6CN w JSON

http://6cn.io/format/

Schemat kodowania w 6CN

2001:420:44f1:1a01:c15c::ed72:1

Movie/chunk address	0000:0000:0000:0000:c15c:0000:ed72:0001	
Stream type	0000:0000:0000:0000:c000:0000:0000:0000	3
Service ID	0000:0000:0000:0000:015c:0000:0000:0000	87
Content descriptor	0000:0000:0000:0000:0000:0000:ed00:0000	237
Profile	0000:0000:0000:0000:0000:0000:0070:0000	14
Duration	0000:0000:0000:0000:0000:0000:0002:0000	4

IPv6: Service Prefix

IPv6: Object ID

Get involved.

There are many ways to support the Internet. Find out today how you can make an impact.