DISPATCH WG
IETF 96 — Berlin, Germany
July 18, 2016 10:00-12:30 (Potsdam II)

Chairs: Mary Barnes and Murray Kucherawy (Regrets: Cullen Jennings)

Notetakers: Roni Even, Roland Jesske, Mary Barnes
Jabber Scribe: Olle Johansson

Meetecho recording: http://ietf96.conf.meetecho.com/index.php/Recordings

Summary & Actions:

It was noted that an ART area mailing list will be created and the RAI area and apps-discuss@ietf.org mailing lists should no longer be used for discussion once that is setup. Existing subscribers to the RAI and apps-discuss lists will be automatically subscribed to the new mailing list. New work proposals/charters should still be posted to the DISPATCH WG mailing list.

The deadlines for IETF-97 were discussed, noting that we will be stricter about allocating agenda time in cases where these deadlines are not met.

The ADs noted that they are seeking community feedback on how folks think the area merger and using the DISPATCH process are working for the combined community. The plan is to have an open discussion at IETF-97.

Outstanding DISPATCH and APPSAWG items were discussed:
- **draft-holmberg-dispatch-mcptt-rp-namespace**
  Ready to be AD sponsored and moved forward.

- **draft-weinronk-dispatch-last-diverting-line-id**
  Discussions between Shida and Nigel have been ongoing. Still need to come back to the mailing list to get additional WG feedback.

- **draft-ietf-appsawg-file-scheme**

- **draft-ietf-appsawg-mdn-3798bis**

GGIE: There was interest in the proponents continuing work on this topic. A charter is required and discussion should occur on the DISPATCH WG mailing list. Technical details of the proposal can be discussed on the ggie@ietf.org mailing list. While no firm decision was made, it is anticipated that this work would require an official BoF.

draft-levine-herkula-oneclick: There were no concerns raised about this document, but discussion should continue on the mailing list.

draft-bhjl-x509-srv: There were no concerns raised about this document, but discussion should continue on the mailing list. Barring any concerns, the chairs will post a note will be posted to see if folks are okay to AD sponsor.

Detailed notes:
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Roni Even's detailed notes:

10:00 Agenda bashing; blue sheets; jabber scribe; note taker
(5 mins; co-chairs)

New mailing list art to replace apps-discuss probably this week

10:05 Updates from Area Directors
(5 mins; Area Directors)

Ben: looking for feedback on how the merge of RAI and APPS is working

10:10 APPSAWG Wrap-up
(5 mins; Murray Kucherawy)

10:15 Outstanding DISPATCH items
(5 mins; Mary Barnes & Cullen Jennings)
- draft-holmberg-dispatch-mcptt-rp-namespace
- draft-weinronk-dispatch-last-diverting-line-id

10:30 BoF Summaries
(5 mins; various artists)

Some BoF were presented. Ledger, QUIC , …
Note on new WG sipbrandy

10:35 New Working Group Summaries
(5 mins; various artists)

10:40 Glass to Glass Internet Ecosystem
(60 mins; Leslie Dagle & Glenn Deen)
- draft-deen-daigle-ggie
- draft-deen-naik-ggie-men-mpeg-dash

From camera to monitor
DASH/MPEG transport end to end
Video on the Internet is growing fast
GGIE use cases observations:

E2e video ecosystem is complex
Each layer is encapsulated
Fundamental elements: identify, locate the video data, referencing the video data
EKR – went into design issues
Observations: the current ecosystem is deployed cannot toss it

Foundation: media ID – currently many naming systems no need for a new one, use a blob to carry them all.
Alissa: no specific identifier for user created contents

Media encoding network – addressing the video data independent of video codec and transport scheme. Each encoding of video gets a different address

Media address resolution service" maps media IDs to media encoding networks.
Connects what is it to where is it

Security and privacy
GGIE does not touch access control or content protection.
For privacy suggest session level media encoding network addresses.

The objective is to create building blocks not a complete end to end architecture.

Internet video is evolving – next generation live broadcast by anyone to multiple viewers, coordinated multi device viewing, user defined dynamic assembly of multisource content.

Question: locality support
Dave Crocker : critical challenge arbitrary client find arbitrary providers using arbitrary directories
There is a mailing list ggie@ietf.org

Ted: security, how to assert that the content by an aribitray provider is realy the right content
Answer: need trust assertion
Ted: scoping problem, do you allow any camera to produce content with identifier, is this a correct content. If you get an identifier from a competitor is this the right content
Brian Rosen: you are only dealing with the content delivery. The presentation is a bit misleading.
Use second level URN, easy to create.

GGIE – potential IETF work presented by Leslie Daige
Did not have a BoF since no enough support

Xxxx: look at SAML for assertion
Colin Perkins: the essential part is the name resolution, fear not going far enough, there are assumptions on type of delivery (DASH), should work for other delivery like multicast.

Answer: trying to define abstraction building block
Colin: you assume that the data structure of DASH.

Chairs: hum that there is interest to work on it in IETF. Not still create WG
Alissa: discuss on the list if need a BoF on the dispatch mailing list

Stephan: this is more than one WGs
Alissa: first break down to component and then figure out if one or more WGs and which area.
Demo: take the movie break to dash chunks and give each an IPv6 address. The player can switch sources during the display by changing the routing table. No change to player all standard dash

11:40 Open Microphone/AOB
(remaining time; TBD)
Possible topics:
- draft-levine-herkula-oneclick (John Levine)
- draft-bhjl-x509-srv (John Levine)

Mary: this will probably be AD sponsored. Will ask the list (oneclick)

Roland Jesske's detailed notes:

Updates from Area Directors

- Presentation of DISPATCH deadlines for IETF-97, please keep the deadlines in mind when you plan to contribute to IETF 97.
- Plan is to create a new mailing list ART to make the purpose obvious. So all discussion with regard to apps-discuss@ietf.orgwill then be redirected to the new general ART mailing list.

Outstanding DISPATCH items

- - draft-holmberg-dispatch-mcptt-rp-namespace is AD sponsored and will proceed.
- - draft-weinronk-dispatch-last-diverting-line-id is still under consideration and Shida is working on this with the author. Currently no discussion appeared on the list.

Updates from AD's

- AD'S would like to have feedback how the merger for ART is working.
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Glass to Glass Internet Ecosystem

2 drafts : draft-deen-daigle-ggie and draft-deen-naik-ggie-men-mpeg-dash

Mailinglist: ggie@ietf.org

Summary of GGIE:

Glass to Glass refers to the entire video ecosystem, from the camera lens to the viewing screen. As the name implies, GGIE's scope is the entire video ecosystem from capture, through the steps of editing, packaging, distributed and searching, and finally viewing. GGIE is not a complete end to end architecture or solution, it provides foundational elements that can serve as building blocks for new Internet video innovation.

Conclusions and issues out of the GGIE discussion:

- DRAM is not within the scope of work but GGIE is able also to serve for DRAM content.
- On DRAM other groups are working
- Nevertheless DRAM influences should be taken into account.
- Privacy will be served by boarder elements (translating identity to a special identifier used within the core)
- Trust relationship needs to be taken into account
- Security: GGIE does not touch neither content nor access control
- GGIE allows new innovations like devices making smarter content, smarter interaction between source and destination
- Does like different content provider to use GGIE in competition with the others? Same content may be provided bydifferent sources. Same content will then have then different Identifier.
- Main issue of work is identification, naming and addressing of source and destination.
- MARS (Media Address Resolution Service) is seen as a baseline
- MARS will have the Main problem how to find with arbitrary identifiers the arbitrary sources of video.
- Media-ID should be reused within an URI/URN
- Security of content (to avoid harmful content) is an issue to be taken on board

Potential Work for IETF on GGIE:

- Low-layer: IPv6 Adr. Routing, allocation and lookup service DNS
- High-Layer (Application): Building Blocks, Identification of components, Discovery, ID, & Location
- Main work was seen within the scope of naming

Meeting decision:

- It was agreed that IETF will work on this issue

Organization of work on GGIE

- More discussion on the DISPATCH list is needed how to organize the work.
- Decision needed if a BOF is needed or not
- Further identify work items to be done
- It was noted that the work should NOT be distributed into existing WG's

Open Microphone/AOB

- draft-levine-herkula-oneclick should go for AD sponsorship since it is a very short one. Announcement will be done through the list.
- draft-bhjl-x509-srv it will be decided on the DISPACH list if the draft should go for AD sponsorship or as a DISPATCH work item.

Mary's detailed notes:

10:05 Updates from Area Directors
(5 mins; Area Directors)

- Mark Not: suggestion to add link to wiki to bottom of mailing list

- ADs noted that they are seeking feedback about how the merger has gone.

10:10 APPSAWG Wrap-up
(5 mins; Murray Kucherawy)

10:15 Outstanding DISPATCH items
(5 mins; Mary Barnes & Cullen Jennings)
- draft-holmberg-dispatch-mcptt-rp-namespace

Ready to be AD sponsored and moved forward.

- draft-weinronk-dispatch-last-diverting-line-id

Discussions between Shida and Nigel. Still need to come back to the mailing list to get additional WG feedback.

10:30 BoF Summaries
(5 mins; various artists)

- Ted: QUIC - Bof to look at a transport (HTTP as an app) - split into multiple docs in TSV

- ?: LURK (2nd Bof) - allowing CDNs to terminate TLS (currently requires private key)

- Adam: LEDGER - non-WG forming. Will discuss money transfers.

- Russ: ITS - much narrower charter. IPv6 over 802.11 p - specific to vehicles

- Alissa: IMTG - international meeting recommendations

10:35 New Working Group Summaries
(5 mins; various artists)

- Ben: Also, note SIPBRANDY.

Jonathan L:
- MMUSIC moving to Friday pm

- AVTCORE will share with AVTEXT

10:40 Glass to Glass Internet Ecosystem
(60 mins; Leslie Dagle & Glenn Deen)
- draft-deen-daigle-ggie
- draft-deen-naik-ggie-men-mpeg-dash

- performance and scalability problems with video - found they were way under capacity

- video is growing significantly - uses vast amount of resources

- group in W3C
— 33 use cases

IETF work:
- Each layer is well encapsulated
— permits innovation without breaking the other pieces

- There are fundamental elements that appear in the use cases over and over:
1) Identification of the video (locally)
2) Locating the video data (getting a better copy)
3) Referencing the video data

Discussion:
- EKR: your example is a movie. Most are subject to DRM. Keys are not the same for different sources of media. How is this gonna work?
- Glenn: GG isn't just for DRM content. DRM is out of scope. There are DRM schemes such as ultraviolet that are designed to have a common/shared encryption key.
- EKR: is anyone doing this?
- Glenn: don't have answer. But, don't see this as a huge technical barrier - think we have tools. Ultraviolet designed to solve this problem.
- EKR: trying to figure out what fraction of Internet video could take advantage of this technology.
- Glenn: video is split between professional (DRM) and non-DRM video
- EKR: that's also siloed and not encrypted using same algorithms
- PHB: discussions in the past that we ought to get to more common caching - objection has been privacy.

- Standardizing these can be a foundation for building new ways to help to the Internet Video scaling problem

Two more observations
- The current video ecosystem is widely deployed - Tossing it out and starting over is not a option

- To help the scaling problem, you need to help both the current existing ecosystem and the cool new video devices & applications to come

3 things:
- media identifier
Discussion:
- Alissa:
- Glenn: would be at least one identifier (eg., Facebook, Google)
- Alissa: no identifier that is agnostic?
- Glenn: No. Just carry them all, but having a standard way such as a standard URI is desirable

- media encoding
Example for MPEG-DASH:
Draft: draft-deen-naik-ggie-men-mpeg-dash-00

Discussion:
Sean Leonard (via jabber room): why not use URN namespace?
Ted: it is a URN - that's just a typo.

- media address resolution service (MARS)
— Maps Media Identifiers to Media Encoding Networks
— Bridges Media Identifiers used in applications to the Media Encoded
— Networks used by devices to address the video data
—> Connects What is it to Where is it

…

Internet video is evolving:

Discussion:
- jason Nichols: other than codecs and players, isn't most of this applicable to audio.
- glenn: yes. But, just focused on video.
- ?: why the user building blocks?
- Glenn: that would be future follow-on work.
- Dave Crocker: understand what you are descrinbing and benefits. Suspect is critical challenge is MARS. All the different names (noting did the same thing with MIME). Now we have random people at random places looking up random names at multiple namespaces. Those have to be registered in MARS. Assuming that MARS service doesn't solve problem - just identifies.
Glenn: vision is that MARS would allow publishers of content to have access control to and can publish the relationships. Since the suffix is registered in MARS, are these generic? E.g., minions could be same identifier in the MARS realm. Work to be done.
Dave: from what you have been describing, critical challenge is how to get arbitrary queries to be able to get arbitrary publishers for the same identifier.

Backwards compatible with MPEG dash.
Discussion:
- Harald: what design principles prevents this from being a way to lock in content? If I talk to Comcast MARS server, what stops Comcast from finding that I have an Amazon copy?
- Glenn: suggest that these would be federated. Open across

everybody.
- Harald: what's the incentive to federate?
- Glenn: what's the motivation to isolate?
- Ted: If you design something such that anyone can make an assertion about their ability to post content without any bar, then somebody can make an assertion even though the content isn't what the user is expecting. The result that appears to be the case in the design, the MARS server would have to vet Media networks to consider them trusted. The result is that this doesn't turn out to be an arbitrary set of queries. There are arbitrary queries to a set of media networks.
- Glenn: can pull from other areas that have tackled the same problem.
- Ted: there's a scoping problem. If in fact what you want is for a particular device to have a content identifier, that identifier has one of two properties - highly linkable (privacy issue). If you do it as identifier authority - it has to feed into a system that has another content ID. With 2nd model, you need to have how that works.
- Glenn: examples of that today.
- Ted: you're designing ecosystem with critical pieces missing.
- Glenn: existing identifier models can be used.
- Ted: the problem that Harald raised was that if you are getting ID from service, it's not trivial to assume that they will permit you to serve that content identifier.
- Dan York: who else is doing this in the larger industry? In W3C there is a large group of partners
- Brian Rosen: read the draft. The way that the slides are written and the documents are written are about content delivery. It's really about what/how to get content.
- Glenn: intend to do whole thing, so starting some place. Thought tackling delivery was the number one source of pain. Video creation is something was discussed in W3C, but didn't bring that here yet.
- Brian: you might think about making a 2nd level URN for the type because of overhead to get a top level URN. Want something more specific for this.
- Glenn: yes, wanted to do that.

Leslie presenting proposal for IETF work:
- Now:
— Individual problems can be solved by hacks to bit rate, compression, specific technologies to address particular points
— Proprietary solutions for individual products and services

- Soon:
— New apps and uses have different requirements
— proprietary solutions are not reusable

- Not so distant future:
— Option 1: networks littered with individual solutions, proprietary efforts, closed systems, no where to go
— Option 2: video understood as a complex application data type, integrated support at all layers of the stack

Discussion:
- PHB: this is about naming and security. Confidentiality issue - will be leaking info that is commercially sensitive. Thinks there is value here in some infrastructure. need to separate problem of how to identify movie and how to authenticate movie streams.
- Glenn: agree this is the what and the where
- PHB: suggest to look at SAML.
- Barry (chair of URNbis WG): are changing the process for getting namespaces. There are plenty of technical issues where we oughtn't get wrapped around namespaces
- Colin: thinks the essential part is name resolution and security properties. Don't think you're not going far enough in name resolution. Think you're building assumptions about type of delivery (e.g., MPEG-DASH style model). Desirable to make a scheme that works beyond DASH and being able to ID sub-bits.
- Glenn: see this as a template to define whatever delivery format.
- Colin: don't like idea of using IPv6 addresses to ID frames. Doesn't seem necessary. Don't see advantage of this over resolving to a URN.
- Mark Townsley: have been talking to Glenn about this for a couple years (on delivery side and use of IPv6). PIRL.tech - It's not just content guys using IPv6 in ways we didn't use IPv4. This is part of a general trend - very granular uses of IPv6 are out there.

11:40 Open Microphone/AOB
(remaining time; TBD)
Possible topics:
- draft-levine-herkula-oneclick (John Levine)
— go to mailing list and see if folks are okay to AD sponsor.

- draft-bhjl-x509-srv (John Levine)
— PHB: there is one similar for SMIME but that predates DANE.
- JL: this sits on top of that.