
[manet] Reactive Protocol Situation

100 messages

Joseph Macker <jpmacker@gmail.com>
To: manet@ietf.org

Tue, Oct 30, 2012 at 6:13 PM

Hello MANET working group (form Stan and Joe),

As you are all probably aware, there has been WG activity lately on competing drafts for a MANET reactive protocol - DYMO (reviving the current working group document that was parked due to inactivity), and LOADng. Many months ago there was a somewhat authorship led movement towards a common document effort and given positive feedback at the time we the chairs thought this was the best approach given the authors potential to come together and gain the best of both efforts. Since that period, there has been some fairly strident and rancorous "at times" debate between the authors of the two documents.

During IETF 84 in Vancouver, the co-chairs held a discussion with some of the co-authors of the two documents. Our guidance to the co-authors was to find a way to merge the two documents into one, as it was perceived that are not technically far apart and they both derive roughly from AODV concepts and LOADng had fairly active authorship and implementation efforts. We provided a co-editing proposal to the authors and gave them the timeframe of the Atlanta to come up with an answer back to us regarding this. As of this writing, those discussions of a potential common document and authorship merger have failed.

Therefore, we find ourselves at a crossroads. The authors of the two documents are divided, and it is unlikely that progress on a merged document can be reached based upon recent author feedback. I have also polled the earlier WG editor of DYMO, Ian Chakeres, and he is somewhat disengaged on the issue at the present time. We see only 3 possible paths forward:

1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2.
2. Replace the existing DYMO document effort with the LOADng related document effort, defusing earlier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if its a WG document).
3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

The co-chairs request and need your opinions on the options. We have been some silent collecting initial feedback and waiting for author feedback at this point. Stan and I are both on travel prior to Atlanta so our responses may be sparse and we will also likely be in a "receive mode" for a few days. So send your opinions.

-Joe

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Ulrich Herberg <ulrich@herberg.name>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org

Tue, Oct 30, 2012 at 6:39 PM

Hello Joe,

thank you for this summary of what happened. I will not comment on the process or the discussions that we had the last few months, but rather on the drafts. I speak for myself here, not for any other author of the LOADng draft.

- There has been an enormous amount of effort in the LOADng draft development, which is reflected by multiple large corporations working on the specification, having deployments and planning products of LOADng by 2013.
- There is an active author team of 10 authors, willing to close remaining issues as quickly as possible. Before the discussions that Joe mentioned started, progress was very efficient, and we plan to go back to that speed as soon as we know how to proceed.
- There are at least four interoperable implementations of the most recent revision, documented in an interop draft. I am not aware of any recent DYMO implementations, deployments or products.
- There is a MIB document that we actively work on.
- I believe the draft is very mature, easy to read and to implement. I have implemented it myself in one day based on the specification.
- It is 100% RFC5444 compliant. I know RFC5444 very well, and am sure that we did not break anything.
- The latest revision of LOADng makes clear that it is a MANET protocol, so there will be no overlap with other working groups.

Fujitsu, which I represent in this draft, has a strong interest in having this standard be completed soon. While we have our own proactive routing solution, we believe that for certain customers, a reactive protocol is needed.

I believe that if the WG adopts the draft, we are far closer to having a standard, and more importantly, a standard that is actually used, deployed and (soon) sold in products. I therefore opt for 2).

Best regards
Ulrich

[Quoted text hidden]
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

manet mailing list
manet@ietf.org

Timothy J. Salo <salo@saloits.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org

Tue, Oct 30, 2012 at 6:51 PM

As you are all probably aware, there has been WG activity lately on competing drafts for a MANET reactive protocol - DYMO (reviving the current working group document that was parked due to inactivity), and LOADng.

I suggest not excluding what might be considered a fourth possible course of action, namely: wait.

Based on what I have read and seen during meetings, I am concerned that a decision to select one document over the other may be driven by personalities, rather than technical content, the ability of the authors to work with the members of the working group, or a commitment by the authors to complete the process.

Sometimes, simply deferring a decision permits things to sort themselves out naturally, and avoids unnecessarily expending a lot of time, energy, and perhaps even ill will by forcing a decision prematurely.

I can't say that deferring a decision will necessarily make the best future path obvious. But, it seems that the cost of not deciding at this time is probably small (perhaps beyond the cost of additional heated, even acrimonious, emails, posturing and positioning).

Having said that, let me argue the contrary. Sometimes, the best course of action is decision-by-fiat (e.g., the working group chairs direct a solution). It is possible that either document and document authors would serve the working group equally well. In this case, a quick, mandated solution may permit the working group to focus its energy on progressing the selected document. This approach probably has a couple of requirements. First, the authors of the selected document _must_ ensure that their document progresses to an RFC in an expeditious manner. Second, the selection process (e.g., working group chair directive) must appear fair to all involved. If all things really are equal, there is a lot to be said for a coin toss.

-tjs
[Quoted text hidden]

Ulrich Herberg <ulrich@herberg.name>
To: "Timothy J. Salo" <salo@saloits.com>
Cc: manet@ietf.org

Tue, Oct 30, 2012 at 7:08 PM

Timothy,

our company has deadlines for coming up with products on the market and customers waiting. I believe that the same is true for other companies. We had discussions for more than half a year now that did not lead anywhere.

Regards
Ulrich
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Charles E. Perkins <charliep@computer.org>
To: manet@ietf.org
Cc: "Timothy J. Salo" <salo@saloits.com>

Tue, Oct 30, 2012 at 7:08 PM

Hello folks,

I've been working away to get the DYMO now AODVv2 specification to fit the needs of LOADng and also to make various major improvements to readability, RFC 5444 compliance, etc. I'm well along the way, even though I had delayed starting the process until very recently, while attempting to find the right process to join forces with the LOADng authors. In fact, the LOADng authors had asked me not to submit any revised document during the meantime, and I eventually decided to submit a revision only after I realized that the expected document merge would just not happen. Given the short amount of time (only a few weeks), I think the progress has been very good.

I'd certainly like to continue that. Since the agreement all along had been make the WG reactive protocol compatible with LOADng, I can

suggest that the current specification be completed with design choices that enable LOADng as a "subset".

Regards,
Charlie P.
[Quoted text hidden]
--
Regards,
Charlie P.
[Quoted text hidden]

Axel Colin de Verdière <axel-ietf@axelcdv.com>
To: "Timothy J. Salo" <salos@saloits.com>
Cc: manet@ietf.org

Tue, Oct 30, 2012 at 7:09 PM

Hi all,

First, thank you Joe and Stan for your summary of the situation. I think it's good to discuss that here.

I am in full agreement with what Ulrich stated. In particular, I would like to stress the fact that LOADng is already backed by multiple industrials, making it even more likely that it will go to RFC as efficiently as possible, and the editing process behind the draft has proven to be effective.

Le 30 oct. 2012 à 16:51, "Timothy J. Salo" <salos@saloits.com> a écrit :

>> As you are all probably aware, there has been WG activity lately on
>> competing drafts for a MANET reactive protocol - DYMO (reviving the
>> current working group document that was parked due to inactivity), and
>> LOADng.
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> I suggest not excluding what might be considered a fourth possible
> course of action, namely: wait.
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> Based on what I have read and seen during meetings, I am concerned that
> a decision to select one document over the other may be driven by
> personalities, rather than technical content, the ability of the
> authors to work with the members of the working group, or a
> commitment by the authors to complete the process.
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> Sometimes, simply deferring a decision permits things to sort
> themselves out naturally, and avoids unnecessarily expending a lot of
> time, energy, and perhaps even ill will by forcing a decision
> prematurely.
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> I can't say that deferring a decision will necessarily make the best
> future path obvious. But, it seems that the cost of not deciding at
> this time is probably small (perhaps beyond the cost of additional
> heated, even acrimonious, emails, posturing and positioning).

Allow me to disagree here. I think this situation has lingered for too long (4+ months), which show that things will probably not sort themselves out naturally. Not choosing now would, on the opposite, be a huge waste of time for the authors and the WG in general: having two competing documents stay much longer would divide the efforts, delaying the publication of an RFC for even more time. Hence it is a good thing that the chairs are trying to make a decision here.

>
> Having said that, let me argue the contrary. Sometimes, the best
> course of action is decision-by-fiat (e.g., the working group chairs
> direct a solution). It is possible that either document and document
> authors would serve the working group equally well. In this case, a
> quick, mandated solution may permit the working group to focus its
> energy on progressing the selected document. This approach probably has
> a couple of requirements. First, the authors of the selected document
> _must_ ensure that their document progresses to an RFC in a expeditious
> manner. Second, the selection process (e.g., working group chair
> directive) must appear fair to all involved. If all things really are
> equal, there is a lot to be said for a coin toss.
>
> -tjs

I believe that the author group behind LOADng has shown in the past that they are willing to spend the time and energy necessary to ensure the document's progress towards RFC status goes as fast as possible. The multiple implementations, interoperability report and MIB document make a strong case for the draft. After all, from what I've gathered the IETF only believes in "rough consensus and running code", and I think we have just that.

Best,

Axel
[Quoted text hidden]

Bo Berry <boberry@cisco.com>
To: Joseph Macker <jpmacker@gmail.com>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Timothy J. Salo" <salos@saloits.com>

Tue, Oct 30, 2012 at 7:11 PM

Joe, Stan
Adding to Tim's option.

If the MANET WG removes reactive from the charter, is there similar technology in another WG? Perhaps ROLL? If so this may be another option as there is a lot of synergy-commonality.

-Bo
[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 3:28 AM

Dear chairs,

Remembering that I am not a co-authors of either of these drafts.

Not commenting on recent discussions but rather focussing on what I hope will be a good solution for the WG and the Internet at large.

Option 3) is my opinion **not** desirable; I wish we could have a reactive routing protocol for MANET

Option 2) is an option I would be **strongly** opposed to for a number of technical reasons that I would be happy to elaborate on the mailing list and/or in a new I-D (which I would, should option 2 be chosen).

That being said, **I am extremely supportive of option 1), especially in light of what Charlie said.** First of all DYMO is the working group document and excellent progress has been made with recent revisions. But even more importantly, Charlie managed to make it compatible with options, which is in my opinion the best of both worlds; calling it AODVv2 is only not very sensible but avoids useful sensitivity around names.

Thus I would strongly support Option 1), continue the work that Charlie has started, which by the way is not far from completion. And as WG, we need to remember that this had been the WG document, the result of years of work. Still by making it compatible with other options, this is technically flexible and sound.

Thanks.

JP.

[Quoted text hidden]

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Bo Berry (boberry)" <boberry@cisco.com>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>

Wed, Oct 31, 2012 at 3:31 AM

Hi Bo,

On Oct 31, 2012, at 1:11 AM, Bo Berry wrote:

> Joe, Stan
> Adding to Tim's option.
>
> If the MANET WG removes reactive from the charter, is there similar technology in another WG? Perhaps ROLL? If so this may be another option as there is a lot of synergy-commonality.

As ROLL co-chair ... we are currently not chartered to work on another protocol.

Thanks.

JP.

[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Ulrich Herberg <ulrich@herberg.name>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 3:31 AM

Hi Ulrich,

On Oct 31, 2012, at 1:08 AM, Ulrich Herberg wrote:

Timothy,

our company has deadlines for coming up with products on the market and customers waiting. I believe that the same is true for other companies. We had discussions for more than half a year now that did not lead anywhere.

Note that IETF cannot be driven by company roadmap.

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

C Chauvenet <c.chauvenet@watteco.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 4:56 AM

Hi Joseph, and thank you for this great summary.

My vote would go for option 1), and here is why, from my personal point of view :

Option 1) leverage on years of work within the MANET WG. I don't see a strong reason to discard this. Furthermore, naming it AODVv2 also leverage on a well-know protocol name that would add clarity and visibility to the document. I am very impressed about the amount of work conducted by Charles to address the review of the last DYMO draft and update the document accordingly. I think charles show us the willingness and ability to finish that work efficiently.

Option 2), would annihilate years of previous work realized for DYMO in the MANET WG. Again, I don't see a reason to discard it with a protocol that popped up in MANET 4 months ago. Moreover, the adoption of LOADng may add some misunderstanding about the intend of such a protocol when readers will look at its history. The initial name signification of "LOADng" is a good example, and the last update of the protocol roughly search & replace "LLN" wording by "MANET" as we can see here : <http://tools.ietf.org/rfcdiff?url1=draft-clausen-lln-loadng-05.txt>. I think such a confusion will not drive the future of internet in a good direction, as JP mentioned. My fear is that it could create confusion and slow down both LLNs and MANET deployments.

Option 3) could be a final option... but it would be too bad to go here, as I think that reactive protocol can bring great benefits in MANET. Moreover, this would collapse all work around reactive protocols in MANET, for both LOADng and DYMO authors.

Best,
Cédric.

Le 31 oct. 2012 à 00:13, Joseph Macker a écrit :

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Teco Boot <teco@inf-net.nl>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org

Wed, Oct 31, 2012 at 4:58 AM

Op 31 okt. 2012, om 00:13 heeft Joseph Macker het volgende geschreven:

- > 1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2.
- > 2. Replace the existing DYMO document effort with the LOADng related document effort, defusing ealier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if its a WG document).
- > 3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

I support rename our standards track reactive protocol, that has its roots in AODV, into AODVv2. This applies to options 1 and 2.

I'm not quite happy about the "my protocol is better, yours' is lousy" attitude. Even if this is the case, I prefer we, as a working group, work together and make good progress. With as a result a single standard protocol, that will be accepted and implemented by many organizations, if not all.

I did not see good reasons to start all over to define a standards track proactive MANET protocol in public. I see (too) many efforts to come up with yet another MANET protocol. Sometimes, proprietary is mentioned as a feature, or the protocol is called "better approach to". This doesn't help.

So I vote for option 1. This could be copy & paste large amounts of text from drafts, if WG decides so. I know this approach is tried before, without great success. Maybe we simply push somewhat harder.

Thanks.
Teco

[Quoted text hidden]

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>, Joseph Macker <jpmacker@gmail.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:02 AM

As someone who has not (yet) stated an opinion on the matter, except I also think option 3 is not good, I would very much like to hear technical arguments, so if you have technical arguments against LOADng, I think we need to hear them rather than just suggesting they exist. I haven't yet read LOADng carefully to form a view there. I have just recently read the AODVv2 draft carefully, and have some technical issues there (which overlap) regarding asymmetric links, possible dependency on NHDP, and the compatibility of options. If option 1 is followed, the draft needs work (which Charlie has acknowledged).

--

Christopher Dearlove

Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124

chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered in England & Wales No: 1996687

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** JP Vasseur (jvasseur)
Sent: 31 October 2012 08:29
To: Joseph Macker
Cc: <manet@ietf.org>
Subject: Re: [manet] Reactive Protocol Situation

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C Chauvenet <c.chauvenet@watteco.com>
To: "Charles E. Perkins" <charliep@computer.org>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:05 AM

Hi Charles,

Le 31 oct. 2012 à 01:08, Charles E. Perkins a écrit :

>
> Hello folks,
>
> I've been working away to get the DYMO now AODVv2 specification to
> fit the needs of LOADng and also to make various major improvements
> to readability, RFC 5444 compliance, etc. I'm well along the way, even
> though I had delayed starting the process until very recently, while
> attempting to find the right process to join forces with the LOADng
> authors. In fact, the LOADng authors had asked me not to submit
> any revised document during the meantime, and I eventually decided
> to submit a revision only after I realized that the expected document
> merge would just not happen.

Ho, too bad.
I hoped merging efforts could have been a good solution...

> Given the short amount of time (only
> a few weeks), I think the progress has been very good.

Agree.

Cédric.

[Quoted text hidden]

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: "Timothy J. Salo" <salo@saloits.com>, Joseph Macker <jpmacker@gmail.com>
Cc: "manet@ietf.org" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:06 AM

I'm not in favour of either waiting or decision by fiat. Note that when I say I'm not in favour of waiting, that doesn't mean I'm not in favour of work that might cause a delay - I think whatever route we go down there is work to be done.

—
Christopher Dearlove
Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124
chris.dearlove@baesystems.com | <http://www.baesystems.com>

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-----Original Message-----
From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] On Behalf Of Timothy J. Salo
Sent: 30 October 2012 23:52
To: Joseph Macker
Cc: manet@ietf.org
Subject: Re: [manet] Reactive Protocol Situation

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Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: Bo Berry <boberry@cisco.com>, Joseph Macker <jpmacker@gmail.com>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Timothy J. Salo" <salo@saloits.com>

Wed, Oct 31, 2012 at 5:16 AM

The ROLL WG participants who have been posting here have made it very clear that they see LLNs as a distinct area, and have strongly resisted more general purpose MANET routing protocols claiming applicability in LLNs. (I don't actually agree with that, but that's not my point here.) To reverse that and say the ROLL WG should now be responsible for a general purpose reactive routing protocol is clearly incompatible with that.

—
Christopher Dearlove
Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124
chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
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-----Original Message-----
From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] On Behalf Of Bo Berry
Sent: 31 October 2012 00:12
To: Joseph Macker; Stan Ratliff (sratliff); <manet@ietf.org> List; Timothy J. Salo
Subject: Re: [manet] Reactive Protocol Situation

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Jiazi YI <ietf@jiaziyi.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org

Wed, Oct 31, 2012 at 6:01 AM

Dear all,

Thanks Joe for briefing what had happened in the last several months.

I really don't want to dig into the history, but as long as someone mentioned "results of years of work", I think those facts are clear with my short memory of MANET:

1. In IETF 87 Maastricht 2010, DYMO was "parked" because the editors "lost the passion" to continue the work, disregarding the comments made for dymo from the mailing list.
2. After that, LOADng was born to meet real needs of the industry. Great efforts have been invested in the last two years, with hundreds iterations on the draft from ~10 authors, interop test, real implementations. Now with concrete results, interop report, mib document, etc.
3. After the DYMO draft sleeping for two years, the editor of DYMO says sorry for the "long delay", and begin to address the comments. Plus, the main efforts from the parked dymo-21 to the current revision, is to be "compatible" with LOADng.

Ulrich has made very good arguments on LOADng, with running code wide industry support.

On the other hand, DYMO (AODVv2) is taking the design of LOADng to be "compatible", even when the LOADng authors have explicitly expressed that they don't appreciate that.

Maybe it's because I'm so young and so naive that I still believe "running code is the king" in IETF, I don't get the logic why we should force a sophisticated and active document adapt to the one that has been slept for two years.

btw, I have read the latest DYMO revision in detail. A general comments here for DYMO-23 is that, a proof reading is needed first. There are numerous inconsistency in the document: terminologies, using nonexistent fields ... even duplicated paragraphs (section 5.5.2).

The arguments that made for DYMO are:

- 1) DYMO had been the WG document
==> true. Actually, it has been there for long time (and can be WG document even forever), but the history told us that this can't help the document evolving.
- 2) DYMO is the result of years of work.
==> In the contrast, the current situation of reactive protocol in MANET is the result of years of *NO* work on DYMO. IF DYMO had taken the comments from the WG, when reviews were posted around Maastricht, and evolved rather than be dormant for years, then LOADng had not needed to exist. But unfortunately, there is no magic time machine to bring us back to 2010.

Therefore, I would support WG chairs' option 2) replace DYMO with LOADng, and strongly against 1) continue with DYMO: the DYMO editors have clearly shown that they couldn't or wouldn't evolve the specification according to feedback, and as there is an industrial need for a reactive protocol for some types of MANETs, we cannot keep sitting around doing nothing while waiting for a miracle.

best

Jiazi

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[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

C Chauvenet <c.chauvenet@watteco.com>
To: Jiazi YI <ietf@jiaziyi.com>
Cc: MANET IETF <manet@ietf.org>

Wed, Oct 31, 2012 at 6:19 AM

Hi,

Le 31 oct. 2012 à 12:01, Jiazi Yi a écrit :

Dear all,

Thanks Joe for briefing what had happened in the last several months.

I really don't want to dig into the history, but as long as someone mentioned "results of years of work"

I take it for my own.
Thank you for participating.

Here is a copy of my arguments against option 2) :

C.C> Option 2), would annihilate years of previous work realized for DYMO in the MANET WG.

I get your comment on that.

C.C> Again, I don't see a reason to discard it with a protocol that popped up in MANET 4 months ago. Moreover, the adoption of LOADng may add some misunderstanding about the intend of such a protocol when readers will look at its history. The initial name signification of "LOADng" is a good example, and the last update of the protocol roughly search & replace "LLN" wording by "MANET" as we can see here : <http://tools.ietf.org/rfcdiff?url1=draft-clausen-lln-loadng-05.txt>. I think such a confusion will not drive the future of internet in a good direction, as JP mentioned. My fear is that it could create confusion and slow down both LLNs and MANET deployments.

What do you think about the rest of my argumentation ?

My "fear" about the confusion is stressed by the "need for a reactive protocol for **some types of MANETs**" that you just mentioned.

Regards,

Cédric.

[Quoted text hidden]

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<https://www.ietf.org/mailman/listinfo/manet>

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: C Chauvenet <c.chauvenet@watteco.com>, Jiazi Yi <ietf@jiaziyi.com>
Cc: MANET IETF <manet@ietf.org>

Wed, Oct 31, 2012 at 8:30 AM

How much previous work (by anyone) is negated is not the point; that is the sunk cost (aka Concorde) fallacy.

The technical question is how much effort to get from where we are, regardless of how we got here, and where we would get to (how good it the final solution will be). If two approaches got to the same point by spending different amounts of effort, how much effort was spent by each is not the point. Whether they really are at the same point would be.

Of course it's not that simple, and there are matters of people, companies, etc. that matter in practice. (I would consider issues like running code to be part of the how much effort to get where we want to go issue.)

--

Christopher Dearlove

Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124

chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
Registered in England & Wales No: 1996687

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** C Chauvenet
Sent: 31 October 2012 11:19

To: Jiazi YI
Cc: MANET IETF
Subject: Re: [manet] Reactive Protocol Situation

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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Dearlove, Christopher (UK)" <Chris.Dearlove@baesystems.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 9:02 AM

Completely agreeing with you. 1) with some work needed, as agreed by Charlie.

JP.
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Thierry LYS <thierry.lys@erdfdistribution.fr>
To: manet@ietf.org

Wed, Oct 31, 2012 at 9:53 AM

Hi Joe,

I speak in the name of EDF group.

We started first to use LOAD as a routing algorithm and deployed 2000 PLC-meters for smart grid purposes in 2011. Taking advantage of this field test, we have been actively participating to the working group to adopt enhancements in the LOADng specification. We are now extremely pleased with what LOADng is capable of and are confident that future deployments will be equipped with it.

"We believe in rough consensus and running code"

rough consensus : Don't you think we have a rough consensus on LOADng compared to DYMO ? 10 authors and major companies are supporters of LOADng.

running code : interoperability has been checked with 4 sources and other implementations are in progress.

We hope that IETF will realize how urgent and promising is the market for the smart grid.
So to answer your question : We opt for answer 2 !

Best regards,

Thierry Lys (ERDF, EDF Group)
and Cedric Lavenu (EDF R&D, EDF Group)

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To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 10:11 AM

I take it those are two separate sentences. You can agree with me, and you can support 1. But you can't agree with me supporting 1, as I haven't (nor have I supported 2).

As indicated, I would like to hear the technical arguments you have against LOADng. Here on list would seem the best place.

--

Christopher Dearlove

Senior Principal Engineer, Communications Group
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Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
Registered in England & Wales No: 1996687

From: JP Vasseur (jvasseur) [mailto:jvasseur@cisco.com]
Sent: 31 October 2012 14:03
To: Dearlove, Christopher (UK)
Cc: Joseph Macker; <manet@ietf.org>

[Quoted text hidden]

[Quoted text hidden]

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manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: Thierry LYS <thierry.lys@erdfdistribution.fr>, "manet@ietf.org" <manet@ietf.org>

Wed, Oct 31, 2012 at 10:15 AM

While I would like there to be rough consensus one way or the other, I've seen significant numbers of people taking each of the two sides (I don't think 3 is getting much traction) and, while of course I am just one participant with an opinion (which does not yet extend to coming down on one side or the other) that opinion is that I would consider claiming a consensus existed either way as premature.

--

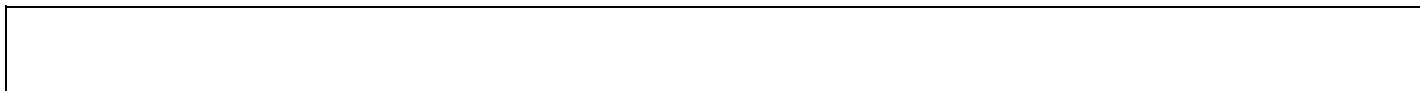
Christopher Dearlove

Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124

chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered in England & Wales No: 1996687

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** Thierry LYS
Sent: 31 October 2012 14:54
To: manet@ietf.org
Subject: Re: [manet] Reactive Protocol Situation



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Ulrich Herberg <ulrich@herberg.name>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 10:25 AM

Hi JP,
>
> Note that IETF cannot be driven by company roadmap.

Then please let me hear your technical arguments. So far, you have been only saying that one protocol is in a "GREAT" shape, the other is not, and I believe it is no secret that Cisco also has a company roadmap in this space.

Best
Ulrich
[Quoted text hidden]

Dowdell, John <John.Dowdell@cassidian.com>
To: Thierry LYS <thierry.lys@erfdistribution.fr>, manet@ietf.org

Wed, Oct 31, 2012 at 10:56 AM

Thierry

While I am very pleased for you and your co-authors that the LOADng work has been so fruitful, I am not really sure that smart meters are really the kind of MANET devices that the working group was intended to address. I have been party to the conversations for only a year or two, so I am very happy to be corrected by those with longer histories, but MANET to me means dynamically moving nodes, with links being established and broken often and without prior warning. Examples may be communications networks built out of nodes contained in cars, trucks and aircraft of all sizes. I appreciate a comment on the list a while back that the RF environment for smart metering is actually more difficult than one would think, but I would suggest to the chairs that unless LOADng has applications in this dynamically mobile environment (and I have to admit I have not read the spec in enough detail to determine if this is the case), then we come to the conclusion that the DYMO/AODVv2 path should be followed unless we collectively feel that such a direction is not worth pursuing (and note I am definitely not proposing that view).

In the two years or so that I have been working with MANETs, the only conclusion I have come to is that very many use cases exist, and that one size does not fit all.

Regards

John

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** Thierry LYS
Sent: 31 October 2012 14:54
To: manet@ietf.org
Subject: Re: [manet] Reactive Protocol Situation

Hi Joe,

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We hope that IETF will realize how urgent and promising is the market for the smart grid.

So to answer your question : We opt for answer 2 !

Best regards,

Thierry Lys (ERDF, EDF Group)
and Cedric Lavenu (EDF R&D, EDF Group)

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manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com> Wed, Oct 31, 2012 at 11:36 AM
To: "Dearlove, Christopher (UK)" <Chris.Dearlove@baesystems.com>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>

On Oct 31, 2012, at 11:16 AM, Dearlove, Christopher (UK) wrote:

> The ROLL WG participants who have been posting here have made it very clear that they see LLNs as a distinct area, and have strongly resisted more general purpose MANET routing protocols claiming applicability in LLNs. (I don't actually agree with that, but that's not my point here.) To reverse that and say the ROLL WG should now be responsible for a general purpose reactive routing protocol is clearly incompatible with that.

You are correct - the ROLLWG is not responsible for general reactive protocol by any means. We are chartered for one protocol for LLN, which is RFC6550.

Thanks.

JP.
[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com> Wed, Oct 31, 2012 at 11:39 AM
To: Jiazi Yi <ietf@jiaziyi.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>
[snip]

On the other hand, DYMO (AODVv2) is taking the design of LOADng to be "compatible", even when the LOADng authors have explicitly expressed that they don't appreciate that.

JP> Not sure to understand why - Isn't it the right for the Internet anyhow ?

Maybe it's because I'm so young and so naive that I still believe "running code is the king" in IETF, I don't get the logic why we should force a sophisticated and active document adapt to the one that has been slept for two years.
btw, I have read the latest DYMO revision in detail. A general comments here for DYMO-23 is that, a proof reading is needed first. There are numerous inconsistency in the document: terminologies, using nonexistent fields ... even duplicated paragraphs (section 5.5.2).

The arguments that made for DYMO are:

1) DYMO had been the WG document
==> true. Actually, it has been there for long time (and can be WG document even forever), but the history told us that this can't help the document evolving.

2) DYMO is the result of years of work.
==> In the contrast, the current situation of reactive protocol in MANET is the result of years of *NO* work on DYMO. IF DYMO had taken the comments from the WG, when reviews were posted around Maastricht, and evolved rather than be dormant for years, then LOADng had not needed to exist. But unfortunately, there is no magic time machine to bring us back to 2010.

Therefore, I would support WG chairs' option 2) replace DYMO with LOADng, and strongly against 1) continue with DYMO: the DYMO editors have clearly shown that they couldn't or wouldn't evolve the specification according to feedback, and as there is an industrial need for a reactive protocol for some types of MANETs, we cannot keep sitting around doing nothing while waiting for a miracle.

JP> we all agree that we need to close on this work and that there is still work with both solutions.

best

Jiazi

On Oct 31, 2012, at 12:13 AM, Joseph Macker <jpmacker@gmail.com> wrote:

Hello MANET working group (form Stan and Joe),

As you are all probably aware, there has been WG activity lately on competing drafts for a MANET reactive protocol - DYMO (reviving the current working group document that was parked due to inactivity), and LOADng. Many months ago there was a somewhat authorship led movement towards a common document effort and given positive feedback at the time we the chairs thought this was the best approach given the authors potential to come together and gain the best of both efforts. Since that period, there has been some fairly strident and rancorous "at times" debate between the authors of the two documents.

During IETF 84 in Vancouver, the co-chairs held a discussion with some of the co-authors of the two documents. Our guidance to the co-authors was to find a way to merge the two documents into one, as it was perceived that are not technically far apart and they both derive roughly from AODV concepts and LOADng had fairly active authorship and implementation efforts. We provided a co-editing proposal to the authors and gave them the timeframe of the Atlanta to come up with an answer back to us regarding this. As of this writing, those discussions of a potential common document and authorship merger have failed.

Therefore, we find ourselves at a crossroads. The authors of the two documents are divided, and it is unlikely that progress on a merged document can be reached based upon recent author feedback. I have also polled the earlier WG editor of DYMO, Ian Chakeres, and he is somewhat disengaged on the issue at the present time. We see only 3 possible paths forward:

1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2.
2. Replace the existing DYMO document effort with the LOADng related document effort, defusing ealier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if its a WG document).
3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

The co-chairs request and need your opinions on the options. We have been some silent collecting initial feedback and waiting for author feedback at this point. Stan and I are both on travel prior to Atlanta so our responses may be sparse and we will also likely be in a "receive mode" for a few days. So send your opinions.

-Joe

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manet@ietf.org
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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Thierry LYS <thierry.lys@erdfdistribution.fr>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 11:45 AM

Hi,

On Oct 31, 2012, at 3:53 PM, Thierry LYS wrote:

Hi Joe,

I speak in the name of EDF group.

JP> Note that we are all individuals at the IETF though.

We started first to use LOAD as a routing algorithm and deployed 2000 PLC-meters for smart grid purposes in 2011. Taking advantage of this field test, we have been actively participating to the working group to adopt enhancements in the LOADng specification. We are now extremely pleased with what LOADng is capable of and are confident that future deployments will be equipped with it.

"We believe in rough consensus and running code"

JP> Fully Agree Thierry.

rough consensus : Don't you think we have a rough consensus on LOADng compared to DYMO ? 10 authors and major companies are supporters of LOADng.

JP> Well let's see what the chairs think of course. Having all authors of Load-NG supporting it was expected though.

running code : interoperability has been checked with 4 sources and other implementations are in progress.

JP> This is very important, but true for both.

We hope that IETF will realize how urgent and promising is the market for the smart grid.
So to answer your question : We opt for answer 2 !

Best regards,

Thierry Lys (ERDF, EDF Group)
and Cedric Lavenu (EDF R&D, EDF Group)
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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Dearlove, Christopher (UK)" <Chris.Dearlove@baesystems.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 11:47 AM

On Oct 31, 2012, at 4:11 PM, Dearlove, Christopher (UK) wrote:

I take it those are two separate sentences. You can agree with me, and you can support 1. But you can't agree with me supporting 1, as I haven't (nor have I supported 2).

I was agreeing on the fact that there was work to be done. Still strongly advocating for the option1, especially since Charlie is working to make compatibility.

As indicated, I would like to hear the technical arguments you have against LOADng. Here on list would seem the best place.

I am more than happy to share lots of results showing why LOAD-ng may be a severe issue for LLNs, since this was mentioned as a clear use cases in the LOAD-ng document.

[Quoted text hidden]

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<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Ulrich Herberg <ulrich@herberg.name>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 11:49 AM

On Oct 31, 2012, at 4:25 PM, Ulrich Herberg wrote:

> Hi JP,

>>

>> Note that IETF cannot be driven by company roadmap.

>

> Then please let me hear your technical arguments. So far, you have been only saying that one protocol is in a "GREAT" shape, the other is not, and I believe it is no secret that Cisco also has a company roadmap in this space.

Let's not go that route ... this won't be productive. I am speaking as an individual having spent years working on such issues

as many did too. What would you like ? Lots of experimental and simulation results showing why Load-NG will not work at scale in LLN ?

[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Dowdell, John" <John.Dowdell@cassidian.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>, Thierry LYS <thierry.lys@erfdistribution.fr>

Wed, Oct 31, 2012 at 11:50 AM

Hi Thierry,

I cannot agree more with you.

Thanks.

JP.

[Quoted text hidden]

[Quoted text hidden]

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<https://www.ietf.org/mailman/listinfo/manet>

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To: "Dowdell, John" <John.Dowdell@cassidian.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>, Thierry LYS <thierry.lys@erfdistribution.fr>

Wed, Oct 31, 2012 at 12:07 PM

Sorry ... I meant:

John,

I cannot agree more with you.

JP.

On Oct 31, 2012, at 5:50 PM, JP Vasseur wrote:

Hi Thierry,

I cannot agree more with you.

Thanks.

JP.

On Oct 31, 2012, at 4:56 PM, Dowdell, John wrote:

[Quoted text hidden]

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<https://www.ietf.org/mailman/listinfo/manet>

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Ulrich Herberg <ulrich@herberg.name>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:11 PM

Hi JP,

On Wed, Oct 31, 2012 at 9:49 AM, JP Vasseur (jvasseur) <jvasseur@cisco.com> wrote:

On Oct 31, 2012, at 4:25 PM, Ulrich Herberg wrote:

> Hi JP,
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>
> Then please let me hear your technical arguments. So far, you have been only saying that one protocol is in a "GREAT" shape, the other is not, and I believe it is no secret that Cisco also has a company roadmap in this space.

Let's not go that route ... this won't be productive.

And this is what I asked you to be: productive, by providing technical arguments

I am speaking as an individual having spent years working on such issues as many did too. What would you like ? Lots of experimental and simulation results showing why Load-NG will not work at scale in LLN ?

This is not the point. It is a MANET protocol, otherwise we would present it to the ROLL WG. As said before, LLNs are a special use case of MANETs in my opinion, and LOADng is as a matter of fact used in such deployments, and these deployments are large-scale. You mentioned lots of results and simulations showing that it will not work, but I have never seen these results. And as I said before, you can construct scenarios where a reactive protocol will not work, and others where it will work. MANET has long understood that and is therefore chartered to come up with a reactive and a proactive protocol.

Regards
Ulrich

manet mailing list
manet@ietf.org
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Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: "manet@ietf.org" <manet@ietf.org>, "jvasseur@cisco.com" <jvasseur@cisco.com>
Cc: "salo@saloits.com" <salo@saloits.com>

Wed, Oct 31, 2012 at 12:13 PM

On October 31, 2012 at 12:49 PM, JVasseur wrote:

On Oct 31, 2012, at 4:25 PM, Ulrich Herberg wrote:

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Then please let me hear your technical arguments. So far, you have been only saying that one protocol is in a "GREAT" shape, the other is not, and I believe it is no secret that Cisco also has a company roadmap in this space.

Let's not go that route ... this won't be productive. I am speaking as an individual having spent years working on such issues as many did too. What would you like ? Lots of experimental and simulation results showing why Load-NG will not work at scale in LLN ?

[Jon] Yes, please share something technical. Just you saying it doesn't work is not productive.

Best
Ulrich

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Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:21 PM

Hi Ulrich,

Here is what I would propose ... The chairs asked us a question, let's stick to it and wait for their guidance. If the choice is to go with 1) then there is no point in having me sharing all results about why Load is ill suited to LLN, or for you to explain why it is well suited (which by the way you never did either ... you also keep saying that it worked but we never got any technical results). If 2) is chosen I will certainly clearly document with lots

of information why I think there is a major issue with Load-ng in LLN.

That being said, I am still hopeful that we will find a solution; options 1) knowing that Charlie made it compatible seems to be by far the best option.

Thanks.

JP.

[Quoted text hidden]

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Jon Black <jblack.ietf@yahoo.com>
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Cc: "thierry.lys@erdfdistribution.fr" <thierry.lys@erdfdistribution.fr>

Wed, Oct 31, 2012 at 12:23 PM

On October 31, 2012 at 12:45 PM, JPVasseur wrote:

>JP> Well let's see what the chairs think of course. Having all authors of Load-NG supporting it was expected though.

And hearing from the RPL authors not supporting it is expected.

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Jhazi YI <ietf@jhaziyi.com>
To: "Dowdell, John" <John.Dowdell@cassidian.com>
Cc: manet@ietf.org, Thierry LYS <thierry.lys@erdfdistribution.fr>

Wed, Oct 31, 2012 at 12:31 PM

Dear John, dear all,

There have been a lot of discussions on LLNs and MANET in other sessions, and I don't think it's necessary to repeat the whole discussion here.

My opinion is:

- 1) LLN is a subset of MANET, and
- 2) As a derivative of AODV, LOADng can be also adapted to some mobile scenarios (as you said, one size does not fit all), and the LOADng authors are willing to work to meet the requirement of the WG.

On reactive issue, I fully agree with what Chris said before. The more important is the technical questions.

- 1) Are those two approaches (LOADng and DYMO) at the same point after two years?

My personal answer is no. LOADng has already concrete results, implementations, interop test, running code.

I have read the latest DYMO revision in detail, which still have a lot of major flaws. If I'm going to implement DYMO based on the specification, I can't imagine how I can finish the work without my personal guess, which surely makes the protocol impossible to interoperate. In fact, after the effort of trying to be "compatible" with LOADng, the current DYMO-23 has much more inconsistencies and worse shape than DYMO-21 two years ago. Of course, I would like to hear your opinion after you reading the DYMO draft.

In fact, I don't get the point when the DYMO editor said "make DYMO compatible with LOADng". LOADng is a protocol that still evolving, in the aspect of packet format, mechanisms, etc. to make the protocol more efficient. I can't understand how DYMO can be compatible with LOADng without keeping taking ideas/text from LOADng (as DYMO already did, in absence of the agreement of other LOADng authors). I don't think this is appropriate behavior in the WG.

- 2) How much effort / time do we still need from where we are?

LOADng is already relatively mature with running code, interop test, etc. I know that there are several technical issues to address which are required by the WG chairs, and believe it can be resolved in very short time. All the related documents: interop report, mib would be updated timely. Last but not least, all the LOADng authors are eager to see it happen as soon as possible and willing to put all efforts necessary in it.

In the meantime, DYMO is now addressing the comments from two years ago, in a worse shape compared to dymo-21 when trying to be "compatible" with LOADng, and has intention to *follow* LOADng specification. Giving all those, I really don't have any idea how much effort/time is needed. I have no doubt that the editor of DYMO has technical excellence to finish the job if he had enough time. I would strongly support him doing so if I was in 2010. But now we are in 2012, and rolling back to 2010 is unacceptable.

best

Jhazi

On Oct 31, 2012, at 4:56 PM, "Dowdell, John" <John.Dowdell@Cassidian.com> wrote:

Thierry

While I am very pleased for you and your co-authors that the LOADng work has been so fruitful, I am not really sure that smart meters are really the kind of MANET devices that the working group was intended to address. I have been party to the conversations for only a year or two, so I am very happy to be corrected by those with longer histories, but MANET to me means dynamically moving nodes, with links being established and broken often and without prior warning. Examples may be communications networks built out of nodes contained in cars, trucks and aircraft of all sizes. I appreciate a comment on the list a while back that the RF environment for smart metering is actually more difficult than one would think, but I would suggest to the chairs that unless LOADng has applications in this dynamically mobile environment (and I have to admit I have not read the spec in enough detail to determine if this is the case), then we come to the conclusion that the DYMO/AODVv2 path should be followed unless we collectively feel that such a direction is not worth pursuing (and note I am definitely not proposing that view).

In the two years or so that I have been working with MANETs, the only conclusion I have come to is that very many use cases exist, and that one size does not fit all.

Regards

John

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** Thierry LYS

Sent: 31 October 2012 14:54

To: manet@ietf.org

Subject: Re: [manet] Reactive Protocol Situation

Hi Joe,

I speak in the name of EDF group.

We started first to use LOAD as a routing algorithm and deployed 2000 PLC-meters for smart grid purposes in 2011. Taking advantage of this field test, we have been actively participating to the working group to adopt enhancements in the LOADng specification.

We are now extremely pleased with what LOADng is capable of and are confident that future deployments will be equipped with it.

"We believe in rough consensus and running code"

rough consensus : Don't you think we have a rough consensus on LOADng compared to DYMO ? 10 authors and major companies are supporters of LOADng.

running code : interoperability has been checked with 4 sources and other implementations are in progress.

We hope that IETF will realize how urgent and promising is the market for the smart grid.

So to answer your question : We opt for answer 2 !

Best regards,

Thierry Lys (ERDF, EDF Group)
and Cedric Lavenu (EDF R&D, EDF Group)

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Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>

To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>

Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:34 PM

That I think has moved the goalposts. The issue is not whether LOADng is suitable in an LLN, because we are designing here a more general purpose MANET routing protocol. So in the MANET WG, the issue of whether suitable for LLNs in particular principally affects any claimed use cases, rather than being a key differentiator.

That said, technical arguments are always of interest, and may shed interesting light, particularly if you are suggesting there is a major difference in some regard between the two candidates.

--

Christopher Dearlove

Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124

chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
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From: JP Vasseur (jvasseur) [mailto:jvasseur@cisco.com]
Sent: 31 October 2012 16:47

[Quoted text hidden]

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>, Ulrich Herberg <ulrich@herberg.name>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:36 PM

Do those have parallel AODV (v1 or v2) results as well?

--
Christopher Dearlove
Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124
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-----Original Message-----
From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] On Behalf Of JP Vasseur (jvasseur)
Sent: 31 October 2012 16:50
To: Ulrich Herberg
Cc: Timothy J. Salo; <manet@ietf.org>
Subject: Re: [manet] Reactive Protocol Situation

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[Quoted text hidden]

Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>, Ulrich Herberg <ulrich@herberg.name>
Cc: "Timothy J. Salo" <salo@saloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:37 PM

It is not clear that option 1 is at all the best option. This needs to be decided based on technical information, running code, implementations available,
...

Jon

From: JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Ulrich Herberg <ulrich@herberg.name>
Cc: Timothy J. Salo <salosaloits.com>; "<manet@ietf.org>" <manet@ietf.org>
Sent: Wednesday, October 31, 2012 11:21 AM
Subject: Re: [manet] Reactive Protocol Situation

[Quoted text hidden]

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manet@ietf.org
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Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>, Ulrich Herberg <ulrich@herberg.name>
Cc: "Timothy J. Salo" <salosaloits.com>, "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:38 PM

That has the cart and the horse backwards. We don't make a decision, then see what results we have, we use results in trying to make good decisions.

--

Christopher Dearlove

Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124

chris.dearlove@baesystems.com | <http://www.baesystems.com>

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Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
Registered in England & Wales No: 1996687

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] **On Behalf Of** JP Vasseur (jvasseur)
Sent: 31 October 2012 17:21
To: Ulrich Herberg
Cc: Timothy J. Salo; <manet@ietf.org>
Subject: Re: [manet] Reactive Protocol Situation

***** WARNING *****

*This message originates from outside our organisation, either from an external partner or the internet.
Keep this in mind if you answer this message.
Please see [this process](#) on how to deal with suspicious emails.*

Hi Ulrich,

[Quoted text hidden]

This email and any attachments are confidential to the intended recipient and may also be privileged. If you are not the intended recipient please delete it from your system and notify the sender. You should not copy it or use it for any purpose nor disclose or

distribute its contents to any other person.

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<https://www.ietf.org/mailman/listinfo/manet>

Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: "manet@ietf.org" <manet@ietf.org>

Wed, Oct 31, 2012 at 12:48 PM

Certainly smart meters are one of the types of networks that are MANETs. Just because houses do not move it does not mean that the connectivity between those meters isn't changing. A smart meter network is most certainly a MANET. [One could argue that it is not an LLN since at least from the electrical power there is no lack of power.]

Totally agree that one size does not fit all.

Jon

On October 31, 2012 John.Dowdell wrote:

While I am very pleased for you and your co-authors that the LOADng work has been so fruitful, I am not really sure that smart meters are really the kind of MANET devices that the working group was intended to address. I have been party to the conversations for only a year or two, so I am very happy to be corrected by those with longer histories, but MANET to me means dynamically moving nodes, with links being established and broken often and without prior warning. Examples may be communications networks built out of nodes contained in cars, trucks and aircraft of all sizes. I appreciate a comment on the list a while back that the RF environment for smart metering is actually more difficult than one would think, but I would suggest to the chairs that unless LOADng has applications in this dynamically mobile environment (and I have to admit I have not read the spec in enough detail to determine if this is the case), then we come to the conclusion that the DYMO/AODVv2 path should be followed unless we collectively feel that such a direction is not worth pursuing (and note I am definitely not proposing that view).

In the two years or so that I have been working with MANETs, the only conclusion I have come to is that very many use cases exist, and that one size does not fit all.

Regards

John

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manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Joseph Macker <jpmacker@gmail.com>
To: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 1:14 PM

Certainly if the LOADng derived work in whatever form is accepted by manet it needs to be considered a manet protocol and analyzed and designed as such in ongoing work. This point is non-negotiable and I think the chairs made that clear at the last meeting but just to reiterate the point so we do not need to keep going over that.

Jhazi: As one chair, given my two year old review I felt DYMO-21 needed significant work and revision to be ready for STD track submission. If you feel DYMO-23 has regressed in some way in terms of clarity or specification that makes me uneasy but I have less personal insight on that at present to discuss. So other opinions would be welcome perhaps from an implementor's perspective and a non-LOADng author's view.

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Bo Berry <boberry@cisco.com>
To: "<manet@ietf.org> List" <manet@ietf.org>, Jon Black <jblack.ietf@yahoo.com>

Wed, Oct 31, 2012 at 1:29 PM

For background and perspective, ran across these two docs on the origin and performance of Loadng. The WG may find helpful.

-Bo

The LLN On-demand Ad hoc Distance-vector Routing Protocol - Next Generation (LOADng)
By T. Clausen. A. Colin de Verdiere.

Published in INRIA Research Report 7692 on 2011-07-25.

<http://hipercom.thomasclausen.net/resteam/data/publications/414efa79c4c772e5af46f426e77ca581.pdf>

A Comparative Performance Study of the Routing Protocols LOAD and RPL with Bi-Directional Traffic in Low-power and Lossy Networks (LLN)

By T. Clausen, U. Herberg.

Published in INRIA Research Report 7637 on 2011-06-01.

<http://hipercom.thomasclausen.net/resteam/data/publications/49eaae3228cf686a462108aef8332ceb.pdf>

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Charles E. Perkins <charliep@computer.org>

Wed, Oct 31, 2012 at 1:34 PM

To: Joseph Macker <jpmacker@gmail.com>, "<manet@ietf.org>" <manet@ietf.org>

Hello Joe and all,

Thanks for reiterating this important point. I feel that some of the discussion is aimed at finding fault. For myself, I think that the LOADng effort has made a positive contribution. With some minor exceptions, LOADng is basically compatible with AODVv2 (almost by design, since both were derived from AODV). I reiterate that my goal for the WG reactive document would be to retain compatibility with LOADng. In this way, the working group will retain the benefits of LOADng (by design), reducing the need for any mutually exclusive choice of (1) or (2). I'd call this alternative (1.5).

In the meantime, I continue to offer improvements to the existing AODVv2 specification, and I am confident that the results will soon satisfy the most demanding level of scrutiny.

Regards,
Charlie P.

On 10/31/2012 11:14 AM, Joseph Macker wrote:

Certainly if the LOADng derived work in whatever form is accepted by manet it needs to be considered a manet protocol and analyzed and designed as such in ongoing work. This point is non-negotiable and I think the chairs made that clear at the last meeting but just to reiterate the point so we do not need to keep going over that.

Regards,
Charlie P.

[Quoted text hidden]

Axel Colin de Verdière <axel-ietf@axelcdv.com>

Wed, Oct 31, 2012 at 1:43 PM

To: "Charles E. Perkins" <charliep@computer.org>

Cc: "<manet@ietf.org>" <manet@ietf.org>

Hi Charlie,

I still can't really understand both how and why you would want to develop AODVv2 as "compatible with LOADng", for several reasons:

1) LOADng is still a work in progress. Being compatible with it makes little sense if it keeps evolving.

2) If AODVv2 were to be made "compatible" with LOADng, it would eventually become some form of LOADng + optional features. So, instead of losing time and energy reformatting AODVv2 and following LOADng's changes, and since you apparently want an alternative solution, why wouldn't we adopt LOADng as the base protocol, and develop a draft containing all of AODVv2's additional features?

Best,

Axel

Le 31 oct. 2012 à 11:34, "Charles E. Perkins" <charliep@computer.org> a écrit :

[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>

Wed, Oct 31, 2012 at 4:57 PM

To: Jon Black <jblack.ietf@yahoo.com>

Cc: "thierry.lys@erdfdistribution.fr" <thierry.lys@erdfdistribution.fr>, "manet@ietf.org" <manet@ietf.org>

[Quoted text hidden]

Well ... quite frankly, the issue is using a reactive protocol in LLNs. I do support option 1 and this is a reactive protocol too.

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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: "manet@ietf.org" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:00 PM

On Oct 31, 2012, at 6:48 PM, Jon Black wrote:

Certainly smart meters are one of the types of networks that are MANETs. Just because houses do not move it does not mean that the connectivity between those meters isn't changing. A smart meter network is most certainly a MANET. [One could argue that it is not an LLN since at least from the electrical power there is no lack of power.]

JP> Just observe the looseness on these network and how much on bandwidth you get especially when using PLC and you will see why this is a LLN ...

Totally agree that one size does not fit all.

Jon

On October 31, 2012 John.Dowdell wrote:

While I am very pleased for you and your co-authors that the LOADng work has been so fruitful, I am not really sure that smart meters are really the kind of MANET devices that the working group was intended to address. I have been party to the conversations for only a year or two, so I am very happy to be corrected by those with longer histories, but MANET to me means dynamically moving nodes, with links being established and broken often and without prior warning. Examples may be communications networks built out of nodes contained in cars, trucks and aircraft of all sizes. I appreciate a comment on the list a while back that the RF environment for smart metering is actually more difficult than one would think, but I would suggest to the chairs that unless LOADng has applications in this dynamically mobile environment (and I have to admit I have not read the spec in enough detail to determine if this is the case), then we come to the conclusion that the DYMO/AODVv2 path should be followed unless we collectively feel that such a direction is not worth pursuing (and note I am definitely not proposing that view).

In the two years or so that I have been working with MANETs, the only conclusion I have come to is that very many use cases exist, and that one size does not fit all.

Regards

John

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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Charles E. Perkins" <charliep@computer.org>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:10 PM

On Oct 31, 2012, at 7:34 PM, Charles E. Perkins wrote:

>
> Hello Joe and all,
>
> Thanks for reiterating this important point. I feel that some of the discussion
> is aimed at finding fault. For myself, I think that the LOADng effort has made
> a positive contribution. With some minor exceptions, LOADng is basically
> compatible with AODVv2 (almost by design, since both were derived from
> AODV). I reiterate that my goal for the WG reactive document would be to
> retain compatibility with LOADng. In this way, the working group will retain
> the benefits of LOADng (by design), reducing the need for any mutually
> exclusive choice of (1) or (2). I'd call this alternative (1.5).
>
> In the meantime, I continue to offer improvements to the existing AODVv2
> specification, and I am confident that the results will soon satisfy the most
> demanding level of scrutiny.

Which I believe seems to be the RIGHT thing to do for the WG and the community.

Thanks Charlie.
[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Bo Berry (boberry)" <boberry@cisco.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>

Wed, Oct 31, 2012 at 5:12 PM

Hi Bo,

We need to be very careful there ... these documents provide results that CANNOT be generalized to say the least. Hypothesis made on traffic flows are such that you get the results that you would like to see ...

Thanks

JP.
[Quoted text hidden]

Axel Colin de Verdière <axel-ietf@axelcdv.com>
To: JP Vasseur <jvasseur@cisco.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Wed, Oct 31, 2012 at 5:26 PM

Hi JP,

As usual, there isn't just one situation, be it in MANETs in general or in LLNs in particular. The simulations shown did make some assumptions on the traffic, and some other assumptions might show different results, but that's true of any protocol. Which is why I would also be interested in your results concerning LOADng in LLNs.

Best,

Axel

Le 31 oct. 2012 à 15:12, JP Vasseur (jvasseur) <jvasseur@cisco.com> a écrit :
[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Axel Colin de Verdière <axel-ietf@axelcdv.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Wed, Oct 31, 2012 at 5:30 PM

Hi Axel,

On Oct 31, 2012, at 11:26 PM, Axel Colin de Verdière wrote:

> Hi JP,
>
> As usual, there isn't just one situation, be it in MANETs in general or in LLNs in particular. The simulations shown did make some assumptions on the traffic, and some other assumptions might show different results, but that's true of any protocol. Which is why I would also be interested in your results concerning LOADng in LLNs.
>

Will send some results - but I think that the priority was to first see what the chairs decide on which way to go. See this is the real issue with reactive routing in LLNs ... assumption on the traffic will dictate how the protocol performs and anyone with real life traces can easily reproduce the control plane behavior and see dramatic limitations

Thanks.

JP.
[Quoted text hidden]

Timothy J. Salo <salo@saloits.com>
To: "<manet@ietf.org>" <manet@ietf.org>

Wed, Oct 31, 2012 at 6:24 PM

On 10/31/2012 10:25 AM, Ulrich Herberg wrote:

Hi JP,
Then please let me hear your technical arguments. So far, you have been only saying that one protocol is in a "GREAT" shape, the other is not, and I believe it is no secret that Cisco also has a company roadmap in this space.

I second this request for arguments based on technical differences between LOADng and DYMO.

There seems to be a growing consensus that the LOADng and DYMO protocols are not all that different. Further, the DYMO protocol seems likely to become even more similar to LOADng. Yet, your email barrage strongly argues for DYMO over IOADng. Why?

As far as I can tell, your technical arguments against LOADng are simply generic arguments against reactive protocols, arguments that appear to apply equally to LOADng and DYMO. If this not the case, please explain what features of DYMO make it scale better than LOADng.

Your opposition to the LOADng specification is clear. However, I haven't seen you offer any technical arguments specific to LOADng (as opposed to arguments that are equally applicable to both

LOADng and DYMO).

Or, is this not really about technical issues?

-tjs

[Quoted text hidden]

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org, Stan Ratliff <sratliff@cisco.com>

Thu, Nov 1, 2012 at 9:22 AM

Dear Joseph Macker and Stan,
MANET WG Chairs

I disagree that the WG arranged/guided to merge the documents, I never heard that there was a consensus on such activity. DYMO is a reactive WG draft, but LOADng is not. Why did you guide to merge documents, I recommend that you ment to merge the team drafts co-authors to one WG draft (which is only DYMO so far). The authority is for the WG to decide to merge individual drafts to its WG draft.

Therefore, my vote is for option 1 only. Thanking you for updating us with the status.

Regards
AB

[Quoted text hidden]
[Quoted text hidden]

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manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

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manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 9:28 AM

On Wed, Oct 31, 2012 at 10:02 AM, Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com> wrote:

As someone who has not (yet) stated an opinion on the matter, except I also think option 3 is not good, I would very much like to hear technical arguments, so if you have technical arguments against LOADng, I think we need to hear them rather than just suggesting they exist. I haven't yet read LOADng carefully to form a view there. I have just recently read the AODVv2 draft carefully, and have some technical issues there (which overlap) regarding asymmetric links, possible dependency on NHDP, and the compatibility of options. If option 1 is followed, the draft needs work (which Charlie has acknowledged).

I don't think we have time to waste with LOADng, it was presented twice and no progress, the authors failed to discuss on MANET list, and failed to update the draft to match MANET reuirements. I agree that we focus our efforts to submit AODVv2 as soon as possible,

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Henning Rogge <hrogge@googlemail.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>
Cc: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 9:30 AM

On Thu, Nov 1, 2012 at 3:28 PM, Abdussalam Baryun <abdussalambaryun@gmail.com> wrote:

> I don't think we have time to waste with LOADng, it was presented twice and
> no progress, the authors failed to discuss on MANET list, and failed to
> update the draft to match MANET reuirements. I agree that we focus our
> efforts to submit AODVv2 as soon as possible,

I totally disagree with you.

Henning Rogge

--
Steven Hawkings about cosmic inflation: "An increase of billions of billions of percent in a tiny fraction of a second. Of course, that was before the present government."

[Quoted text hidden]

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Henning Rogge <hrogge@googlemail.com>
Cc: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 9:33 AM

For discussion purpose, please give your reasons, so I can understand, I want that we not waste time and finish the work we were doing in years,

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: "<manet@ietf.org>" <manet@ietf.org>

Thu, Nov 1, 2012 at 9:44 AM

I agree that it was clear in the 84 (last MANET f2f discuss) meeting that LOADng was proposed for WG, but was not accepted and was recommended that it needs rework with discussions on the MANET list. I never understood mentioning that LOADng to be designed within an on-going work.

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: "Charles E. Perkins" <charliep@computer.org>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Thu, Nov 1, 2012 at 9:53 AM

I like that we make addition options as you call one 1.5, because there is no doubt that there is an interest of LOADng in MANET WG. I will support the 1.5 option only after we finish our job of AODVv2 with submission.

Another alternative 2.5 option can be to start checking WG consensus for working on a new reactive protocol that merges the two drafts. However, still prefer option 1, without interrupts.

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Joseph Macker <jpmacker@gmail.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>
Cc: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 9:57 AM

Your facts are off. Actually reading the new LOADng update last night it looks like the authors did begin to modify it to meet some of the WG requirements for focus stated at the last meeting. What is your statement that they didnt update it based upon? Not saying its been vetted yet but they made the effort.

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 10:13 AM

Ok, if we read the inputs of the WG on the list, we can understand the conclusion I mentioned. It was not discussed by the WG, while I already tried my best with the authors, they postpone it. Please note that ignoring input is not acceptable, I got to 4th reminder. I agree that the last draft was better but still without valuable discussions. IMHO, this draft will need a full hour discussion because it is an interrupt work so far.

The needed requirements and updates are:

- 1-Able to Discuss on the MANET list, not outside within companies
- 2-Replying to requests from the WG, not just with the chairs
- 3-The draft collides with ROLL WG which was clear in last 84 meeting
- 4-The name of the draft is not draft-manet, which was requested without respond from the authors.
- 5- The last meeting requested adding heterogeneity issue update to the draft, so will not collide with other works.

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>, Joseph Macker <jpmacker@gmail.com>
Cc: "manet@ietf.org" <manet@ietf.org>, Stan Ratliff <sratliff@cisco.com>

Thu, Nov 1, 2012 at 10:37 AM

Why would you think that LOADng is not reactive? If it is not a reactive protocol, then what is it?

As to merging the documents, this is what WGs do. If you have multiple "competing" ideas you ask the authors to see if they can merge their concepts and ideas. If they cannot or will not then the WG must decide based on facts and not conjecture which is the most prudent path to take.

Jon

From: Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org; Stan Ratliff <sratliff@cisco.com>
Sent: Thursday, November 1, 2012 8:22 AM
Subject: Re: [manet] Reactive Protocol Situation

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>, manet <manet@ietf.org>

Thu, Nov 1, 2012 at 10:44 AM

I disagree. The protocol has progressed. It appears that there are implementations. There is interoperability. There are deployments. This is all progress.

I'm not favoring LOADng over DYMO. I think the working group should look at both fairly and decide the best path forward - chose one over the other or find a way to merge the concepts even if the authors are hesitant.

Jon

From: Abdussalam Baryun <abdussalambaryun@gmail.com>
To: manet <manet@ietf.org>
Sent: Thursday, November 1, 2012 8:28 AM

[Quoted text hidden]

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: "manet@ietf.org" <manet@ietf.org>, Stan Ratliff <sratliff@cisco.com>

Thu, Nov 1, 2012 at 10:53 AM

Yes LOADng is a reactive protocols, but not the MANET WG reactive protocol (DYMO is already authorised). The WG is the only authorised to make such decisions for its WG drafts, if WG decides to add any LOADng ideas it can, or to accept such merge it can as well,

AB

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Philip Levis <pal@cs.stanford.edu>
To: Jon Black <jblack.ietf@yahoo.com>

Thu, Nov 1, 2012 at 11:04 AM

Cc: "thierry.lys@erfdistribution.fr" <thierry.lys@erfdistribution.fr>, "manet@ietf.org" <manet@ietf.org>

[Quoted text hidden]

There are many RPL authors. Some of us are remaining silent.

Phil

[Quoted text hidden]

Jon Black <jblack.ietf@yahoo.com>
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: Philip Levis <pal@cs.stanford.edu>
Cc: "thierry.lys@erfdistribution.fr" <thierry.lys@erfdistribution.fr>, "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 11:09 AM

Noted!

From: Philip Levis <pal@cs.stanford.edu>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: "manet@ietf.org" <manet@ietf.org>; "thierry.lys@erfdistribution.fr" <thierry.lys@erfdistribution.fr>
Sent: Thursday, November 1, 2012 10:04 AM
Subject: Re: [manet] Reactive Protocol Situation

On Oct 31, 2012, at 10:23 AM, Jon Black wrote:

> On October 31, 2012 at 12:45 PM, JPVasseur wrote:
>
> >JP> Well let's see what the chairs think of course. Having all authors of Load-NG supporting it was expected though.
>
> And hearing from the RPL authors not supporting it is expected.

There are many RPL authors. Some of us are remaining silent.

Phil

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Philip Levis <pal@cs.stanford.edu>
To: Axel Colin de Verdière <axel-ietf@axelcdv.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 11:23 AM

Simulations of wireless networks using unit disc, time invariant models have zero relevance to reality. Any results from such simulations MUST NOT be used as evidence of the performance of protocols. :)

Phil

[Quoted text hidden]

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: Philip Levis <pal@cs.stanford.edu>, Axel Colin de Verdière <axel-ietf@axelcdv.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 11:27 AM

They can be good evidence of the failure of protocols ;)

But what is clear to me is that one important issue (and another of my posts is attempting to both be more precise, as well as going elsewhere) is the handling of unidirectional links. So any good evidence needs to consider those.

—
Christopher Dearlove
Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124
chris.dearlove@baesystems.com | <http://www.baesystems.com>

BAE Systems (Operations) Limited
Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
Registered in England & Wales No: 1996687

-----Original Message-----

From: manet-bounces@ietf.org [mailto:manet-bounces@ietf.org] On Behalf Of Philip Levis
Sent: 01 November 2012 16:23
To: Axel Colin de Verdière
Cc: "<manet@ietf.org> List"; Bo Berry (boberry)
Subject: Re: [manet] Reactive Protocol Situation

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Keep this in mind if you answer this message.
Follow the 'Report Suspicious Emails' link on IT matters
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This email and any attachments are confidential to the intended
recipient and may also be privileged. If you are not the intended
recipient please delete it from your system and notify the sender.
You should not copy it or use it for any purpose nor disclose or
distribute its contents to any other person.

[Quoted text hidden]

Don Sturek <d.sturek@att.net>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>, Jon Black <jblack.ietf@yahoo.com>
Cc: "manet@ietf.org" <manet@ietf.org>, Stan Ratliff <sratliff@cisco.com>

Thu, Nov 1, 2012 at 11:40 AM

Hi Abdussalam,

It is hard to consider a draft stalled 2+ years as the only way forward in MANET as a reactive protocol.

Don

From: Abdussalam Baryun <abdussalambaryun@gmail.com>
Date: Thursday, November 1, 2012 8:53 AM
To: Jon Black <jblack.ietf@yahoo.com>
Cc: "manet@ietf.org" <manet@ietf.org>, Stan Ratliff <sratliff@cisco.com>

[Quoted text hidden]
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Philip Levis <pal@cs.stanford.edu>
To: "Dearlove, Christopher (UK)" <chris.dearlove@baesystems.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 11:45 AM

On Nov 1, 2012, at 9:27 AM, Dearlove, Christopher (UK) wrote:

> They can be good evidence of the failure of protocols ;)
>

> But what is clear to me is that one important issue (and another of my posts is attempting to both be more precise, as well as going elsewhere) is the handling of unidirectional links. So any good evidence needs to consider those.

Since communication in wireless is rarely binary, I think the more common term is asymmetric links. I'm confused; I don't believe that unit disc models capture asymmetric links. Is the implied statement that RPL doesn't properly handle asymmetric links but LOADng does? I think this came up in draft-clausen-lln-rpl-experiences and there was some discussion on the ROLL list about it. The neighbor set in RPL is defined in 8.2.1:

"First, the candidate neighbor set is a subset of the nodes that can be reached via link-local multicast."

then in DIO processing (8.2.3.1) it reads:

"As DIO messages are received from candidate neighbors, the neighbors may be promoted to DODAG parents by following the rules of DODAG discovery as described in Section 8.2."

I want to be clear here; I haven't read deeply about LOADng, thought about it much, or experimented with it at all. So I have zero to say about LOADng's strengths and weaknesses.

But just because somebody publishes (and republishes) a draft saying something doesn't mean it's true. There are, in my opinion, some very valid points in draft-clausen-lln-rpl-experiences that relate to fundamental design decisions in RPL. For example, I think that the issues raised about the state requirements of floating DODAGs and RPL message fragmentation are valid and reasonable and something we need to look at.

However, there are others that are the result of naive mistakes anyone can make when implementing any wireless routing protocol, such as link asymmetry and protocol convergence. Unfortunately the draft doesn't distinguish the two. Implementing a protocol poorly then saying it doesn't work isn't particularly meaningful. As I said in Paris, I thought the draft is valuable because it outlines many of the basic mistakes one makes the first time you try implementing a wireless routing protocol.

Phil
[Quoted text hidden]

Don Sturek <d.sturek@att.net>
To: Philip Levis <pal@cs.stanford.edu>, "Dearlove, Christopher (UK)" <chris.dearlove@baesystems.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 11:55 AM

Hi Phil,

As you probably know, we (the ZigBee Alliance IP networking folks) are using ROLL RPL. To address the asymmetric link issue, we are using this draft: <http://datatracker.ietf.org/doc/draft-kelsey-intarea-mesh-link-establishment/>, and specifically the Link Quality exchange between neighbors.

This, along with a policy of adjusting routing information for these links helps get around asymmetric link issues.

The MLE draft was written to be routing protocol neutral and could be re-used for any commercial deployment and any mesh routing protocol.

Don
[Quoted text hidden]

Daniel He <drdanhe@gmail.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>
Cc: "manet@ietf.org" <manet@ietf.org>, Stan Ratliff <sratliff@cisco.com>

Thu, Nov 1, 2012 at 12:00 PM

I vote the option 2 that may be more realistic choice for us. DYMO has been on the WG for long time but it is required a significant work to be a standard. and some work has been done by LOADng that I don't see it is not a reactive protocol. We should not waste the efforts of LOADng authors made to MANET WG. Option 2 therefore is the best and realistic choice for both drafts.

Cheers,

Dan
[Quoted text hidden]

--
Dan He

Tel: [+44-788-686-3428](tel:+44-788-686-3428)

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Dearlove, Christopher (UK) <Chris.Dearlove@baesystems.com>
To: Philip Levis <pal@cs.stanford.edu>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 12:06 PM

No, the implied statement is agreeing with you that simple disc models aren't enough, and highlighting a particularly key issue here. I have not even hinted that I'm discussing RPL, this is the MANET WG where the subject of the day is DYMO and LOADng. And I most particularly haven't even hinted at having anything to say about draft-clausen-lln-rpl-experiences.

(As for asymmetric vs. unidirectional, oddly most of what I write here uses asymmetric ;)

--
Christopher Dearlove
Senior Principal Engineer, Communications Group
Communications, Networks and Image Analysis Capability
BAE Systems Advanced Technology Centre
West Hanningfield Road, Great Baddow, Chelmsford, CM2 8HN, UK
Tel: +44 1245 242194 | Fax: +44 1245 242124
chris.dearlove@baesystems.com | <http://www.baesystems.com>

BAE Systems (Operations) Limited
Registered Office: Warwick House, PO Box 87, Farnborough Aerospace Centre, Farnborough, Hants, GU14 6YU, UK
Registered in England & Wales No: 1996687

-----Original Message-----
From: Philip Levis [mailto:pal@cs.stanford.edu]
Sent: 01 November 2012 16:46
To: Dearlove, Christopher (UK)
Cc: Axel Colin de Verdière; <manet@ietf.org> List; Bo Berry (boberry)
Subject: Re: [manet] Reactive Protocol Situation

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Ulrich Herberg <ulrich@herberg.name>

Thu, Nov 1, 2012 at 12:12 PM

To: Philip Levis <pal@cs.stanford.edu>

Cc: "Dearlove, Christopher (UK)" <chris.dearlove@baesystems.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Hi Phil,

maybe we should open a separate email thread about RPL and draft-clausen-lin-rpl-experiences (and probably not in this WG).

Best
Ulrich

[Quoted text hidden]

manet mailing list

manet@ietf.org

<https://www.ietf.org/mailman/listinfo/manet>

Charles E. Perkins <charliep@computer.org>

Thu, Nov 1, 2012 at 1:32 PM

To: Don Sturek <d.sturek@att.net>

Cc: "manet@ietf.org" <manet@ietf.org>

Hello Don,

Your claim has been made several times, and I think it is highly misleading.

The bottom line is that the editorship of the WG document is now in good hands, and given the time available in the past, good progress has been made. Also given my renewed emphasis, support from my job, and clear understanding of goals, I can confidently state that I can do the work, and can manage the editorship process to follow working group discussion to completion. Here is (some of) what happened. I hope you will read it.

I was asked last fall to resume editorship of the DYMO document, and agreed to do so.

Almost at the same time, I was invited to work with the LOADng authors to produce a merged document that incorporated the best features from DYMO and from LOADng. At that time, the general agreement was that the merged document would be renamed AODVv2.

Because of various personal difficulties unfamiliar in my experience, I was surprised to find very late in the winter that the merge was not happening. In order to carry out my responsibility, which was clearly to submit a revised document for IETF 83 in Paris, I took the resource available to me and within less than a week I submitted the revised DYMO draft renamed to be AODVv2.

People attending the meeting will remember what happened. I was quite unjustly attacked and called names for doing:

- a) what I said I would do
- b) what I was supposed to do, and
- c) changing the document to become more compatible with LOADng, as requested by those authors and according to my best understanding.

After that, I still hoped that we could do the merge, but nothing happened until in Vancouver when the WG chairs gave us an ultimatum to make something happen by November.

We went around and around, but I eventually determined that there was almost no chance that the LOADng authors would willingly help to produce the desired merge. So I did what the LOADng authors had asked me not to do: namely submit a revised document for consideration.

This revised document was an attempt to respond to valid comments made during 2010 about problems with the document while it was under Ian's editorial responsibility. It needs further revision -- in fact I will submit a much more polished document on my website this week.

The important point is that for the last year the document languished for all but a few weeks *at the request of the LOADng authors* -- in fact, I would even say at their *DEMAND*, and all the while they refused to help make the merge that (a) they had originally suggested and (b) I was supposed to do.

This note is already too long. I have much, much more to say. But I will say one more thing: I have the ability and now the time to do an excellent job on this, and I am here on the job only for the benefit of the working group. Now that I can focus on it, and now

that I do not feel constrained to abide by the demands for delay that were imposed by the LOADng author team, I can do it pretty expediently. Of course I will welcome their input as well, and to further reiterate it will be my intention to make the WG document compatible with the needs of LOADng.

Oh -- and one more thing... Regardless of the poisoned atmosphere surrounding this debate, I have nothing but high regard for the work done by the LOADng team. I don't think their methods are right for this working group, and any statements to the effect that the DYMO editorial process has been deficient during the last year or more should be understood in light of the above narrative.

Regards,
Charlie P.

PS. Oh, and one more thing... I am a peaceful man, and if I don't respond to all the invective and intransigence so clearly in evidence lately, you'll just have to excuse me for trying to remain so.

[Quoted text hidden]
[Quoted text hidden]

--
Regards,
Charlie P.

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 1:36 PM

On Nov 1, 2012, at 4:44 PM, Jon Black wrote:

I disagree. The protocol has progressed. It appears that there are implementations. There is interoperability. There are deployments. This is all progress.

I'm not favoring LOADng over DYMO. I think the working group should look at both fairly and decide the best path forward - chose one over the other or find a way to merge the concepts even if the authors are hesitant.

Right and I think that this was what the chairs asked us to do: express our opinion on which option we prefer. Let's wait until everybody express an opinion and see what the chairs think.

Thanks.

JP.
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Don Sturek <d.sturek@att.net>
To: "Charles E. Perkins" <charliep@computer.org>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 1:40 PM

Hi Charlie,

Apologies if I misrepresented the facts on DYMO/AODV2.....

I do think the facts as exist right now are:

- 1) We have a LOADng draft that claims support to address the MANET reactive protocol requirements
- 2) Work has restarted (by yourself) on DYMO/AODV2
- 3) There are two different views on the ability to merge LOADng with DYMO/AODV2. One view is the merge can happen and another (unfortunately by some authors of LOADng) that such a merge is impractical.

So, irrespective of how we got to where we are, the point is it is a good time to draw a conclusion on which of the 3 options above MANET should take to meet its requirement for a reactive routing protocol.

Don

From: "Charles E. Perkins" <charliep@computer.org>
Organization: Saratoga Blue Skies

Date: Thursday, November 1, 2012 11:32 AM

To: Don Sturek <d.sturek@att.net>

Cc: "manet@ietf.org" <manet@ietf.org>

[Quoted text hidden]

[Quoted text hidden]

[Quoted text hidden]

manet mailing list
manet@ietf.org<https://www.ietf.org/mailman/listinfo/manet>

--
Regards,
Charlie P.

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Jaudelice de Oliveira <jau@coe.drexel.edu>
To: Joseph Macker <jpmacker@gmail.com>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 1:54 PM

I recommend option 1.

In my opinion the author has shown his willingness to continue to work with the WG to complete the original WG document and also to try to adhere to the chairs' suggestion, even if in the form of a compromise given that a merged document was not feasible, by making it compatible.

BR,
Jau.

Jaudelice de Oliveira
Associate Professor
ECE Dept, Drexel University
[Quoted text hidden]
[Quoted text hidden]

Ulrich Herberg <ulrich@herberg.name>
To: Jaudelice de Oliveira <jau@coe.drexel.edu>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 2:04 PM

It would really be more productive if you had some technical arguments. The LOADng authors are also more than willing to bring the work forward, so this is not really an argument for or against anything.

Best
Ulrich
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: "Dearlove, Christopher (UK)" <Chris.Dearlove@baesystems.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 2:24 PM

On Nov 1, 2012, at 5:27 PM, Dearlove, Christopher (UK) wrote:

> They can be good evidence of the failure of protocols ;)

Indeed ! This is usually when I found simulations quite interesting especially when using actual traces as opposed to hard-to-model PHY/MAC models.

[Quoted text hidden]

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Ulrich Herberg <ulrich@herberg.name>
Cc: "Dearlove, Christopher (UK)" <chris.dearlove@baesystems.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

Thu, Nov 1, 2012 at 2:27 PM

Indeed - we're diverging from the original question.

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Don Sturek <d.sturek@att.net>, "Charles E. Perkins" <charliep@computer.org>
Cc: "<manet@ietf.org> List" <manet@ietf.org>

Thu, Nov 1, 2012 at 2:33 PM

And if I may, ...

As Charlie pointed it out:

"But I will say one more thing: I have the ability and now the time to do an excellent job on this, and I am here on the job only for the benefit of the working group. Now that I can focus on it, and now that I do not feel constrained to abide by the demands for delay that were imposed by the LOADng author team, I can do it pretty expeditiously. Of course I will welcome their input as well, and to further reiterate it will be my intention to make the WG document compatible with the needs of LOADng."

As many of us, I truly believe that Charlie can make it happen and come up with the best solution for the reactive protocol in MANET, incorporating ideas coming up from the WG, and close on this pretty quickly in a more peaceful atmosphere.

Thanks.

JP.
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Joe Macker <jpmacker@gmail.com>, "Stan Ratiiff (sratliff)" <sratliff@cisco.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>

Thu, Nov 1, 2012 at 2:36 PM

Agree with you Don.

Since discussions are going in many directions ... would the chairs help us organize these discussions ?

Are you indeed asking us to express our preference for one of these options, pick one and start from there ?
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Jhazi YI <ietf@jhaziyi.com>
To: "Charles E. Perkins" <charliep@computer.org>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 3:02 PM

Dear Charlie, Don, and all,

The LOADng authors never said that the merge can't come, and always welcome good ideas from DYMO. However, having LOADng to fit in DYMO text is rolling back to 2 years ago and is totally inappropriate because of the quality of the current dymo document. There was a long discussion on this in the last three months, but it's unconstructive to repeat the history here.

Charlie, I really don't want to talk about the editorial process and authorship issue in the mailing list, so please, let's stop this topic here.

I think for the moment, the constructive way is to go back to the technical discussion and check the status of those two drafts, as suggested by Chris and a lot of the others. I would appreciate all the WG participants reading those two drafts, and I'm looking forward to your comments. Personally, I have reviewed the latest dymo revision, but I would like to keep my comments and hear the opinions from other non-LOADng authors first.

best

Jhazi
[Quoted text hidden]

manet mailing list
manet@ietf.org

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: manet <manet@ietf.org>

Thu, Nov 1, 2012 at 3:02 PM

In IETF F2F meetings: I RECOMMEND the chairs and ADs to organise forces/efforts discuss WG's I-Ds for progress. New proposals should be presented once and discussed on the list if rejected.

On the IETF WG lists: I RECOMMEND the WG participants to discuss all related technical issues in good faith, detail and reason, to avoid politics and interrupts in IETF from others.

AB
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>
To: Jiazi YI <ietf@jiaziyi.com>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 3:09 PM

I disagree with you of the process to handle such WORK flow. I RECOMMEND the work flow for the MANET WG is to focus on the WG I-Ds only and try to target the Milestones without any interrupt of other organisations than IETF participants. I think the procedure and best practice is to give more time/efforts to DYMO/AODVv2, because we had RFC3561 and we are getting to complete the AODVv2 standard.

I agree to make comparison of both drafts *only* to make LOADng authors to respond to the MANET WG requests and mine to discuss on the MANET list.

AB
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manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Stan Ratliff <stanratliff3@gmail.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>
Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>

Thu, Nov 1, 2012 at 3:11 PM

JP,

Speaking for myself (not necessarily for Joe, as I haven't discussed with him a couple of days), my intent with the email was to bring the situation vis-a-vis reactive protocols to the WG's attention, and to see if the group coalesces around any of the three options.

To be frank, based on the last 3 months of discussion, and the current email storm (including references to the "toxic environment"), I believe that the situation has passed to point of no return. I do not think the respective authors, or the WG as a whole, will ever (or at least for the foreseeable future) be able to reach consensus on a reactive protocol. Therefore, my preference is to remove the work item from the charter.

Let's see how the discussion progresses.

Regards,
Stan

On Thu, Nov 1, 2012 at 3:36 PM, JP Vasseur (jvasseur) <jvasseur@cisco.com> wrote:
[Quoted text hidden]

--
Regards,
Stan

manet mailing list
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<https://www.ietf.org/mailman/listinfo/manet>

JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Jiazi YI <ietf@jiaziyi.com>
Cc: "manet@ietf.org" <manet@ietf.org>

Thu, Nov 1, 2012 at 3:19 PM

On Nov 1, 2012, at 4:02 PM, Jiazi YI wrote:

Dear Charlie, Don, and all,

The LOADng authors never said that the merge can't come, and always welcome good ideas from DYMO. However, having LOADng to fit in DYMO text is rolling back to 2 years ago

JP> Not sure that this argument is terribly important

and is totally inappropriate because of the quality of the current dymo document.

JP> I would certainly not agree on this.

[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Abdussalam Baryun <abdussalambaryun@gmail.com>

Thu, Nov 1, 2012 at 3:20 PM

To: Stan Ratliff <stanratliff3@gmail.com>

Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>

I think to remove reactive from charter there SHOULD be a good reason for that, just because there was no consensus on merging LOADng (i.e. individual draft) and DYMO (ietf-wg draft) is not enough. I noticed that no one wanted the merge from the first place, and usually merging is the most difficult thing to get. The reasonable is to continue with the WG I-D ietf-manet-dymo-23, because no good reason to remove the item so far.

AB

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JP Vasseur (jvasseur) <jvasseur@cisco.com>

Thu, Nov 1, 2012 at 3:20 PM

To: Stan Ratliff <stanratliff3@gmail.com>

Cc: "<manet@ietf.org> List" <manet@ietf.org>, "Stan Ratliff (sratliff)" <sratliff@cisco.com>

Thanks Stan.

[Quoted text hidden]

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Abdussalam Baryun <abdussalambaryun@gmail.com>

Thu, Nov 1, 2012 at 3:57 PM

To: manet@ietf.org

Dear MANET WG Chairs,

I recommend we base our choices and options on our present ietf Charter and milestones we got so far, so we can follow in our choices the best practice.

I recommend that we look into the following three options which can be based on the MANET Charter and the WG-I-Ds' work-flow-progress:

- 1- DYMO/AODVv2 to be completed and prepared by the WG to be submitted.
- 2- The WG chairs and participants to work together in one team work of authoring one reactive protocol (a merge solution, with both draft authors including WG chair).
- 3- Accept the individual LOADng draft as a second reactive protocol, then, to decide in the future how to merge both AODVv2 ideas into LOADng depending on comparing specifications.

My Comments on the mentioned drafts history and your recommended options, in line in below message,

AB

+++++

On Tue, Oct 30, 2012 at 11:13 PM, Joseph Macker <jpmacker@gmail.com> wrote:

Hello MANET working group (form Stan and Joe),

As you are all probably aware, there has been WG activity lately on competing drafts for a MANET reactive protocol - DYMO (reviving the current working group document that was parked due to inactivity), and LOADng. Many months ago there was a somewhat authorship led movement towards a common document effort and given positive feedback at the time we the chairs thought this was the best approach given the authors potential to come together and gain the best of both efforts. Since that period, there has been some fairly strident and rancorous "at times" debate between the authors of the two documents.

There was never any announcement of such merge movement, however, there was a suggestion for that by one DYMO author but was refused by one LOADng author.

During IETF 84 in Vancouver, the co-chairs held a discussion with some of the co-authors of the two documents. Our guidance to the co-authors was to find a way to merge the two documents into one, as it was perceived that are not technically far apart and they both derive roughly from AODV concepts and LOADng had fairly active authorship and implementation efforts. We provided a co-editing proposal to the authors and gave them the timeframe of the Atlanta to come up with an answer back to us regarding this. As of this writing, those discussions of a potential common document and authorship merger have failed.

Again in the 84 meeting there was no such announcement of any merge between DYMO's I-D and the LOADng I-D. We only seen an author added to LOADng I-D

which was an author of DYMO I-D, but does not mean merging drafts and not announced to WG such suggestions.

Therefore, we find ourselves at a crossroads. The authors of the two documents are divided, and it is unlikely that progress on a merged document can be reached based upon recent author feedback. I have also polled the earlier WG editor of DYMO, Ian Chakeres, and he is somewhat disengaged on the issue at the present time. We see only 3 possible paths forward:

1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2. There is no reason why we need to ignore this option, is it because DYMO authors did not do any work for some time and the WG as well did not do any, or is it because an individual draft came up to interrupt the WG work in progress.

2. Replace the existing DYMO document effort with the LOADng related document effort, defusing earlier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if it's a WG document).

We need to accept the LOADng as a WG item first then we decide if we can take option 2

3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

The reactive protocol is a must protocol for MANETs, killing it will not really kill it but will give chance to other competitor organisations to standard reactive protocol before IETF.

The co-chairs request and need your opinions on the options. We have been some silent collecting initial feedback and waiting for author feedback at this point. Stan and I are both on travel prior to Atlanta so our responses may be sparse and we will also likely be in a "receive mode" for a few days. So send your opinions.

-Joe

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

C Chauvenet <c.chauvenet@watteco.com>
To: Abdussalam Baryun <abdussalambaryun@gmail.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

Thu, Nov 1, 2012 at 6:35 PM

Hi AB,

MANET chairs already propose 3 options, and poll the WG to get opinions. I think we should stick to it.

Thank you for your comments though.

Cédric.

Le 1 nov. 2012 à 21:57, Abdussalam Baryun a écrit :
[Quoted text hidden]

manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

Joydeep Tripathi <jt369@drexel.edu>
To: Joseph Macker <jpmacker@gmail.com>
Cc: manet@ietf.org

Thu, Nov 1, 2012 at 7:58 PM

Hi Joe and MANET WG,

I was following the discussion on which route to take for a reactive protocol standard very closely, and I think I should post my opinion also. I champion for **Option 1**, and here is why :

I have read both AODVv2 (DYMO) and LOAD-ng drafts, and I have simulated LOAD-ng myself as well. This experience, I believe, puts me in a position to form an opinion comparing these two protocols. I certainly agree, option 3 is *not* an option I would like to be chosen. Reactive protocols, though very much unsuitable for LLNs and Smart Grid AMI meter networks, may have some usefulness in certain networks for certain sparse traffic scenario, and the WG should have a standard for the same.

Firstly, LOAD-ng is backed up by the argument that it has implementations and interop documents. However, I have seen in the mailing list, that certain question on details of the 'practical' implementation of LOAD-ng has been avoided. A reactive protocol may do well in a 2000 nodes smart meter network, if the data traffic to the base station or collector is 1-2 times a day. This kind of implementations, in my opinion, say nothing about usefulness of LOAD-ng in Smart Grid networks or LLNs. Again, whether LLN may be considered as a subset of MANET or not is a different question. But even then, deployed LOAD-ng in a 2000 node network may (and in my opinion, will) fail if traffic is increased. Agreed, one size does not fit all. However, once we have multicast traffic in a smart grid or multiple meters generating alert packets in a region at the same time, a reactive protocol like LOAD-ng will lead to the break-down of the network. Anyone can say multicast traffic or several meters reporting emergency at the same time to the same station, is a very much likely situation in smart grid. Were these situations considered during deployment? Please note, I am NOT saying that AODVv2 / DYMO will be better in this case than LOAD-ng. IMHO, any protocol can be shown 'working perfectly', if we provide a favorable atmosphere only for it to work. Looking at that perspective, I don't think, **LOAD-ng working in one network under one particular scenario**

should be considered a vital argument to discuss whether to go with AODVv2 or LOAD-ng. One can write a working code of AODVv2 in 2 days. The real question we should be asking, which protocol is better suited for general MANET overall, and if there really is a *necessity* of discarding a working group document.

Secondly, LOAD-ng was devised keeping LLN scenario in mind. It was intended for ROLL WG, and since it had not been adopted in the ROLL WG, it popped up in the MANET WG. The change that has been done to LOAD-ng after dragging it to MANET WG, was really to change the message format to adhere to RFC 5444, and do a "find and replace" of the term LLN with 'MANET' along with changing the first 'L' of LOAD ng from 'LLN' to 'Lightweight'. Since the protocol was designed for LLN at first, I do not think it would be able to cover the broad spectrum that MANET includes. Since we already have a WG document for a reactive protocol, I do not see any strong reason to discard the current one in favor of an individual draft, especially when even LOAD-ng authors agreed that this protocol will not offer any notable performance difference compared to AODVv2.

At the same time, since I have read both drafts, I figured out that AODVv2 is more generic to MANET than LOAD-ng. It offers the developer or the deployment authority to choose from more than one options. For example, AODVv2 has the option (but it is not mandated) to use a precursor list or have an intermediate node to reply an RREQ. LOAD-ng does not support either. I can understand that for an LLN it may be beneficial for not maintaining a precursor list or having only the destination reply to a RREQ, there can be (and are) other instances of MANETs where having the option of precursor list will come handy. This can save on control overhead, using some storage space in the node. LOAD-ng, in most cases does not provide this flexibility to the developer to choose between options for specific deployment. Some MANET deployment may be less harsh than others in nature. Hence, AODVv2 having more open options than LOAD-ng, in most cases, seem beneficial to me. Of course, there are other technical differences between these protocols. But I believe there is a separate thread created for that. I will wait for the draft authors to reply there first, and will reply with my points if all those differences are not covered. There, I will re-iterate the necessity of a protocol to be suited for MANET in general, not only 'some' kind of MANETs.

Lastly, I do not come from any industry, neither I have any company road-map of deliverable here. Being a PhD candidate in a university, I tried to fairly judge the two options. So I read both drafts, and did not find a strong enough reason to discard a current working group document. Whether a few companies backing up a protocol over the other can be a decisive criteria to choose a standard protocol or not, is in the WG and its chairs most capable hands. Also, I did not, very clearly understand how LOAD-ng, operating properly in a 2-5 routers test-bed may be considered as proof of valid interoperability. I would very much appreciate feedback if I am wrong, since I am in my learning phase :-). I have my 2 cents here - a) AODVv2 offers more flexibility, b) LOAD-ng does not offer enough advantage over AODVv2 to discard the later, c) LOAD-ng was not initially designed for MANET, and d) there are other technical differences that make AODVv2 more suitable for MANETs over LOAD-ng (To be covered in separate thread). My opinion - We should stick to current WG document (AODVv2) and improve it and finish it as soon as possible. I hereby stand for **Option 1**.

Thanks and Regards,

Joydeep Tripathi
PhD Candidate,
Drexel University.

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[manet mailing list](#)
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

[manet mailing list](#)
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<https://www.ietf.org/mailman/listinfo/manet>

Ulrich Herberg <ulrich@herberg.name>
To: Joydeep Tripathi <jt369@drexel.edu>
Cc: manet@ietf.org

Thu, Nov 1, 2012 at 8:39 PM

Hi Joydeep,

On Thu, Nov 1, 2012 at 5:58 PM, Joydeep Tripathi <jt369@drexel.edu> wrote:
Hi Joe and MANET WG,

I was following the discussion on which route to take for a reactive protocol standard very closely, and I think I should post my opinion also. I champion for **Option 1**, and here is why :

I have read both AODVv2 (DYMO) and LOAD-ng drafts, and I have simulated LOAD-ng myself as well. This experience, I believe, puts me in a position to form an opinion comparing these two protocols.

That is valuable. Have you also implemented DYMO and compared it to LOADng?

I certainly agree, option 3 is *not* an option I would like to be chosen. Reactive protocols, though very much unsuitable for LLNs and Smart Grid AMI meter networks,

I differ on that, and so do some of the LOADng authors that work in that area. But that's not the point of the discussion here.

may have some usefulness in certain networks for certain sparse traffic scenario, and the WG should have a standard for the same.

I agree.

Firstly, LOAD-ng is backed up by the argument that it has implementations and interop documents. However, I have seen in the mailing list, that certain question on details of the 'practical' implementation of LOAD-ng has been avoided.

I don't see how. There was a description of the deployment and about the suitability for LOADng in that. Note that for DYMO, there is no such deployment (to my knowledge), which is why I think your conclusion for option 1 instead of option 3 is surprising to me.

A reactive protocol may do well in a 2000 nodes smart meter network, if the data traffic to the base station or collector is 1-2 times a day. This kind of implementations, in my opinion, say nothing about usefulness of LOAD-ng in Smart Grid networks or LLNs.

It is well known (and also spelled out in DYMO), that reactive protocols are more suitable for sparse traffic scenarios with few concurrent communication streams. That is well-known and understood in MANET, and a reasons to work on a proactive protocol as well. Reactive protocols have their limitations, but in certain MANET use cases are useful, which is why we are chartered to work on a reactive protocol.

Again, whether LLN may be considered as a subset of MANET or not is a different question. But even then, deployed LOAD-ng in a 2000 node network may (and in my opinion, will) fail if traffic is increased.

That is possible. Both in DYMO and LOADng.

Agreed, one size does not fit all. However, once we have multicast traffic in a smart grid or multiple meters generating alert packets in a region at the same time, a reactive protocol like LOAD-ng will lead to the break-down of the network. Anyone can say multicast traffic or several meters reporting emergency at the same time to the same station, is a very much likely situation in smart grid. Were these situations considered during deployment? Please note, I am NOT saying that AODVv2 / DYMO will be better in this case than LOAD-ng.

But why are you opting for option 1 then? That seems not logical. You argue against reactive protocols in general. All what you say above is known to MANET, long before ROLL and LLN even existed.

IMHO, any protocol can be shown 'working perfectly', if we provide a favorable atmosphere only for it to work.

Yes, I agree. You say yourself, no-one-size-fits all, which is why MANET works on both reactive and proactive protocol.

Looking at that perspective, I don't think, **LOAD-ng working in one network under one particular scenario should be considered a vital argument to discuss whether to go with AODVv2 or LOAD-ng.**

LOADng has one large-scale deployment, DYMO does not. LOADng has multiple recent interoperable implementations, DYMO has not. LOADng is based on the same mechanism of AODV that is known to work in certain MANET scenarios. So why do you opt for 1) and not 3)?

One can write a working code of AODVv2 in 2 days. The real question we should be asking, which protocol is better suited for general MANET overall, and if there really is a *necessity* of discarding a working group document.

Secondly, LOAD-ng was devised keeping LLN scenario in mind. It was intended for ROLL WG, and since it had not been adopted in the ROLL WG, it popped up in the MANET WG. The change that has been done to LOAD-ng after dragging it to MANET WG, was really to change the message format to adhere to RFC 5444,

That is true, the work was initiated from LLNs. However, as you say yourself, it has adopted RFC5444 and other MANET requirements. Note that amongst the authors, there are a large part of the previous RFC editors of MANET presented. We know MANETs and their requirements. Can you point out a specific requirement that LOADng would not fulfill but DYMO would?

and do a "find and replace" of the term LLN with 'MANET' along with changing the first 'L' of LOAD ng from 'LLN' to 'Lightweight'. Since the protocol was designed for LLN at first, I do not think it would be able to cover the broad spectrum that MANET includes.

Why? And why does DYMO? I don't see a technical argument.

Since we already have a WG document for a reactive protocol, I do not see any strong reason to discard the current one in favor of an individual draft, especially when even LOAD-ng authors agreed that this protocol will not offer any notable performance difference compared to AODVv2.

Yes, but the document is not aligned with the RFC5444 architecture, it is not possible to secure, and it would be a lot more work to come to an RFC, in my opinion (lots of unclear and underspecified text, incomplete IANA section, unclear metrics, underspecified bidirectionality detection).

At the same time, since I have read both drafts, I figured out that AODVv2 is more generic to MANET than LOAD-ng. It offers the developer or the deployment authority to chose form more than one options.

Options may be fine, but they also affect interoperability if not carefully designed. And they may, as for some of the options like iRREP, make it very difficult or impossible to provide end-to-end security.

For example, AODVv2 has the option (but it is not mandated) to use a precursor list or have an intermediate node to reply an RREQ. LOAD-ng does not support either.

That is not true. We opted to move these in companion document, as we have not seen proof that these options would bring benefit in a general MANET case.

I can understand that for an LLN it may be beneficial for not maintaining a precursor list or having only the destination reply t o a RREQ, there can be (and are) other instances of MANETs where having the option of precursor list will come handy.

Which? Can you show results that this is beneficial in a general use case?

This can save on control overhead, using some storage space in the node. LOAD-ng, in most cases does not provide this flexibility to the developer to chose between options for specific deployment.

Again, not true. We provide TLVs, and extensions are possible in companion documents. We have very carefully designed each RFC2119 word to make sure extensions are allowed. Multiple options always carry a great risk of non-interoperability.

Some MANET deployment may be less harsh than others in nature. Hence, AODVv2 having more open options than LOAD-ng, in most cases, seem beneficial to me.

"seems beneficial"? Have you proof for the use of the options?

Of course, there are other technical differences between these protocols. But I believe there is a separate thread created for that. I will wait for the draft authors to reply there first, and will reply with my points if all those differences are not covered. There, I will re-iterate the necessity of a protocol to be suited for MANET in general, not only 'some' kind of MANETs

Lastly, I do not come from any industry, neither I have any company road-map of deliverable here. Being a PhD candidate in a university, I tried to fairly judge the two options.

So I read both drafts, and did not find a strong enough reason to discard a current working group document. Whether a few companies backing up a protocol over the other can be a decisive criteria to chose a standard protocol or not, is in the WG and its chairs most capable hands. Also, I did not, very clearly understand how LOAD-ng, operating properly in a 2-5 routers test-bed may be considered as proof of valid interoperability.

Why not? What would it change to add 100 nodes? I have never seen any interop tests with more than a handful nodes. Again: interop tests are not performance tests.

By the way, I have not seen any such open interoperability tests during the development of DYMO .

I would very much appreciate feedback if I am wrong, since I am in my learning phase :-). I have my 2 cents here - a) AODVv2 offers more flexibility,

As said, LOADng offers the same flexibility. Flexibility is nice, but one has to be very careful with interoperability. If LOADng were to be a WG document, of course the WG can discuss if certain options bring a general benefit and don't harm interoperability, then we can include it.

b) LOAD-ng does not offer enough advantage over AODVv2 to discard the later,

One major advantage is that it could be an RFC far quicker. In the current shape, the SEC AD would certainly not accept DYMO, and it would require a lot more work to bring to a level that is acceptable for a standards track RFC.

c) LOAD-ng was not initially designed for MANET,

I don't see the argument here (see above)

and d) there are other technical differences that make AODVv2 more suitable for MANETs over LOAD-ng (To be covered in separate thread).

I am curious to see that.

Best
Ulrich

My opinion - We should stick to current WG document (AODVv2) and improve it and finish it as soon as possible. I hereby stand for **Option 1**.

Thanks and Regards,

Joydeep Tripathi
PhD Candidate,
Drexel University.

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During IETF 84 in Vancouver, the co-chairs held a discussion with some of the co-authors of the two documents. Our guidance to the co-authors was to find a way to merge the two documents into one, as it was perceived that are not technically far apart and they both derive roughly from AODV concepts and LOADng had fairly active authorship and implementation efforts. We provided a co-editing proposal to the authors and gave them the timeframe of the Atlanta to come up with an answer back to us regarding this. As of this writing, those discussions of a potential common document and authorship merger have failed.

Therefore, we find ourselves at a crossroads. The authors of the two documents are divided, and it is unlikely that progress on a merged document can be reached based upon recent author feedback. I have also polled the earlier WG editor of DYMO, Ian Chakeres, and he is somewhat disengaged on the issue at the present time. We see only 3 possible paths forward:

1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2.
2. Replace the existing DYMO document effort with the LOADng related document effort, defusing earlier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if its a WG document).
3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

The co-chairs request and need your opinions on the options. We have been some silent collecting initial feedback and waiting for author feedback at this point. Stan and I are both on travel prior to Atlanta so our responses may be sparse and we will also likely be in a "receive mode" for a few days. So send your opinions.

-Joe

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Philip Levis <pal@cs.stanford.edu> Thu, Nov 1, 2012 at 7:53 PM
To: JP Vasseur <jvasseur@cisco.com>
Cc: "Dearlove, Christopher (UK)" <chris.dearlove@baesystems.com>, "<manet@ietf.org> List" <manet@ietf.org>, "Bo Berry (boberry)" <boberry@cisco.com>

100% agree -- totally misinterpreted Christopher's comment, my mistake. I apologize for the (thankfully nipped) digression.

Phil
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Jon Black <jblack.ietf@yahoo.com> Thu, Nov 1, 2012 at 10:40 PM
Reply-To: Jon Black <jblack.ietf@yahoo.com>
To: "JP Vasseur (jvasseur)" <jvasseur@cisco.com>
Cc: manet <manet@ietf.org>

But opinions without some technical details turns into a beauty contest and I don't think that is what the chairs were after.

Jon

From: JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: Abdussalam Baryun <abdussalambaryun@gmail.com>; manet <manet@ietf.org>
Sent: Thursday, November 1, 2012 12:36 PM
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JP Vasseur (jvasseur) <jvasseur@cisco.com> Fri, Nov 2, 2012 at 3:01 AM
To: Abdussalam Baryun <abdussalambaryun@gmail.com>
Cc: "<manet@ietf.org>" <manet@ietf.org>

On Nov 1, 2012, at 4:57 PM, Abdussalam Baryun wrote:

Dear MANET WG Chairs,

I recommend we base our choices and options on our present ietf Charter and milestones we got so far, so we can follow in our choices the best practice.

I recommend that we look into the following three options which can be based on the MANET Charter and the WG-I-Ds' work-flow-progress:

- 1- DYMO/AODVv2 to be completed and prepared by the WG to be submitted.
- 2- The WG chairs and participants to work together in one team work of authoring one reactive protocol (a merge solution, with both draft authors including WG chair).

JP> agreeing so far, and include in AODVv2 all features that the WG would consider useful, this is what is proposed by Charlie.

3- Accept the individual LOADng draft as a second reactive protocol, then, to decide in the future how to merge both AODVv2 ideas into LOADng depending on comparing specifications.

JP> Not sure that we can have 2 though, charter is for ONE.

Thanks.

JP.
[Quoted text hidden]

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JP Vasseur (jvasseur) <jvasseur@cisco.com>
To: Jon Black <jblack.ietf@yahoo.com>
Cc: manet <manet@ietf.org>

Fri, Nov 2, 2012 at 3:10 AM

You keep ignoring what I wrote ... I think that I explained why reactive routing was a major issue for LLN at least twice and I will provide numbers too. I also explained why I would strongly favor Option 1 (which was THE question asked by the chair).

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Jhazi YI <ietf@jhazi.com>
To: Joydeep Tripathi <jt369@drexel.edu>
Cc: manet@ietf.org

Fri, Nov 2, 2012 at 4:42 AM

Dear Joydeep,

Thanks for you comments. Ulrich has already given a detailed reply, so I would be brief. Please check inline.

On Nov 2, 2012, at 1:58 AM, Joydeep Tripathi <jt369@drexel.edu> wrote:

Hi Joe and MANET WG,

I was following the discussion on which route to take for a reactive protocol standard very closely, and I think I should post my opinion also. I champion for **Option 1**, and here is why :

I have read both AODVv2 (DYMO) and LOAD-ng drafts, and I have simulated LOAD-ng myself as well. This experience, I believe, puts me in a position to form an opinion comparing these two protocols. I certainly agree, option 3 is "not" an option I would like to be chosen. Reactive protocols, though very much unsuitable for LLNs and Smart Grid AMI meter networks, may have some usefulness in certain networks for certain sparse traffic scenario, and the WG should have a standard for the same.

JY>I can't agree here. There have been large deployments of LOADng. But this is not related to this discussion.

Firstly, LOAD-ng is backed up by the argument that it has implementations and interop documents. However, I have seen in the mailing list, that certain question on details of the 'practical' implementation of LOAD-ng has been avoided. A reactive protocol may do well in a 2000 nodes smart meter network, if the data traffic to the base station or collector is 1-2 times a day. This kind of implementations, in my opinion, say nothing about usefulness of LOAD-ng in Smart Grid networks or LLNs. Again, whether LLN may be considered as a subset of MANET or not is a different question. But even then, deployed LOAD-ng in a 2000 node network may (and in my opinion, will) fail if traffic is increased. Agreed, one size does not fit all. However, once we have multicast traffic in a smart grid or multiple meters generating alert packets in a region at the same time, a reactive protocol like LOAD-ng will lead to the break-down of the network. Anyone can say multicast traffic or several meters reporting emergency at the same time to the same station, is a very much likely situation in smart grid. Were these situations considered during deployment? Please note, I am NOT saying that AODVv2 / DYMO will be better in this case than LOAD-ng. IMHO, any protocol can be shown 'working perfectly', if we provide a favorable atmosphere only for it to work. Looking at that perspective, I don't think, **LOAD-ng working in one network under one particular scenario should be considered a vital argument to discuss whether to go with AODVv2 or LOAD-ng**. One can write a working code of AODVv2 in 2 days. The real question we should be asking, which protocol is better suited for general MANET overall, and if there really is a "necessity" of discarding a working group document.

Secondly, LOAD-ng was devised keeping LLN scenario in mind. It was intended for ROLL WG, and since it had not been adopted in the ROLL WG, it popped up in the MANET WG. The change that has been done to LOAD-ng after dragging it to MANET WG, was really to change the message format to adhere to RFC 5444, and do a "find and replace" of the term LLN with 'MANET' along with changing the first 'L' of LOAD ng from 'LLN' to 'Lightweight'. Since the protocol was designed for LLN at first, I do not think it would be able to cover the broad spectrum that MANET includes. Since we already have a WG document for a reactive protocol, I do not see any strong reason to discard the current one in favor of an individual draft, especially when even LOAD-ng authors agreed that this protocol will not offer any notable performance difference compared to AODVv2.

JY>Your first two arguments are self-contradictory. You are saying "LOADng doesn't fit all", and in the same time, citing "those two will not offer any notable performance difference". So my point is:

1. If LOADng can't meet the requirement of MANET, then either do DYMO. I agree that they share the main mechanisms.
2. The reason why LOADng is much more mature than DYMO is that it has much clearer specification, operation experience, interop test, running code --- that matters most in IETF.

At the same time, since I have read both drafts, I figured out that AODVv2 is more generic to MANET than LOAD-ng. It offers the developer or the deployment authority to chose form more than one options. For example, AODVv2 has the option (but it is not mandated) to use a precursor list or have an intermediate node to reply an RREQ. LOAD-ng does not support either. I can understand that for an LLN it may be beneficial for not maintaining a precursor list or having only the destination reply to a RREQ, there can be (and are) other instances of MANETs where having the option of precursor list will come handy. This can save on control overhead, using some storage space in the node. LOAD-ng, in most cases does not provide this flexibility to the developer to chose between options for specific deployment. Some MANET deployment may be less harsh than others in nature. Hence, AODVv2 having more open options than LOAD-ng, in most cases, seem beneficial to me. Of course, there are other technical differences between these protocols. But I believe there is a separate thread created for that. I will wait for the draft authors to reply there first, and will reply with my points if all those differences are not covered. There, I will re-iterate the necessity of a protocol to be suited for MANET in general, not only 'some' kind of MANETs.

JY>Being "more generic" is not necessarily a good thing for standard track protocol. In fact, DYMO gives a lot of options without specifying them. This gives a lot of problems in interoperability and security (please check Ulrich's comment to dymo-23. I will post my comments to DYMO-23 later). I have no doubt that giving how smart you are, you can implement DYMO in several days with your understanding, but I don't believe with dymo-23, one can have independent interoperable implementations.

JY>In fact, LOADng offers great flexibility by conforming to rfc5444, and can be extended with other options. But this would appear as separate documents with the considerations of interoperability and security.

Lastly, I do not come from any industry, neither I have any company road-map of deliverable here. Being a PhD candidate in a university, I tried to fairly judge the two options. So I read both drafts, and did not find a strong enough reason to discard a current working group document. Whether a few companies backing up a protocol over the other can be a decisive criteria to chose a standard protocol or not, is in the WG and its chairs most capable hands. Also, I did not, very clearly understand how LOAD-ng, operating properly in a 2-5 routers test-bed may be considered as proof of valid interoperability. I would very much appreciate feedback if I am wrong, since I am in my learning phase :-). I have my 2 cents here - a) AODVv2 offers more flexibility, b) LOAD-ng does not offer enough advantage over AODVv2 to discard the later, c) LOAD-ng was not initially designed for MANET, and d) there are other technical differences that make AODVv2 more suitable for MANETs over LOAD-ng (To be covered in separate thread). My opinion - We should stick to current WG document (AODVv2) and improve it and finish it as soon as possible. I hereby stand for **Option 1**.

JY> I think I don't need to repeat my preferred option as one of the LOADng authors. I'm not surprised by your position as researchers around RPL either. But I'm still vey appreciate your detailed comments as your first post to manet mailing list (at least with my short memory). I'm glad to see all those discussions are attracting more and more RPLers' attention. Your experience can surely help us improving reactive protocol's application to LLNs (as a subset of MANET), which makes the LOADng authors can more focus on more general MANET applications.

best

Jiazi

Thanks and Regards,

Joydeep Tripathi
PhD Candidate,
Drexel University.

On Tue, Oct 30, 2012 at 7:13 PM, Joseph Macker <jpmacker@gmail.com> wrote:

Hello MANET working group (form Stan and Joe),

As you are all probably aware, there has been WG activity lately on competing drafts for a MANET reactive protocol - DYMO (reviving the current working group document that was parked due to inactivity), and LOADng. Many months ago there was a somewhat authorship led movement towards a common document effort and given positive feedback at the time we the chairs thought this was the best approach given the authors potential to come together and gain the best of both efforts. Since that period, there has been some fairly strident and rancorous "at times" debate between the authors of the two documents.

During IETF 84 in Vancouver, the co-chairs held a discussion with some of the co-authors of the two documents. Our guidance to the co-authors was to find a way to merge the two documents into one, as it was perceived that are not technically far apart and they both derive roughly from AODV concepts and LOADng had fairly active authorship and implementation efforts. We provided a co-editing proposal to the authors and gave them the timeframe of the Atlanta to come up with an answer back to us regarding this. As of this writing, those discussions of a potential commonn document and authorship merger have failed.

Therefore, we find ourselves at a crossroads. The authors of the two documents are divided, and it is unlikely that progress on a merged document can be reached based upon recent author feedback. I have also polled the earlier WG editor of DYMO, Ian Chakeres, and he is somewhat disengaged on the issue at the present time. We see only 3 possible paths forward:

1. Continue the work on the DYMO document, starting with whether there is consensus on its continued approach and also the desire to rename it to AODVv2.
2. Replace the existing DYMO document effort with the LOADng related document effort, defusing ealier references to LLNs as recommended in the last meeting minutes, and to focus more motivationally on general MANET problem spaces (the authors seem to have agreed to this issue if its a WG document).
3. Remove the working group charter for a reactive protocol, effectively killing both documents, at least from a working group (WG) standpoint. This would not be a reflection on the technology in either case, just an admission that we are not working together and reaching consensus.

The co-chairs request and need your opinions on the options. We have been some silent collecting initial feedback and waiting for author feedback at this point. Stan and I are both on travel prior to Atlanta so our responses may be sparse and we will also likely be in a "receive mode" for a few days. So send your opinions.

-Joe

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manet mailing list
manet@ietf.org
<https://www.ietf.org/mailman/listinfo/manet>

C Chauvenet <c.chauvenet@watteco.com>
To: Joydeep Tripathi <jt369@drexel.edu>
Cc: "manet@ietf.org" <manet@ietf.org>

Fri, Nov 2, 2012 at 5:10 AM

Hi,

I am in violent agreement with all this message !
There are some crucial points to count here.

Cédric.

Sent from a phone

Le 2 nov. 2012 à 01:59, "Joydeep Tripathi" <jt369@drexel.edu> a écrit :

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