IEEE P802.11
Wireless LANs

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Abstract

This document contains the meeting minutes of the IEEE 802.11ak TGak Group teleconference on 2013-08-19.

Teleconference from 05:00 pm EST to 06:00 pm EST

August 19, 2013

Co-Chaired by Donald Eastlake (Huawei) and Norm Finn (Cisco).

Notes taken by Norman Finn and Yan Zhuang.

Norm Finn called to order

Bruce Kraemer (Chair, 802.11) read the IP policy.

Call for patents by Bruce Kraemer: No response.

Regarding the issue of whether 802.11ak should support 802.1AS:

Philippe Klein (Broadcom) thought 802.11v had already defined in 802.1AS and should work for 802.11ak SSID, which means 802.11ak is capable of 802.1AS. David and Philippe will try to have something for next dialing.

Norman Finn (Cisco) presented document **13-0952r0 “Stacking Tags In LLC Media”.**

The presentation is on the changes to tag stacking for 802.2-compliant (LLC) media such as 802.11.

**Comments** on slide 11: Cannot tell from the frame whether it is LLC or Length/Type.

**Comments** on slide 15: the idea of converting LLC tags might not be fine, because it might be non-SNAP frame.

**Consideration**: yes, you can use a non-SNAP frame and add something here.

If the MSDU is longer than 1500 bytes, then it cannot be converted into an LLC frame. Thus, we might define a new Ethertype for that.

If there existas an Ethertype defined for this new usage, we will use it, otherwise will define a new one. However, we will have to check this.

**Questions** on slide 9: is there any frame that is SNAP encoded but not LLC or Length/Type? If any people use this today, please say it out. Don’t want to make existing things invalide.

**Next step:**

There was agreement that the point of the document should be asking for comments from people or organizations that would be adversely affected by the change. There was also agreement that a presentation would be made to the 802.11 mid-week plenary in Nanjing (probably by Andrew Myles), as well as an email comment to the 802.11 reflector to be authored by Don Eastlake and Norm Finn. [The email message that was subsequently sent out is included below.]

Adjourn.

**Attendees:**

Norman Finn (Cisco)

Bruce Kraemer (Marvell)

Philippe Klein (Broadcom)

Donald Eastlake (Huawei)

David Goodall (Broadcom)

Ed Reuss

Glenn Parsons

Jeremy Touve

Joseph Levy (InterDigitial)

Mark Gravel (HP)

Mitsuru Iwaoka (Yokogawa Electric Co.)

Yan Zhuang (Huawei)

**[email message sent to the 802.11 WG Mailing list on 21 August:**

From: Donald Eastlake <d3e3e3@gmail.com>

Date: Wed, Aug 21, 2013 at 10:12 PM

Subject: 802.11ak motivated change in 802.11 tagged frame encoding

To: stds-802-11 <STDS-802-11@listserv.ieee.org>

Hi,

The body of network frames can be encoded in two incompatible ways

that differ in their prefix:

   LLC (LSAP-LSAP-Control), used by 802.11 (and previously by 802.2), and

   Length/Type (Length or Ethertype), used by 802.1 and 802.3 and most

other media.

Converting tagged frame payloads from one encoding to the other is, as

described below, impossible in general. Since the motivation for

802.11ak/802.1Qbz is to have such systems interoperate, a change in

encoding is necessary. Although it would not affect the 802.11 header,

in the worst case, this change in payload encoding could INVALIDATE a

CURRENTLY-COMPLIANT implementation of 802.11.

There is not much problem with just converting a simple untagged

payload, such as an untagged IP datagram. The problem comes when VLAN

and the numerous other tags that have been defined are prefixed to

such a simple untagged payload. In general, a device at the boundary

between one encoding method and the other, such as an 802.11ak AP,

would currently have to dig into the frame and change the encoding of

every tag as well as the encoding of the innermost payload. Partly

because there is no length infomation in LLC or Ethertype, this is

impossible without understanding every possible tag which in turn

makes it impractical to ever deploy a new tag, an untenable situation.

Because tags have been relatively rare on 802.11 traffic and because

the Length/Type encoding is more efficient, the proposal is to change

the format of 802.11 frames so that, while they would still start with

LLC, they would subsequently use Length/Type. Actually, this would be

a general change in the format of LLC frames but 802.11 is believed to

the the largest user of such frames. (The change would be actually

implemented as follows: When a new tag is added, the existing leading

LLC payload prefix would be converted to Length/Type and then the tag

added in LLC format. When a tag is being removed, the Length/Type

prefix uncovered by that removal would be converted to LLC.)

The question is, are there deployed systems that are critically

depended on the current repeated use of LLC within a frame that has a

tagged payload?

For further information, see 11-13/0952r1, a version of which may be

presented at the midweek plenary in Nanjing next month.

Thanks,

Donald

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