

## IEEE P802.3ag Working Group Ballot comments

CommenterName: Larry D Miller  
CommenterEmail: ldmill@nortelnetworks.com  
CommenterPhone:  
CommenterCo: Nortel Networks  
Comment #: 1  
Change #: 1000  
Clause: 28A  
Subclause:

CommentType: Editorial  
Comment:

My comment is editorial or at least a question as to the wisdom of putting a temporary thing like a URL into the body of a Standard as is being suggested for Table 28A-1.

CommentEnd:  
SuggestedRemedy:

RemedyEnd:  
Response:

**Reject:** The revisions of the standard itself have a limited life and the Standard has been through two revisions (IEEE Std 802.3-1998 and IEEE Std 802.3-2000), and has had multiple supplements, since the web site was launched. I therefor still believe this is something we should do and has the benefit of pointing the user to the latest information.

ResponseEnd:

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CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 2  
Change #: 1000  
Clause: 28A  
Subclause:

CommentType: Editorial  
Comment:

In addition to the suggested URL, also add the newer and shorter URL:  
<http://www.ieee802.org/3/>

CommentEnd:  
SuggestedRemedy:

Add above text.

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 3  
Change #: 1005  
Clause:  
Subclause:

CommentType: Technical  
Comment: Due to lack of attention to detail, the recommended text provided by Pat Thaler at the July 2000 La Jolla Plenary meeting was not forwarded to the comment database. Text is provided below.  
CommentEnd:

SuggestedRemedy: Replace sentence  
‘When no state is asserted the messages signal\_quality\_error, MAU\_available are sent.’  
with  
‘When no state is asserting message signal\_quality\_error, the message MAU\_available is sent.’

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 4  
Change #: 1036  
Clause:  
Subclause:

CommentType: Technical  
Comment: This addition contains 6 shall statements without a corresponding entry in the PICS  
CommentEnd:

SuggestedRemedy: For the following shall statements, add an entry in the PICS  
25.4.6.2.1 two places  
25.4.6.2.3 two places  
25.4.6.2.4  
25.4.6.3.1  
RemedyEnd:  
Response:

**Accept in Principal:** Other changes have been made to this Revision Request due to comment resolution, and these changes have removed some ‘shall’ statements. The update of the PICS in response to this comment will take into account these changes.

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 5  
Change #: 1045  
Clause:  
Subclause:

CommentType: Technical  
Comment: I believe that a typo error has crept into the text.  
CommentEnd:

SuggestedRemedy: added text for rx\_link\_code\_word[NP] should be =  
0, not =1  
RemedyEnd:  
Response:

**Withdrawn**

ResponseEnd:

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CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 6  
Change #: 1046  
Clause:  
Subclause:

CommentType: Technical  
Comment: I believe that a typo error has crept into the text.  
CommentEnd:

SuggestedRemedy: added text for rx\_link\_code\_word[NP] should be =  
0, not =1  
RemedyEnd:  
Response:

**Withdrawn**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Thomas Mathey  
CommenterEmail: tmathey@concentric.net  
CommenterPhone: 408-865-1763  
CommenterCo: Independent  
Comment #: 7  
Change #: 1049  
Clause:  
Subclause:

CommentType: Technical  
Comment: If the terms are labeled as:  
A is mr\_bp[NP],  
B is mr\_lp\_np\_able,  
C is np\_loaded;  
then the original equation is  $(A) * (B) * (C) + (\text{not } A) * (B)$ . The proposed equation is  $A * C + \text{not } A$ , which results in term B being completely removed. While the intent may be to remove term B, there is no supporting text to justify the removal.

CommentEnd:

SuggestedRemedy: Discuss.  
RemedyEnd:  
Response:

**Withdrawn**

ResponseEnd:

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CommenterName: Terry Cobb  
CommenterEmail: tcobb@ixpres.com  
CommenterPhone: 858-509-0248  
CommenterCompany: Lucent  
Comment #: 8  
Change #: 1036  
Clause: 25.4  
Subclause: 25.4.6.2.4

CommentType: E  
Comment:  
No units with equation

CommentEnd:  
SuggestedRemedy:  
Add "dB" at the end of equation

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Benjamin Brown  
CommenterEmail: bbrown@amcc.com  
CommenterPhone: 603-641-9837  
CommenterCompany: AMCC  
Comment #: 9  
Change #: 1049  
Clause: 40C  
Subclause: 2.1

CommentType: (E, T, ER, or TR) T  
Comment:

The logical equation:

$(mr\_bp[NP]=1 * np\_loaded=true) + (mr\_bp[NP]=0)$

is not fully reduced

CommentEnd:  
SuggestedRemedy:

Replace it with its reduced, logical equivalent:

$(np\_loaded=true) + (mr\_bp[NP]=0)$

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 10  
Change #: 1002  
Clause: 31  
Subclause: 31.3

CommentType: (E, T, ER, or TR) T

Comment: RE #1002 This change has already been put into 802.3-2000.

CommentEnd:  
SuggestedRemedy: Don't make any change. But I voted approve because the change is okay. It is just that it already has been made.

RemedyEnd:  
Response:

**Accept:** Thanks for pointing this out and we are currently investigating why this happened.

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 11  
Change #: 1005  
Clause: 8  
Subclause: 8.2.3

CommentType: (E, T, ER, or TR) TR  
Comment: RE: 1035 The text here is not the revision that was approved in maintenance.

CommentEnd:  
SuggestedRemedy: Replace with the agreed upon text.

RemedyEnd:  
Response:

**Accept:** The agreed text is contained in comment #3. (Note that while this comment lists Revision Request 1035 it is believed that this comment refers to Revision Request 1005 as that is the comments that addresses subclause 8.2.3).

ResponseEnd:

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CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 12  
Change #: 1021  
Clause: 2  
Subclause:

CommentType: (E, T, ER, or TR) E

Comment: RE: 1021 Figure is now 2-2 and change is already in 2K.

CommentEnd:  
SuggestedRemedy: No change needed.

RemedyEnd:  
Response:

**Accept:** Thanks for pointing this out and we are currently investigating why this happened.

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 13  
Change #: 1036  
Clause: 25  
Subclause: 25.3

CommentType: (E, T, ER, or TR) E  
Comment: RE: 1036 - use "...specifications...are..." or  
"...specification...is..."

CommentEnd:

SuggestedRemedy:

RemedyEnd:

Response:

**Accept**

ResponseEnd:

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CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 14  
Change #: 1039, 1040, 1041  
Clause: 28  
Subclause: 28.3.4

CommentType: (E, T, ER, or TR) E  
Comment: RE: 1039, 1040, and 1041 - Clause 28.3.4 contains a number  
of large state machines over several pages. Checking these changes was  
made burdensome because the text of the proposed revision does not  
identify the Figure number or name but only the state name. This also  
introduces potential ambiguity.

CommentEnd:

SuggestedRemedy: In the future, identify the state machine by name  
and figure number.

RemedyEnd:

Response:

**Accept**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 15  
Change #: 1041  
Clause: 28  
Subclause: 28.3.1

CommentType: (E, T, ER, or TR) TR

Comment: RE: 1041 - The proposed revision text says that notHCD = all is already defined. notHCD and all are each defined to represent a set of transceivers. It is not clear how an equation between the two sets such as notHCD = all is to be interpreted. I expect that what is meant is that there is no Highest Common Denominator. This either needs to be defined or instead define HCD as possibly having the value empty so that the test can be HCD = empty. I prefer the latter since it is more clear.

There is also another possible resolution. Part of the exiting test is link\_status\_[HCD] = FAIL and there is no timer on this transition. It would seem that if HCD is the empty set that the HCD is in the failed status – a link with no HCD can not possibly work. So the change could also be executed by defining link\_status\_[HCD] as optionally equal to FAIL when HCD is empty.

CommentEnd:

SuggestedRemedy: Define HCD = empty when there is no highest common denominator and test for this rather than notHCD = all or define Link\_status\_[HCD] as Fail when HCD is empty.

RemedyEnd:  
Response:

**Accept:** For resolution see remedy contained in comment #22.

ResponseEnd:

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CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 16  
Change #: 1042, 1044, 1045, 1046, 1047, 1048, 1049  
Clause: 40C  
Subclause: 40C.2.1

CommentType: (E, T, ER, or TR) E

Comment: RE: 1042, 1044, 1045, 1046, 1047, 1048, 1049 Identify the state diagram. It is particularly confusing here because both diagrams have states named WAITn.

CommentEnd:

SuggestedRemedy:

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Pat Thaler  
CommenterEmail: pat\_thaler@agilent.com  
CommenterPhone: 916 788 5662  
CommenterCompany: Agilent Technologies  
Comment #: 17  
Clause: 40C  
Change #: 1047  
Subclause: 40C.2.1

CommentType: (E, T, ER, or TR) TR  
Comment: RE: 1047 - The proposed change doesn't identify which transition term it is trying to change. Also, the transition from Base\_Page\_TX to Flp\_Link\_Good\_Check (which apparently where this is to be applied based on the rationale) appears to have gone outside the frame of the figure. The transition disappears at the right edge of the diagram reappears at the bottom. Thirdly, the transition term should be placed close to the state it is exiting rather than at the end of the arrow because it makes it much harder to read state diagrams when the transition term is so far from the state in which it is evaluated.

CommentEnd:  
SuggestedRemedy:

RemedyEnd:  
Response:

**Accept:** For clarity in future the re-drawn state machine will be included in the Revision Request.

ResponseEnd:

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CommenterName: Rich Seifert  
CommenterEmail: rich@richseifert.com  
CommenterPhone: (408) 395-5700  
CommenterCompany: Networks & Communications  
Comment #: 18 (Observer comment)  
Change #: 1002  
Clause: 31  
Subclause: 31.3

CommentType: (E, T, ER, or TR) TR  
Comment:

I agree with the intent of the revision, but there is no need to introduce any additional conformance requirement ("shall statement"). The "shall statement" in 31.5.3 is adequate.

CommentEnd:

SuggestedRemedy:

Change the proposed change to read: "The MAC Control sublayer sinks all MAC Control frames."

RemedyEnd:  
Response:

**Reject:** This shall statement enforces the need to sink MAC Control frames at the MAC Control sublayer and as the request states this is already mandatory as the state machine shows this. We however note that a PICS entry is missing due to this additional shall statement. We will add the missing PICS entry.

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Rich Seifert  
CommenterEmail: rich@richseifert.com  
CommenterPhone: (408) 395-5700  
CommenterCompany: Networks & Communications  
Comment #: 19 (Observer comment)  
Change #: 1005  
Clause: 8  
Subclause: 8.2.3

CommentType: (E, T, ER, or TR) T  
Comment:

10BASE5 networks are of historical interest only. We should consider deprecating the entire clause, rather than looking for inconsistencies in some abstract architectural description of an obsolete transceiver.

CommentEnd:

SuggestedRemedy:

Forego the revision request, and consider deprecating Clauses 8 (10BASE5), 11 (10BROAD36), 12 (1BASE5), and 16 (10BASE-FP).

RemedyEnd:  
Response:

**Accept in Principle:** While we will continue progressing this Revision Request, in addition we will add a request to place the text ‘This PHY/MAU is not recommended for new installations’ in Clauses 8 (10BASE5), 11 (10BROAD36), 12 (1BASE5), 16 (10BASE-FP), 23 (100BASE-T4) and 32 (100BASE-T2). The text “PHY” and “MAU” will be used as appropriate for the clause it appears in.

ResponseEnd:

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CommenterName: Rich Seifert  
CommenterEmail: rich@richseifert.com  
CommenterPhone: (408) 395-5700  
CommenterCompany: Networks & Communications  
Comment #: 20 (Observer comment)  
Change #: 1021  
Clause: 2  
Subclause: Figure 2-1b

CommentType: (E, T, ER, or TR) TR  
Comment:

Contrary to the assertion of the requester, "wasTransmitting" is indeed defined in the interface to the Physical Layer. See 802.3, subclause 4.2.7.4 (b), which lists the components of this interface.

CommentEnd:

SuggestedRemedy:

Do not implement the proposed revision.

RemedyEnd:  
Response:

**Reject:** “wasTransmitting” is not in 4.2.7.4 (b), only “transmitting”. “wasTransmitting” is used within the MAC only and is generated in Process Deference, not an input from the PHY.

ResponseEnd:

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CommenterName: Rich Seifert  
CommenterEmail: rich@richseifert.com  
CommenterPhone: (408) 395-5700  
CommenterCompany: Networks & Communications  
Comment #: 21 (Observer comment)  
Change #: 1036  
Clause: 25  
Subclause: 25.3, 25.4

CommentType: (E, T, ER, or TR) TR  
Comment:

The proposed changes cause a number of problems, both for existing cable plants and existing transceivers. A change to the cable specification can make existing (conformant) cable plants now non-conformant. As many end users contractually bind installers and/or maintenance personnel to meet a published standard, this change can open the door for considerable confusion as to whether a given site conforms to the standard.

Second, the BER requirement is stated backwards from the way a BER is normally presented. Usually, the requirement is on the electronics (i.e., the transceiver) to deliver data with a BER not exceeding some level, under specified noise conditions. This change would place a requirement on the \*cable system\* to present noise such that a transceiver will not deliver data exceeding the given BER.

Unfortunately, this is both untestable (i.e., there is no way to test a cable plant to see if the BER will exceed  $10^{-9}$  when a worst-case transceiver is put into the system), and can cause existing, conformant cable plants to now become non-conformant.

One cannot, years after a standard is approved and tens-of-millions of transceivers installed in the field, suddenly add a requirement that the cable plant and transceiver must meet some minimum BER requirement.

CommentEnd:

SuggestedRemedy:

Do not implement the proposed revision.

RemedyEnd:

Response:

The response is in two parts, the first part addresses the first paragraph of you comment, the second part addresses the second part of your comment.

**Reject:** The cable plant in ANSI TP\_PMD and IEEE 802.3 Clause 25 specify Category 5 UTP as the compliant channel or link segment. When ANSI TP\_PMD was published EIA/TIA or ISO 11801 had not completed their work on Category 5 or Class D links. Since then a compliant Category 5 UTP channel is now specified in the Standard EIA/TIA 568 TSB-67 and TSB-70 and are the same requirements as the proposed change.

The requirements in EIA/TIA are the only published specifications for a compliant Category 5 UTP channel and are the only requirements that have been used to certify a cable plant as Category 5.

**Accept:** The requirements for BER and cable systems will be removed. In 25.4.6.3 the text ‘...a 100BASE-TX PHY shall meet a  $10^{-9}$  BER in the ...’ will be changed to read ‘...a 100BASE-TX PHY should operate in the ...’. In 25.4.6.3.1 the text ‘... link segment shall not exceed ...’ will be changed to read text ‘... link segment should not exceed ...’.

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Bob Noseworthy  
CommenterEmail: ren@iol.unh.edu  
CommenterPhone: (603) 862-4342  
CommenterCompany: UNH InterOperability Lab  
Comment #: 22  
Change #: 1041  
Clause: 28  
Subclause: 28.3.1

CommentType: (E, T, ER, or TR) T  
Comment:

The following is in Response to Pat Thaler's comment #15 suggesting improvements to Change# 1041:

I do agree with the statement that notHCD=all is unclear and prefer HCD=empty, however I have a new problem with the how HCD and notHCD are defined, in that they are set of variables defined for "a variable with '\_[x]' appended" (referring to the first sentence of 28.3.1). I believe the clearest way to solve this is to verbosely define the variable. To do this, I would suggest a new remedy, see SuggestedRemedy below.

The alternative proposal in comment 15 to rely on link\_status\_[HCD]=fail when there is no HCD does not accomplish the desired goal of bypassing the link\_fail\_inhibit timer following a negotiation which results in no compatible HCD. The current standard defined text is: (link\_status\_HCD=FAIL + link\_status[HCD]=READY) \* link\_fail\_inhibit\_timer\_done.

Removing link\_status\_[HCD]=fail from the control of "link\_fail\_inhibit\_timer\_done" is not desireable as link\_status\_[HCD]=fail routinely occurs upon entrance to the state FLP LINK GOOD CHECK even when a valid HCD is selected.

CommentEnd:

SuggestedRemedy:

In Figure 28-16, the transition from FLP LINK GOOD CHECK to TRANSMIT DISABLE should read:

```
""  
((link_status_[HCD]=FAIL + link_status_[HCD]=READY) *  
link_fail_inhibit_timer_done) + incompatible_link=TRUE  
""
```

add to 28.3.1 the variable definition for incompatible\_link  
""

incompatible\_link

Parameter used following Priority Resolution to indicate the resolved link is incompatible with the Local Device settings. A device's ability to set this variable to true is optional.

Values:           false; A compatible link exists between the Local Device and Link Partner (default).  
                  true; Optional indication that Priority Resolution has determined no highest common denominator exists following the most recent negotiation.

NOTE - This variable is set by this definition; it is not set explicitly in the state diagrams.

""

finally, ammend the NOTE at the bottom-right of the Figure 28-16 to include the new "incompatible\_link" variable:

""

NOTE: ability\_match, acknowledge\_match, single\_link\_ready, consistency\_match, and incompatible\_link are set according to the variable definitions and are not set explicitly in the state diagrams.  
""

RemedyEnd:

## IEEE P802.3ag Working Group Ballot comments

Response:

**Accept**

ResponseEnd:

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CommenterName: Bob Noseworthy

CommenterEmail: ren@iol.unh.edu

CommenterPhone: (603) 862-4342

CommenterCompany: UNH InterOperability Lab

Comment #: 23

Change #: 1049

Clause:40C

Subclause: 2.1

CommentType: (E, T, ER, or TR) E

Comment:

Regarding Change #1049, and Comment #9 by Ben Brown

np\_loaded is not defined otherwise, the suggested remedy from Ben Brown is correct.

In response to Tom Mathey's comment #7, mr\_lp\_np\_able is not needed in the equations in the three states in question (1000T\_MP\_TX, 1000T\_UP1\_TX, 1000T\_UP2\_TX) as 1000T\_MP\_TX cannot be entered without mr\_lp\_np\_able being True on the transition from Base\_Page\_TX to 1000T\_MP\_TX.

CommentEnd:

SuggestedRemedy:

use "next\_page\_loaded" instead of "np\_loaded"

RemedyEnd:

Response:

**Accept**

ResponseEnd:

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## IEEE P802.3ag Working Group Ballot comments

CommenterName: Alan Flatman  
CommenterEmail: a\_flatman@compuserve.com  
CommenterPhone: +44 1260-297966  
CommenterCompany: LAN Technologies  
Comment #: 24  
Change #: 1036  
Clause: 25  
Subclause: 25.4.6.1

CommentType: (E, T, ER, or TR)  
Comment:

insert "(Class D)" after ISO/IEC 11801:1995.

CommentEnd:  
SuggestedRemedy:

See above

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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CommenterName: Alan Flatman  
CommenterEmail: a\_flatman@compuserve.com  
CommenterPhone: +44 1260-297966  
CommenterCompany: LAN Technologies  
Comment #: 24  
Change #: 1036  
Clause: 25  
Subclause: 25.4.6.2

CommentType: (E, T, ER, or TR)  
Comment:

Delete "at least" (don't think you can or should exceed 100m).

CommentEnd:  
SuggestedRemedy:

See above

RemedyEnd:  
Response:

**Accept**

ResponseEnd:

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