IEEE P802.11
Wireless LANs

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| IEEE 802.11bf – Teleconference Minutes May - July 2022  |
| Date: 2022-06-08 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
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| Assaf Kasher | Qualcomm |  |  |  |

Abstract

This document contains minutes for the TG 802.11bf teleconferences in May - July 2022.

Rev 0: Minutes for TG 802.11bf teleconference on the19th of May 2022.

Rev 1: Minutes for TG 802.11bf teleconference on the 24th of May 2022 are added.

Rev 2: Minutes for TG 802.11bf teleconference on the 31st of May 2022 are added.

Rev 3: Lists of attendees for teleconferences on 24th and 31st of May 2022 are added.

Rev 4: Minutes for TG 802.11bf teleconference on the 9th of June 2022 are added.

**Thursday, May 19, 2022, 11:00 pm-01:00 am (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/22/11-22-0797-01-00bf-tgbf-meeting-agenda-2022-05-teleconference.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The Chair, Tony Han, calls the meeting to order at 11:00 pm ET (about 20 persons are on the call after a few minutes of the meeting).
10. The Chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The Chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The Chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The Chair goes through the agenda (slide 16) and asks if there are any questions or comments on the agenda.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. The Chair presents the TGbf timeline (slides 17). Tony reminds the group that 20th of May is the last day for providing comments on D0.1.
2. The Chair presents slide 18, Call for contributions.
3. The Chair presents the teleconference times (slides 19 and 20).
4. Presentations:

**11-22/0781r2, “Changes in EDMG Multistatic PPDU”, Assaf Kasher (Qualcomm):** The syncfield has been updated and Assaf goes through the proposed new structure.

Q: I believe we should keep the Data field. The design has been developed under a long time and I believe it involves quite some work to change it.

Q: I don’t think there is much of a difference in practice, so I prefer to keep the old structure.

**Straw Poll:** From the PPDU structures presented in slide 3 of 11-22-781r2:

* Option 1: I prefer the modified old structure
* Option 2: I prefer the new structure
* Option 3: I don’t care

**Result:** Y/N/A: 7/15/7

**11-22/0798r1, “PDT: Updates on sensing Measurement setup termination frame”, Pei Zhou (OPPO):** The contribution is concerned with the setup termination frame.

The text is slightly updated based on feedback from the group, and a revision 2 of the document is generated for the SP.

**Straw Poll:** Do you support including the text proposed in the following document into the IEEE 802.11bf draft amendment?

* 22/0798r2 Updates on sensing measurement setup termination frame

**Result:** Y/N/A: 17/5/5

**11-22/0799r0, “PPDU formats for DMG sensing”, Rui Du (“Huawei”):** The use of different PPDU formats for different types of DMG sensing is discussed.

**Straw Poll 1:** Do you support to add the following to the 11bf SFD.

* For all the DMG sensing types, both control mode and SC mode PPDU should be considered.

**Straw Poll 2:** Do you support to add the following to the 11bf SFD.

* PPDU with TRN should be adopted in DMG coordinated monostatic sensing, and TRN parameters could be negotiated in the coordinated monostatic sensing.

Based on the discussions, it is decided to defer both SPs.

**11-22/0800r0, “DMG passive sensing in DTI”, Narengerile (Huawei):** The presentation discusses different aspects for DMG passive sensing.

Run out of time.

The chair informs that he will allocate time in the next for finalizing the presentation.

1. The chair asks if there is AoB. No response from the group.
2. The meeting is adjourned without objection at 01:00am ET.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/19 | Au, Oscar | Origin Wireless |
| TGbf | 5/19 | da Silva, Claudio | Meta Platforms, Inc. |
| TGbf | 5/19 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 5/19 | Eitan, Alecsander | Qualcomm Incorporated |
| TGbf | 5/19 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/19 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbf | 5/19 | Kasher, Assaf | Qualcomm Incorporated |
| TGbf | 5/19 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/19 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 5/19 | Lin, Zinan | InterDigital, Inc. |
| TGbf | 5/19 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/19 | Motozuka, Hiroyuki | Panasonic Holdings Corporation |
| TGbf | 5/19 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/19 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 5/19 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 5/19 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 5/19 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 5/19 | Zhang,Jiayi |

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**Tuesday, May 24, 2022, 10:00 am-12:00 pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/22/11-22-0797-03-00bf-tgbf-meeting-agenda-2022-05-teleconference.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The Chair, Tony Han, calls the meeting to order at 10:00 am ET (about 50 persons are on the call after 10 minutes of the meeting).
10. The Chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The Chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The Chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The Chair goes through the agenda (slide 17) and asks if there are any questions or comments on the agenda.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. The Chair presents the TGbf timeline (slides 18).
2. The Chair presents slide 19, Call for contributions.
3. The Chair presents the teleconference times (slides 20 and 21).
4. Presentations:

**11-22/0820r0, “IEEE 802.11bf CC40 comments”, Claudio da Silva (Meta):** Claudio goes through the excel sheet where he has categorized the received comments. In total slightly more than 900 comments were submitted.

**11-22/0800r1, “DMG passive sensing in DTI”, Narengerile (Huawei):** The presentation discusses different aspects for DMG passive sensing. This is a revised version of what was presented in the last session where we run out of time during the presentation.

The SPs are not run since this was the first time it was presented and Narengerile wants to give the group some time to digest the presentation.

The Chair asks about next steps. Narengerile explains that she will collect more information off-line and based on that take decision about what to do next.

**11-22/0803r0, “DMG/EDMG Link Level Simulation Platform”, Steve Blandino (NIST):** A platform for performing link level simulations is presented.

We are out of time and there is no time for Q&A

1. The chair asks if there is AoB. The chair announces that if there are no additional requests for presentations, he intends to cancel the meeting on Thursday. No response from the group.
2. The meeting is adjourned without objection at 12:00pm ET.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/24 | Aboulmagd, Osama | Huawei Technologies Co., Ltd |
| TGbf | 5/24 | Au, Oscar | Origin Wireless |
| TGbf | 5/24 | Aygul, Mehmet | VESTEL; IMU |
| TGbf | 5/24 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 5/24 | Dash, Debashis | Apple Inc. |
| TGbf | 5/24 | da Silva, Claudio | Meta Platforms, Inc. |
| TGbf | 5/24 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 5/24 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/24 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 5/24 | HAN, Xiao | Huawei Technologies Co., Ltd |
| TGbf | 5/24 | Hsu, Ostrovsky | Xiaomi Inc. |
| TGbf | 5/24 | Jang, Insun | LG ELECTRONICS |
| TGbf | 5/24 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 5/24 | Kasher, Assaf | Qualcomm Incorporated |
| TGbf | 5/24 | katla, satyanarayana | InterDigital, Inc. |
| TGbf | 5/24 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/24 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/24 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbf | 5/24 | narengerile, narengerile | Huawei Technologies Co., Ltd |
| TGbf | 5/24 | Ozbakis, Basak | Vestel Electronics Corp. |
| TGbf | 5/24 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 5/24 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/24 | Ryu, Kiseon | Ofinno |
| TGbf | 5/24 | Shellhammer, Stephen | Qualcomm Incorporated |
| TGbf | 5/24 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 5/24 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 5/24 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 5/24 | Unterhuber, Paul | German Aerospace Center (DLR) |
| TGbf | 5/24 | Varshney, Neeraj | National Institute of Standards and Technology |
| TGbf | 5/24 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 5/24 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 5/24 | Zhang, Jiayi | Ofinno |
| TGbf | 5/24 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

**Tuesday, May 31, 2022, 10:00 am-12:00 pm (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/22/11-22-0797-04-00bf-tgbf-meeting-agenda-2022-05-teleconference.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The Chair, Tony Han, calls the meeting to order at 10:00 am ET (about 50 persons are on the call after 10 minutes of the meeting).
10. The Chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The Chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The Chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The Chair goes through the agenda (slide 18) and asks if there are any questions or comments on the agenda.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. The Chair presents the TGbf timeline (slides 19).
2. The Chair presents slide 20, Call for contributions.
3. The Chair presents the teleconference times (slides 21 and 22).
4. Presentations:

**11-22/0820r0, “IEEE 802.11bf CC40 comments”, Claudio da Silva (Meta):** Claudio gives an update of the status of the comment collection. Claudio encourages people to check the document presented by Robert some weeks ago to get familiar with how to resolve comments.

**11-22/0803r0, “DMG/EDMG Link Level Simulation Platform”, Steve Blandino (NIST):** This contribution was presented in the latest call, but there was not time for Q&A.

The chair asks about future plans. Steve replies that the idea is to continue to work off-line.

**11-22/0464r6, “PDT EDMG Multi-Static PPDU structure”, Assaf Kasher (Qualcomm):** Assaf goes through the updates that have been done compared to revision 5.

Q: I am opposed to define a new PPDU given that what we have works.

A: There was a SP, and I am basically just trying to follow what the majority supported, even it at that point in time was not a 75% support.

Q: I don’t really agree that the presented document includes all changes that are needed.

Q: Thanks for the update. I would support this version, I believe there are benefits with the new PPDU format.

**Straw Poll:** Do you support including the text proposed in the following document into the IEEE 802.11bf draft amendment?

* 22/0464r6 PDT EDMG Multi-Static PPDU structure

**Result:** Y/N/A: 15/7/16

**11-22/0799r1, “PPDU formats for DMG sensing”, Rui Du (Huawei):** The contribution has already been presented, but the SPs have not been run.

**Straw Poll 1:** Do you support to add the following to the 11bf SFD.

* Both Control mode PPDU and SC mode PPDU could be adopted in DMG bistatic sensing, coordinated bistatic sensing, passive sensing, monostatic sensing, coordinated monostatic sensing.

**Result:** The SP is Unanimously supported.

**Straw Poll 2:** Do you support to add the following to the 11bf SFD.

* TRN based sensing should be adopted as one of the operating modes in DMG monostatic sensing and coordinated monostatic sensing.
* TRN related parameters could be negotiated in the coordinated monostatic sensing when TRN based sensing is used.
* TRN based sensing is an optional operating mode for DMG monostatic sensing and coordinated monostatic sensing.

**Result:** The SP is Unanimously supported.

**11-22/0647r2, ”Information Exchange of WLAN Sensing Link”, Rui Du (Huawei):** The contribution has already been presented, but the SP has not been run.

Straw Poll 1: is deferred.

After some discussion, also SP 2 is deferred.

1. The chair asks if there is AoB. The chair announces that if there are no additional requests for presentations, he intends to cancel the meeting on Monday. No response from the group.
2. The meeting is adjourned without objection at 11:48am ET.

**List of Attendees:**

|  |  |  |  |
| --- | --- | --- | --- |
| Breakout | Timestamp | Name | Affiliation |
| TGbf | 5/31 | Au, Oscar | Origin Wireless |
| TGbf | 5/31 | Aygul, Mehmet | VESTEL; IMU |
| TGbf | 5/31 | Beg, Chris | Cognitive Systems Corp. |
| TGbf | 5/31 | Bredewoud, Albert | Broadcom Corporation |
| TGbf | 5/31 | Choi, Jinsoo | LG ELECTRONICS |
| TGbf | 5/31 | Dash, Debashis | Apple Inc. |
| TGbf | 5/31 | da Silva, Claudio | Meta Platforms, Inc. |
| TGbf | 5/31 | Dong, Xiandong | Xiaomi Inc. |
| TGbf | 5/31 | feng, Shuling | MediaTek Inc. |
| TGbf | 5/31 | Gao, Ning | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbf | 5/31 | Halasz, David | Morse Micro |
| TGbf | 5/31 | Kamel, Mahmoud | InterDigital, Inc. |
| TGbf | 5/31 | katla, satyanarayana | InterDigital, Inc. |
| TGbf | 5/31 | Kim, Sang Gook | LG ELECTRONICS |
| TGbf | 5/31 | Krebs, Alexander | Apple, Inc. |
| TGbf | 5/31 | Lee, Hong Won | LG ELECTRONICS |
| TGbf | 5/31 | Lim, Dong Guk | LG ELECTRONICS |
| TGbf | 5/31 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbf | 5/31 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbf | 5/31 | NANDAGOPALAN, SAI SHANKAR | Synaptics |
| TGbf | 5/31 | Ozbakis, Basak | Vestel Electronics Corp. |
| TGbf | 5/31 | Pushkarna, Rajat | Panasonic Asia Pacific Pte Ltd. |
| TGbf | 5/31 | Raissinia, Alireza | Qualcomm Incorporated |
| TGbf | 5/31 | Ryu, Kiseon | Ofinno |
| TGbf | 5/31 | Shellhammer, Stephen | Qualcomm Incorporated |
| TGbf | 5/31 | SUH, JUNG HOON | Huawei Technologies Co., Ltd |
| TGbf | 5/31 | Trainin, Solomon | Qualcomm Incorporated |
| TGbf | 5/31 | Tsai, Tsung-Han | MediaTek Inc. |
| TGbf | 5/31 | Turkmen, Halise | Istanbul Medipol University; Vestel |
| TGbf | 5/31 | Wei, Dong | NXP Semiconductors |
| TGbf | 5/31 | Wilhelmsson, Leif | Ericsson AB |
| TGbf | 5/31 | Yano, Kazuto | Advanced Telecommunications Research Institute International (ATR) |
| TGbf | 5/31 | Zhang, Jiayi | Ofinno |
| TGbf | 5/31 | Zhou, Pei | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |

**Thursday, June 9th, 2022, 11:00 pm-01:00 am (ET)**

**Meeting Agenda:**

The meeting agenda is shown below, and published in the agenda document:

<https://mentor.ieee.org/802.11/dcn/22/11-22-0851-03-00bf-tgbf-meeting-agenda-2022-06-teleconference.pptx>

1. Call the meeting to order
2. Patent policy and logistics
3. TGbf Timeline
4. Call for contribution
5. Teleconference Times
6. Presentation of submissions
7. Any other business
8. Adjourn
9. The Chair, Tony Han, calls the meeting to order at 11:00 pm ET (about 29 persons are on the call after a few minutes of the meeting).
10. The Chair goes through “Meeting Protocol, Attendance, Voting & Documentation Status” (slide 4), “Participants have a duty to inform the IEEE” (slide 6), and “Ways to inform IEEE” (slide 7).

The Chair makes a Call for Potentially Essential Patents. No potentially essential patents reported, and no questions asked.

The Chair goes through “Other Guideline for IEEE WG meetings” (slide 8), “Patent related information” (slide 9), “ IEEE SA Copyright Policy” (slides 10 and 11), “Participant behavior in IEEE-SA activities is guided by the IEEE Codes of Ethics & Conduct” (slide 12), “Participants in the IEEE-SA “individual process” shall act independently of others, including employers”(slide 13), and “IEEE-SA standards activities shall allow the fair & equitable consideration of all viewpoints” (slide 14), and “Required notices” (slide 15).

The Chair goes through the agenda (slide 16) and asks if there are any questions or comments on the agenda.

The Chair asks if there is any objection to approve the modified agenda. No objection from the group so the agenda is approved.

1. Claudio da Silva spoke about comment resolution status saying that all comments are assigned and that one does not need to wait for all comments to be resolved. Claudio also requests all comment resolvers to review the following presentation: Comment resolution tutorial: https://mentor.ieee.org/802.11/dcn/13/11-13-0230-05-0000-comment-resolution-tutorial.ppt
2. Teleconference Time – slide 19.
3. Strawpoll on attending July Plenary in Person:
Results: (Y/N/A): 13/15/2
4. Presentations:

**11-22/0852r1, “Comment Resolution for CIDS”, Rajat Pushkara (Panasonic):**
CID 111: Revise
CID 370: Revise
CID 412: Revise
Q: Should we use target to denote the thing we are sensing or should we use objects (less military)?
A: We should consider.
Q: There are many comments on the text in clause 4.
Q: Do you have more CIDS assigned to you on this subclause?
A: These are the technical comments on this subclause, there are also editorial comments on this.

**11-22/0883r0, “SBP reporting procedure”, Chaoming Lou (OPPO):**CID 614 Is it correct that this related to CID 614?
Q: Do you have estimation of the time: (for checking limitation of TxOP) for unassociated STA there is a limit of using basic MCS.
A: No, I have not done that yet.
Q: Can delayed report and immediate report be aggregated?
A: Yes.
Q: How will that be identified?
A: It can be part of each report
Q: The main issue is whether the SBP reports are sent within the same TxOP. They can be immediate or delayed. That is an AP capability.
A: This is correct
Q: SBP initiator may set NAV to something else, and not be able to receive the SBP
R: The SBP may triggered by the TF.
R: The SBP initiator must be triggered by the AP and respond to the trigger frame. Otherwise this does not work.
Q: Should we the MAC address by part of the report?
R: AID should be used.

**11-22/0761r1, “Time requirements of Immediate feedback”, Mengshi Hu (Huawei):**
Q: What condition should be used to determine whether immediate or delayed reporting should be used
R: should be based on the measurement setup.
Q: Is it sometimes immediate and sometimes delayed - is it dynamic? Should the AP pad the trigger frame to make it long enough.
A: Could be either way, can be per measurement setup or dynamic, the group should decide
Q: The padding of the trigger is only an example of how to give time for the feedback.
A: This can be in other method
Q: The TF is a control frame – it should not be padded.
A: The padding is part of 11ax and 11be.
Q: The length of padding is limited by the TxOP limit which is also limiting by the length of the report. This limits the size of the padding.
A: Don’t understand the issue – take that offline.

**11-22/0647r4, “Time requirements of Immediate feedback”, Mengshi Hu (Huawei):**

**Strawpoll 2:** Do you support to add the following to the 11bf SFD?

* The following optional features are defined.
* Both RF gain and digital gain of each Rx antenna should be reported in the sensing measurement report frame.
* RF gain and digital gain should be reported in separate fields.
* The sensing measurement report frame provides an indication about the AGC change.
* Note:
* RF gain is defined as the gain in analog domain mainly contains the gain of AGC and other components.
* Digital gain is defined as the gain in digital domain.
* If the device is not able to provide the RF and/or digital gain, it may indicate the if the AGC changes.

**Result:** Y/N/A: 7/6/11 (no answer 6)

1. Chair Announce that Monday’s June 13th call is cancelled.
2. The meeting is adjourned without objection at 1:03AM ET.