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| **Draft Minutes, Nendica Meeting, 2019-09-16/19** |
| **Date: 2019-10-04**  |
| **Author(s):** |
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**Abstract**

Draft minutes of the IEEE 802 Network Enhancements for the Next Decade Industry Connections Activity (Nendica) in-person meeting during the IEEE 802.1 Interim Session in Edinburgh, UK (connecting to IEEE 802 Wireless Interim in Hanoi, via conference call on 19 September 2019).

# Attendance and affiliation

 (to be inserted by 802.1 Working Group Secretary)

# Nendica

The IEEE 802 Network Enhancements for the Next Decade Industry Connections Activity (Nendica) Chair, Roger Marks, presided. Nader Zein wrote the minutes.

Minutes of the Nendica conference calls held since the last plenary session are available at <https://1.ieee802.org/802-nendica/>.

In addition to the participants listed in section 1 who registered in IMAT, the following individuals also participated (affiliation as understood by Nendica Chair):

* Antonio de la Oliva Delgado, Universidad Carlos III de Madrid; InterDigital, Inc. (remotely, second meeting)

**Monday 16 September 2019**

**18:08 PM call to order by the Nendica Chair**

The Nendica Chair presented the IEEE-SA Guidelines for IEEE-SA Meetings <https://development.standards.ieee.org/myproject/Public/mytools/mob/preparslides.pdf>, the IEEE-SA Participation Slides <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/Participant-Behavior-Individual-Method.pdf>, the IEEE 802 Participation slide <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180.pdf>, and IEEE ICCOM requirements<https://1.ieee802.org/802-nendica/ieee-iccom-requirements/>.

The Nendica Chair presented Nendica Procedures <https://1.ieee802.org/802-nendica/ieee-iccom-requirements/>. This is relevant to an agenda item for this meeting where a new WI proposal is expected to be discussed. It was confirmed that new WI proposals will be circulated to the EC for comments.

The Nendica Chair discussed how to record attendance for the meeting, using the link embedded in the agenda. The participant list above in section 1 is provided from the logs.

**Agenda Approval**

The Nendica Chair presented the previously-available draft agenda.

**Disposition**: The agenda was reviewed, discussed and approved, as recorded in *Approved Nendica Agenda: 2019-09-16/19* <https://mentor.ieee.org/802.1/dcn/19/1-19-0072-00-ICne.pdf>.

**Update**

The Nendica Chair showed the Nendica webpage <https://1.ieee802.org/802-nendica/>, the documents on the Mentor server to be discussed, and how to record attendance on IMAT.

It is noted that Managed LAN as a Service [MLaaS] is now added under Study Items.

The following documents on the Mentor server are identified to be addressed during this session:

* <https://mentor.ieee.org/802.1/dcn/19/1-19-0069-00-ICne-ffiot-status-report-ieee-802-nendica-edinburgh-september-2019.pptx> “FFIoT Status Report - IEEE 802 Nendica Edinburgh September 2019new FFIOT status document 65”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0063-00-ICne-nendica-meeting-overview-2019-09.pptx>, “Nendica Meeting Overview, 2019-09”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0068-00-ICne-draft-minutes-of-the-nendica-meeting-of-2019-08-28.docx>, “Draft Minutes of the Nendica Meeting of 2019-08-28”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0065-01-ICne-use-cases-and-requirements-for-managed-lan-as-a-service.pptx>, “Use Cases and Requirements for Managed LAN as a Service”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0061-01-ICne-ietf-sidemeeting.pdf>, “IETF Sidemeeting”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0062-01-ICne-ietf0105-sidemeeting-minutes.pdf>, “IETF0105 Sidemeeting minutes”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0070-03-ICne-lan-trends-and-managed-lan-services.pptx>, “LAN Trends and Managed LAN Services”
* <https://mentor.ieee.org/802.1/dcn/19/1-19-0071-01-ICne-icne-proposal-discussion-for-nendica-work-item-managed-lan-as-a-service-0918.pptx>, “ICne-proposal-discussion-for-nendica-work-item-managed-lan-as-a-service-0918”

The Nendica Chair presented *IEEE 802 Network Enhancements for the Next Decade” Industry Connections Activity (Nendica): Status Report* <https://mentor.ieee.org/802.1/dcn/19/1-19-0063-00-ICne-nendica-meeting-overview-2019-09.pptx>.

**Review of Minutes**

The Nendica Chair reviewed the minutes of two previous teleconferences. <https://mentor.ieee.org/802.1/dcn/19/1-19-0066-00-ICne.docx> and (2019-08-21) and <https://mentor.ieee.org/802.1/dcn/19/1-19-0068-00-ICne.docx> (2019-08-28)

**Disposition**: The minutes were reviewed and approved by unanimous consent.

**Flexible Factory IoT: Use Cases and Communication Requirements for Wired and Wireless Bridged Networks (FFIoT)**

Nader Zein presented the document “FFIoT Status Report – IEEE 802 Nendica” <https://mentor.ieee.org/802.1/dcn/19/1-19-0069-00>. Zein reported that the Flexible Factory IoT report titled “Flexible Factory IoT: Use Cases and Communication Requirements for Wired and Wireless Bridged Networks” in IEEE 802.1.19-0026-03-ICne was approved as the final draft FFIoT report and submitted to IEEE-SA for review and publication.

Marks reported that he had contacted the staff editor responsible for IC activity and asked for an editor to review the FFIoT report. Cathrine Berger was appointed as the staff editor for the FFIoT report and started reviewing it.

The expected procedure is same as was done for the LLDCN.

The expectation is to receive back a copy with Catherine’s comments review the editorial changes.

The Chair made a call for interested volunteers to help with the editorial review. Zein volunteered.

**Lossless Data Center Networks**

Paul Congdon presented the documents “IETF Sidemeeting” <https://mentor.ieee.org/802.1/dcn/19/1-19-0061-01-ICne-ietf-sidemeeting.pdf> and “IETF0105 Sidemeeting minutes” <https://mentor.ieee.org/802.1/dcn/19/1-19-0062-01-ICne-ietf0105-sidemeeting-minutes.pdf>

**IETF Sidemeeting 802.1-19-0061-01**

Congdon reported that he did a flash talk on Sunday night at the prior IETF sesson on large scale Data Centre HPC/RDMA. There he publicized the Nendica LLDCN report.

Congdon clarified that DCCP is “Datagram Congestion Control and Protocols,” which is end-to-end control over internet. He explained the target proposal in IETF is DCUDP.

**IETF Sidemeeting minutes 802.1-19-0062-01**

Next step at IETF is for those who wrote these two drafts to further and update and present more supporting material and try to get time slots on the relevant groups in IETF such as ICIG.

From a Nendica perspective, we can take some of these ideas and consider revising our LLDCN report.

The meeting then discussed procedures to revise the draft.

**Recessed at 19:28 local time until Thursday 19 @ 10:00am**

**Thursday 19 September 2019**

**10:04 AM call to order by the Nendica Chair**

The Nendica Chair reconvened the meeting and reminded the group of the IEEE-SA Guidelines for IEEE-SA Meetings, the IEEE 802 Participation slide, and the IEEE ICCOM requirements.

A WebEx teleconference call was opened, connected in particular to the IEEE 802 Wireless Interim Session in Hanoi. Remote and local participants were encouraged to log their attendance.

The Nendica Chair gave an overview from the first slot on Monday, noting the administrative announcements.

The Nendica Chair reviewed the agenda for today and available contributions for discussion.

No amendments were proposed to the agenda.

**Future Directions**

**Study Item: Managed LAN as a Service [MLaaS]**

Wei Qiu presented the document “LAN Trends and Managed LAN Services” <https://mentor.ieee.org/802.1/dcn/19/1-19-0070-03-ICne-lan-trends-and-managed-lan-services.pptx>

In this contribution, Qiu updated the plan and schedule for a proposed new Nendica Work Item.

The Nendica Chair clarified the process for a new PAR, and explained that for a Nendica Work Item it is similar but less formal. The proposal should nevertheless be circulated in advance to the IEEE 802 Executive Committee, preferably (in the view of the Chair) at least 30 days in advance of an 802 Plenary Session, as a PAR would be.

It is not clear if approval from the IEEE 802.1 WG is needed.

Marks commented on the proposed schedule indicating “report approval in July 2021”, noting that the chartered existence of Nendica is currently until March 2021 and it would be better to plan to complete the report within the existing charter.

Marks requested Qiu to indicate any proposed teleconferences needed for the period until the November 2019 plenary meeting.

Congdon presented “LAN Trends and Managed LAN Services” <https://mentor.ieee.org/802.1/dcn/19/1-19-0070-03-ICne-lan-trends-and-managed-lan-services.pptx>,

The purpose of the presentation was to stimulate industry interest in MLaaS.

Congdon presented trends in LAN management architecture as it evolves from traditional IT to a fully SDN and cloud based to centralized forwarding architecture managed via cloud based service enabling simplified scaling and leading towards virtualization in the LAN.

Congdon clarified that the 320 MHz bands ins the slide are actually channels.

It was suggested that MLaaS may introduce additional risk in security for the service provider and to a large extent more severe requirements to protect the infrastructure itself.

There were discussions about the edge of “End to End” SLAs.

Comparisons were made to factory networks, which may require more complex stream management capabilities. There is a need to consider how to maintain services in critical operation instances within factories.

It was suggested that tools needed for managed LAN requires new types of knowledge requirements for new type of tools are not known.

It was indicated that different vendors may implement standardized solutions but these would lack interoperability, hence the need to develop a profile for managed LAN.

Question arose on the time synchronization requirements for IEEE 802.11 WLA and whether there is need to extend the scope of synchronization.

At this stage we don’t know what P802.11be require in terms of synchronization. Nevertheless it is certain that something is needed there.

It was further indicated not only service providers may need to manage the LAN.

**Future Meetings**

The Nendica Chair reminded the group that it will meet at the IEEE 802 Plenary Session in Waikoloa. 2 hours on Tuesday evening has been proposed, along with two hours later in the week.

The group decided to schedule a teleconference:

* October 31, 9-11am ET (Focus: “Managed LAN as a Service” Study Item)

**Any Other Business**

**A.O.B.**

No further business was discussed in this session.

**11:46 AM adjournment**