

P802.1ACea

Progress report Understanding 802.1AC

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Maintenance Task Group of the IEEE 802.1 WG

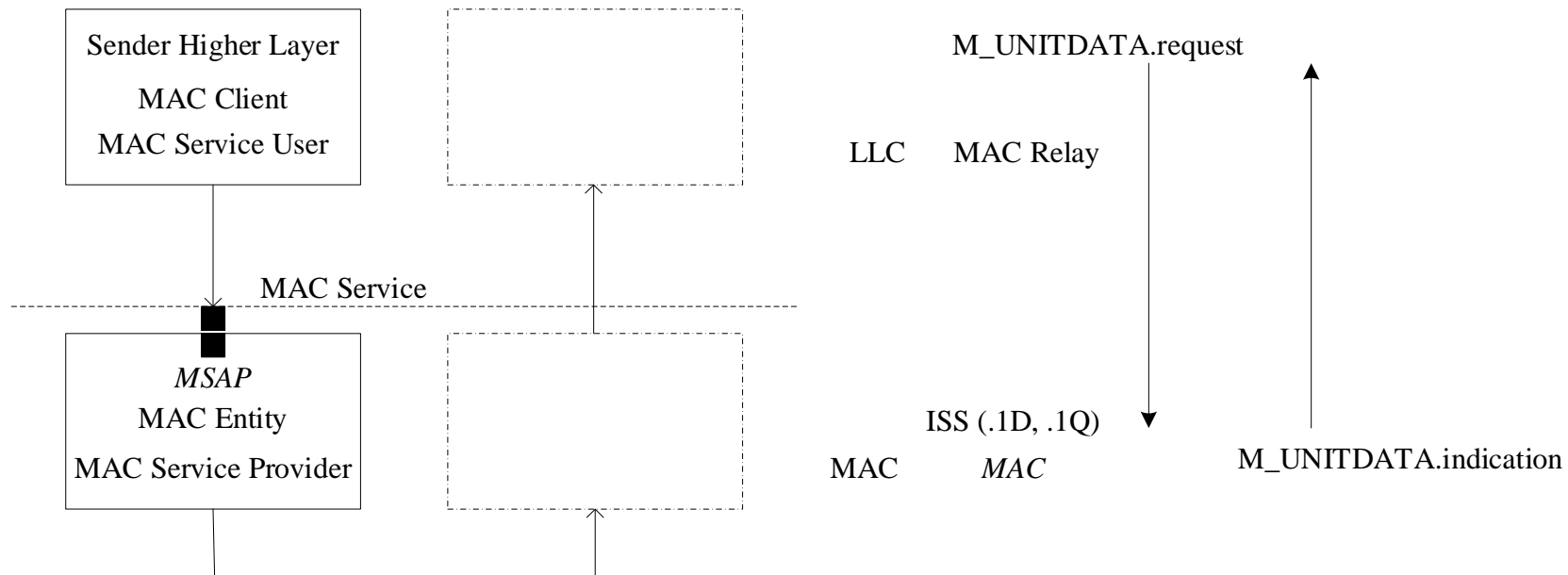
June 18th, 2024

Introduction

- I know I must define a convergence function, but I need to understand the background.
- I have been reading about 802.1AC-2016
- 802.1ACct-2021: amendment for 802.15.3
- 802.1Qbz Amendment 27: Enhancements to Bridging of IEEE 802.11 Media
- 802.11-2012 Annex R: DS SAP
- 802.11-2020 clause 7: DS SAP specification
- 802.11-2020 clause 4.3.28.3.3 Infrastructure BSS with general links
- 802.11-2020 4.3.28.3.4 Infrastructure BSSs with general links in the presence of an ESS
- P802-REVc-d1.4

802.1AC take away

- How I understand the MAC Service Model



ISS questions

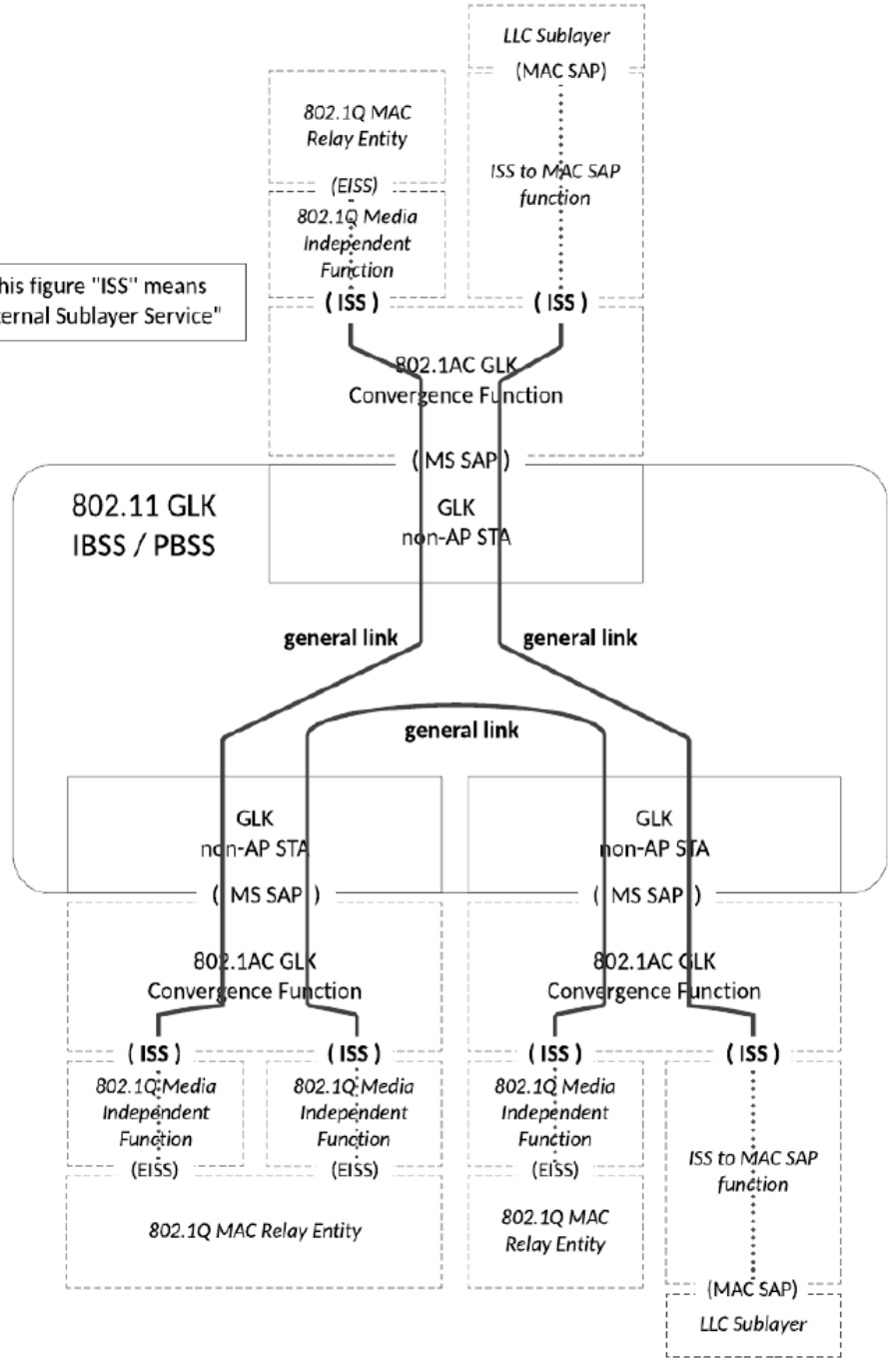
```
M_UNITDATA.indication (
    destination_address,
    source_address,
    mac_service_data_unit,
    priority,
    drop_eligible,
    frame_check_sequence,
    service_access_point_identifier,
    connection_identifier
)
```

- The `destination_address` parameter is the address of an individual MSAP or a group of MSAPs (??)
 - I understand the destination (source) address as a physical address to identify a NIC (MAC address). What is the address of a MSAP?
- FCS is used to accept or discard a MAC frame in the MAC entity. Why does the ISS need it?
- The `service_access_point_identifier` and `connection_identifier` are not used by the MAC Service user, but for a protocol shim (aggregation, security, multiplexing), correct?
- The TG6ma draft will use the EPD.

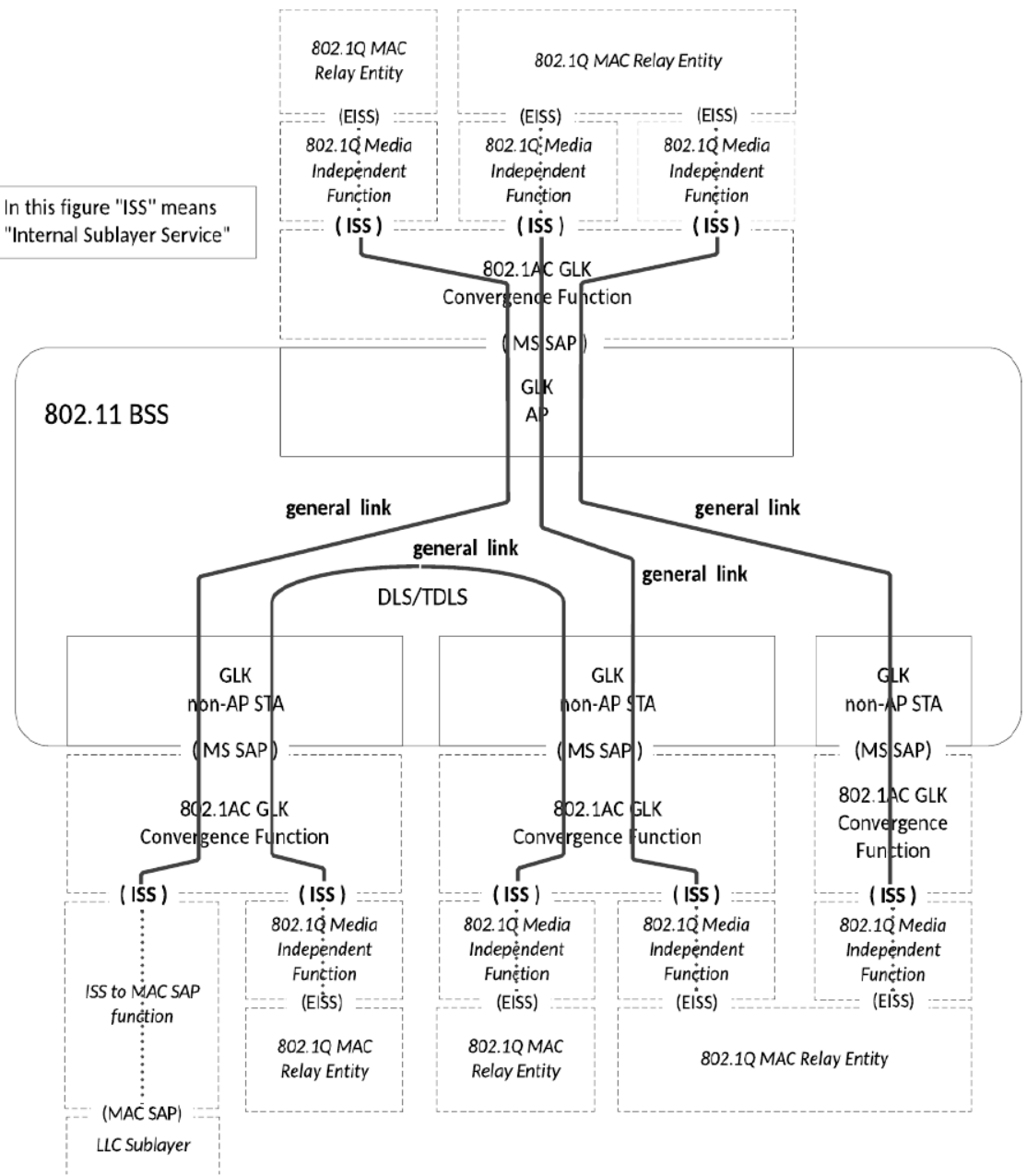
802.11

- References to the convergence function (and 802.1Q) in 802.11-2020

In this figure "ISS" means "Internal Sublayer Service"



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802.11 CF

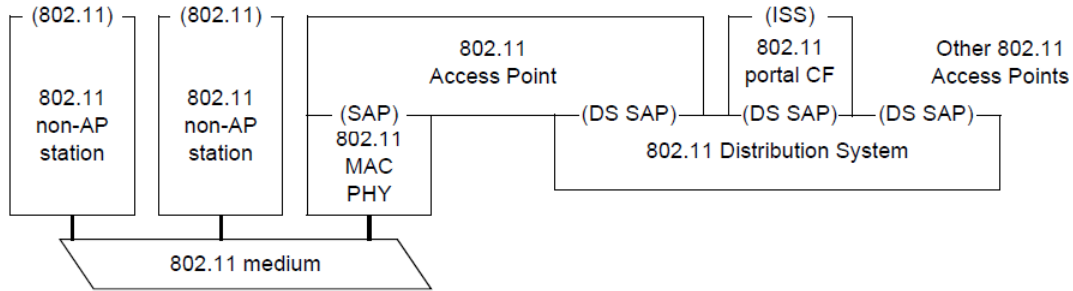


Figure 13-1—IEEE 802.11 portal convergence function method

CF according to 802.1AC-2016

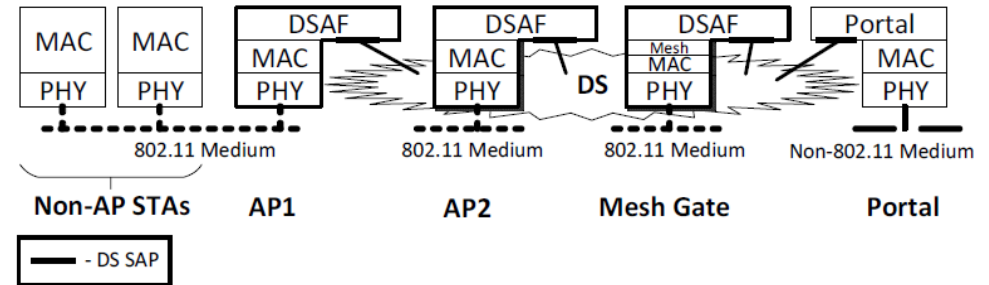


Figure 7-1—DS architecture

How 802.11 divides the universe

Portal means anything alien-like: 802.3, 3GPP 4G/5G, 802.1Q

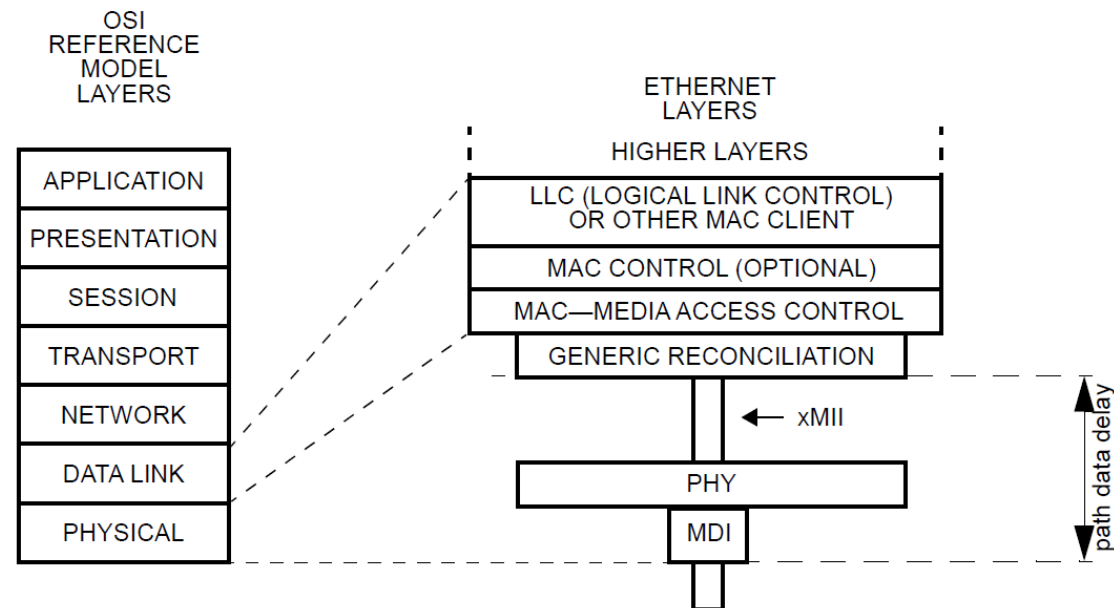
Next time I may provide an initial approach to a CF.

Johannes presentation: Time Reference Points in IEEE 802.1/TSN

- Thank you to Johannes for the contribution.
- I understand that a reference point is required in 802.1Q and other 802.1 Stds, when discussing a reference point for timing.
- However, the agreement is that the reference point(s) should be defined in 802.1AC for any new project and from there to be the reference for other 802.1 Stds.
- I understand this is the spirit of Johannes presentation.
- I need to understand the concept of a reference point for timing from you (it is not obvious to me).

Proposed example of reference point for 802.3

- According to maint-congdon-em-0322-3-v01.pdf : IEEE 802.1 Maintenance Item #314
 - P802.3cx is defining a reference point at the MII that could be used as a good example for this purpose.
- According to Johanness' presentation:
 - In reviewing 802.3cx, it was agreed that the bottom dashed line of Figure 90-5 (below the MDI) is the desired reference point to describe in 802.1Q when discussing a reference point for timing



Timing reference

- This is somewhat strange to me because 802.1 Stds operate at the Link Layer (an entity related to the MAC or LLC), i.e., a reference point for timing should be the instant the first bit of the MAC Service Data Unit (MSDU) (data from the next higher layer to the Link Layer) is delivered to the MAC entity.
 - Hence, the *MAC processing delay* + *PHY processing delay* (the instant the signal of the first bit of the PSDU is placed to the medium) + *signal propagation delay* depends on a particular wired or wireless standard.
- What happens in the MAC/LLC, PHY and medium (timing-wise) depends on the wired or wireless Std implementation and is out of the scope of 802.1.
- Unless you think otherwise of course.

Meeting conclusions