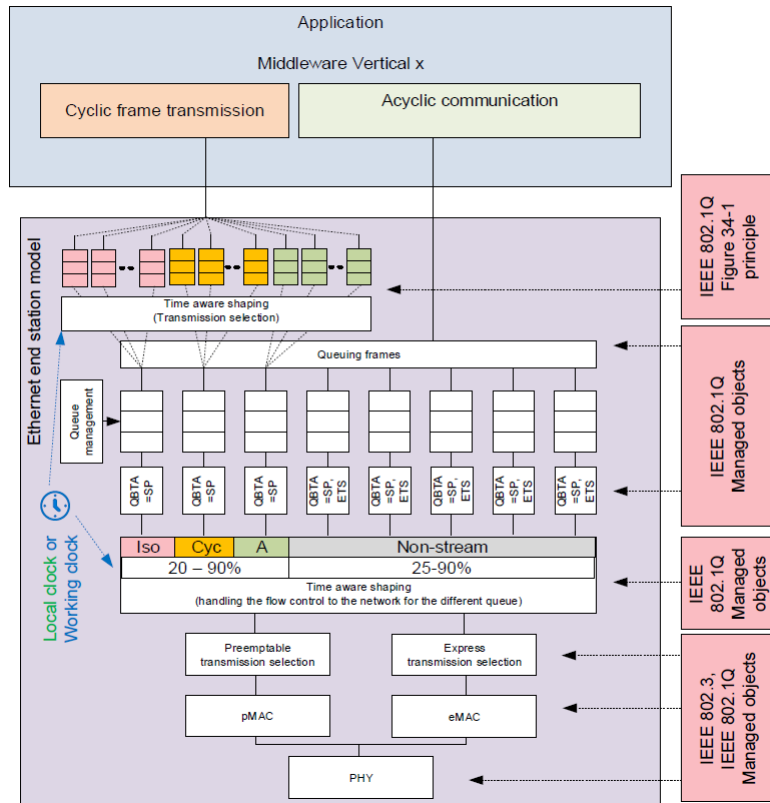


Input system requirements ad-hoc

Martin Ostertag, ZHAW

Proposed End Station Model / BasicUseCases

The next slide shows an effort to map these plus table 2 of 60802



Isochronous Application

Asynchronous Application

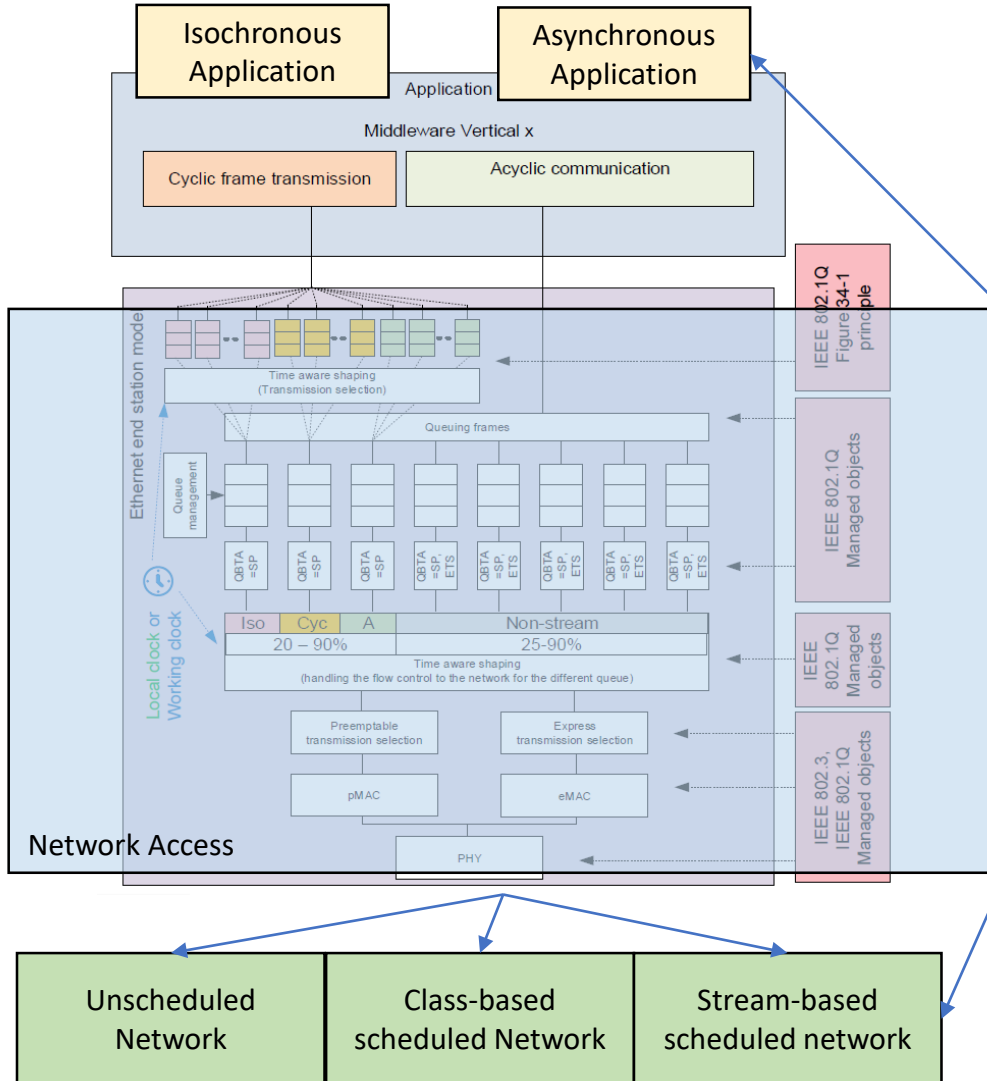
Unscheduled Network Class-based Network Stream-based Network

Unscheduled Network Class-based Network Stream-based Network

[60802-Steindl-EndStationModel-0720-v1.pdf](#)

[60802-woods-basicUseCases-0820-v01.pdf](#)

Matching End Station Model - Application-to-Network Mapping - 60802d1.2 table 2



Question 1:

Does this mapping reflect a common understanding / it no what needs to be changed?

Level	Isochronous Application	Non-Isochronous Application			
Application	Synchronized to network access	Synchronized to local timescale			
Network access	Synchronized to Working Clock			Synchronized to local timescale	
Network/Bridges	Synchronized to Working Clock	Free running	Synchronized to Working Clock	Free running	Free running

Question 2:

One disucssed approach was to describe shortly each column in table 2. Shall this be pursued?

For discussion: Terms

- Application (IEC 61499-1:2005, 3.5 – there are surely also IEEE definitions)
 - software functional unit that is specific to the solution of a problem in industrial-process measurement and control
 - NOTE An application may be distributed among resources, and may communicate with other applications.
- Distributed application – Question: Does this add value?
 - application involving several devices, typically at least one IA controller and one or more IA devices, to implement a certain functionality.
 - NOTE. The application cycle time is the period with which the IA controller cyclically performs its task.
 - NOTE. Not all input/output data is necessarily transmitted with the same cycle time
- <Existing Definition 3.3.8>: Isochronous Application
 - application that is synchronized to the Working Clock which is synchronizing network access
- Asynchronous Application
 - Better stick with the "non-isochronous" as in table 2
 - application that is not synchronized to the Working Clock but to a local timescale
- Unscheduled Network
 - network operating in a way that decisions when and which frame to transmit next are taken independently from the working clock
- Class-based scheduled Network
 - network operating in a way that decisions when and which frame to transmit next are taken based on values of the 3-bit PCP field (802.1Q clause 6.9.3) AND are synchronized to the working clock
- Stream-based scheduled Network
 - network operating in a way that decisions when and which frame to transmit next are taken based on stream identification as defined in 802.1CB AND are synchronized to the working clock