Talker Requirements

Contribution to IEEE 802.1Qdj

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Issue 1. "MaxLatency" definition for time aware talkers (1)

- MaxLatency is the "relation" between a talker and one listener

- In a single Network there may be different MaxLatency values (one for each listener)

  - some listeners may have "tight" latency requirements for the same stream

   - e.g. Drive 1 receiving data from the red sensor

  - other listeners may have very relaxed latency requirements or no requirement at all

    - e.g., a monitoring HMI device
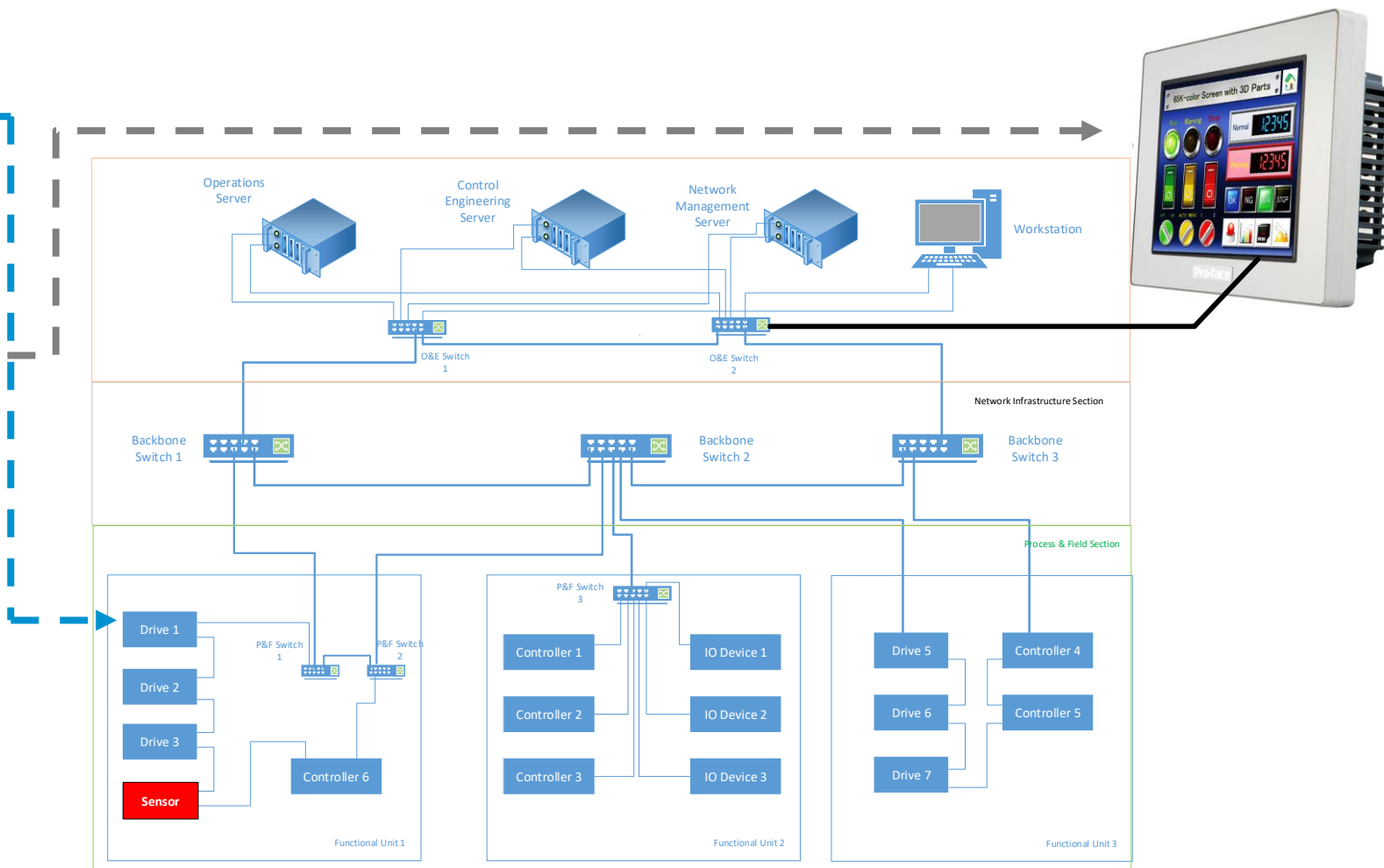
Issue 1: "MaxLatency" definition for time aware talkers (2)

- In the CNC-CUC UNI there is a MaxLatency for each listener

- In Qcc (35.2.2.10.7). MaxLatency can be specified at the talker. In that case the MaxLatency applies to all listeners

- The use case where the MaxLatency makes sense is if it represents the validity of the data send with this stream

  - however, this is an application-level semantics and shall not be represented in the network

- In some use cases setting the latency requirements at the talker may cause conflicts with the "fare away" listeners, specially in the case of converged networks

  - If the MaxLatency at the talker is set higher - that would invalidate the MaxLatency requirement for the listeners

  - If the MaxLatency at the talker is set lower - that would lead to some listeners not being able to receive the stream
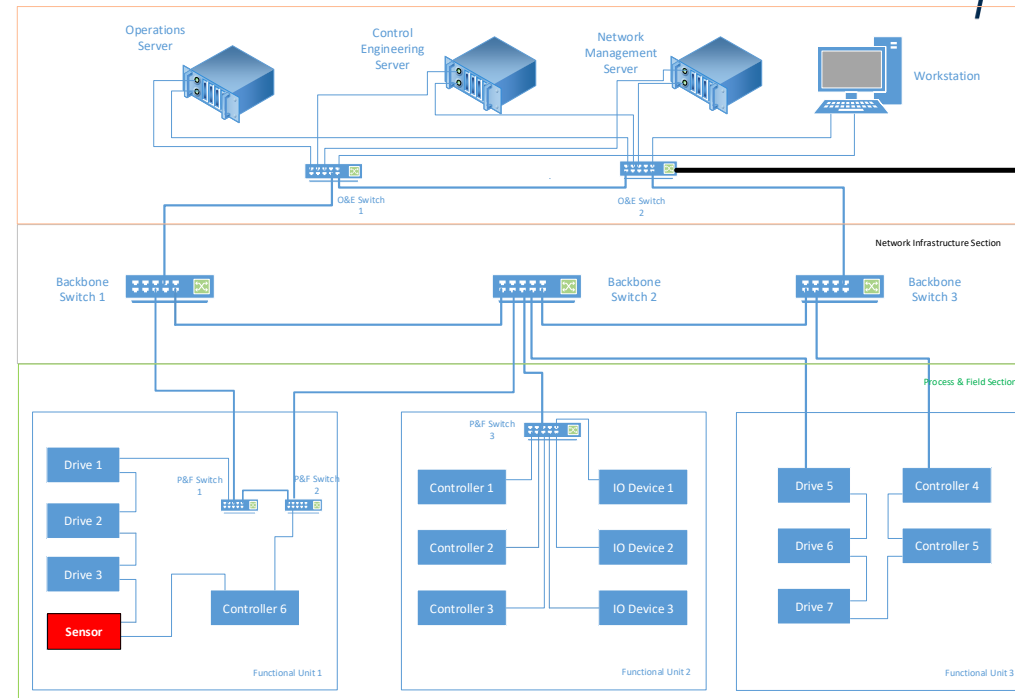
Proposal: Remove the MaxLatency parameter from the talker container

Issue 2. Redundancy requirements for talkers

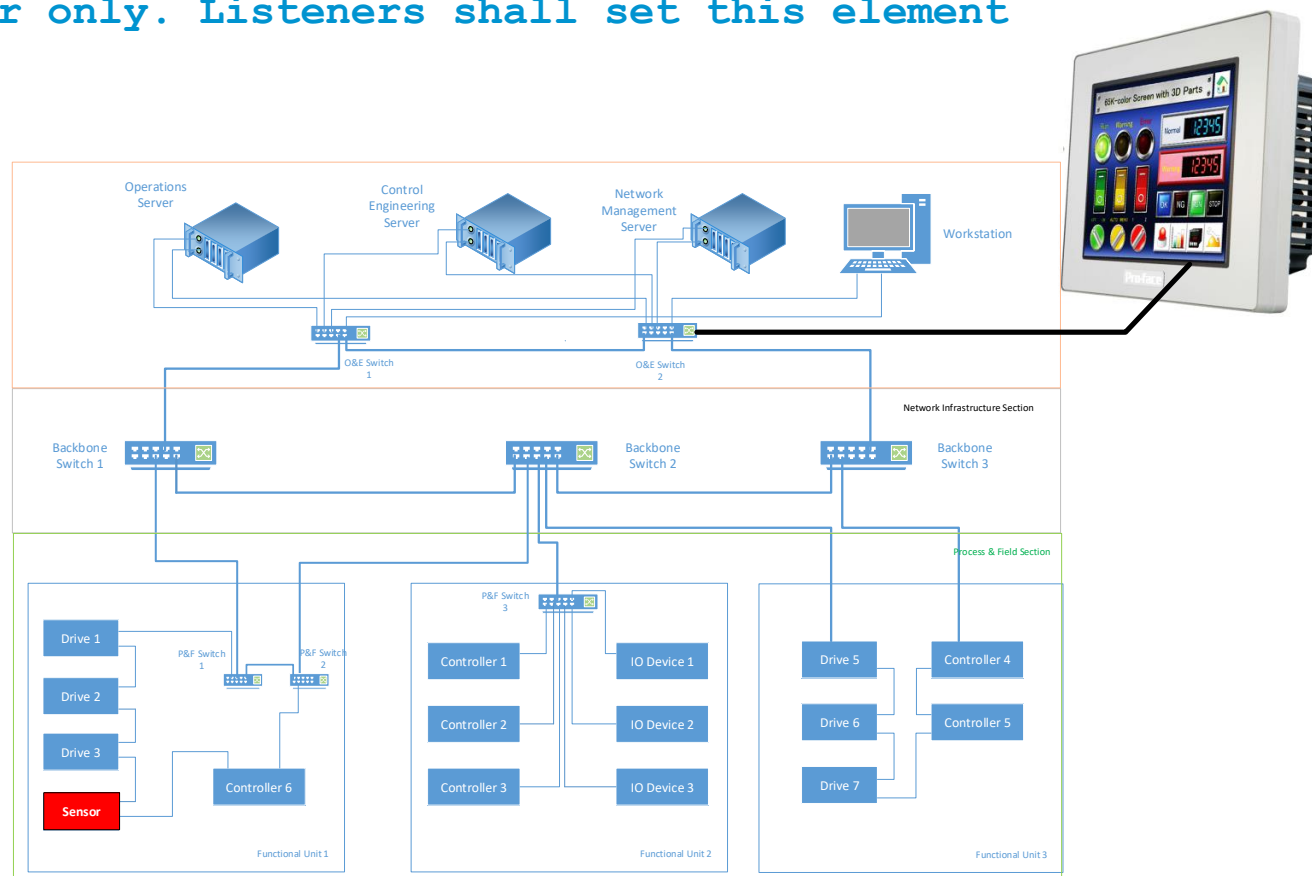`46.2.3.6.1 NumSeamlessTrees`

`NumSeamlessTrees specifies the number of trees that the network will configure to deliver seamless redundancy for the Stream.`

`This requirement is provided from the Talker only. Listeners shall set this element to one.`

- Some listeners may have same redundancy requirements some not (e.g., a monitoring HMI device)

- In some use cases setting the redundancy requirements at the talker may cause conflicts with the listener requests

Proposal 2.a: **Remove the Number of Seamless Trees from talker**
Proposal 2.b: **Add the Number of Seamless Trees for listeners**

Summary of contributions

Proposal 1:

- Remove the MaxLatency parameter from the talker container in the CUC-CNC interface.

Proposal 2:
- Remove the Number of Seamless Trees from talker
- Add the Number of Seamless Trees for listeners

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       46.2.3.6.1 NumSeamlessTrees
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NumSeamlessTrees specifies the number of trees that the network will configure to deliver seamless
redundancy for the Stream.
The value zero is interpreted as one (i.e. no seamless redundancy).
This requirement is provided from the ~~Talker~~ **Listeners** only. ~~Listeners shall set this element to one~~.
…
NumSeamlessTrees specifies the number of maximally disjoint trees that the network shall configure
from the Talker to ~~all Listeners~~ **the Listeners with NumSeamlessTress>1** Listeners.