



OPC UA FX™

OPC UA Specifications for Field eXchange
based on **IEC/IEEE 60802**

Recap

2019 ... IEEE 802.1 Interim Meeting in Salt Lake City



Presentation about the FLC Initiative as part of the OPC Foundation, developing a new Industry standard based on IEC/IEEE 60802:

<https://www.ieee802.org/1/files/public/docs2019/60802-Enzinger-FLC-Introduction-0519-v03.pdf>

2020 ... Final name for the new standards: OPC UA FX™ (OPC UA Field eXchange)

2022 ... First release of UAFX Specifications, focused on Controller-Controller communication (not yet referencing IEC/IEEE 60802 directly)

UAFX Specifications

Currently focused on **Controller-to-Controller** communication,
new release for **Controller-to-Device** is in work.

OPC 10000-80 UAFX Overview and Concepts

OPC 10000-81 UAFX Connecting Devices and Information Model

OPC 10000-82 UAFX Networking ← should refer to IEC/IEEE 60802 when public

OPC 10000-83 UAFX Offline Engineering

OPC 10000-84 UAFX Profiles

Definitions included in this document that are also covered by the IEC/IEEE [60802](#) TSN Profile for Industrial Automation will be superseded by the IEC/IEEE 60802 specification after that standard's publication, and this document will be updated accordingly.

NOTE 5 The default PCP and DSCP values for any type of traffic without explicit priority configuration are equal to Best Effort.

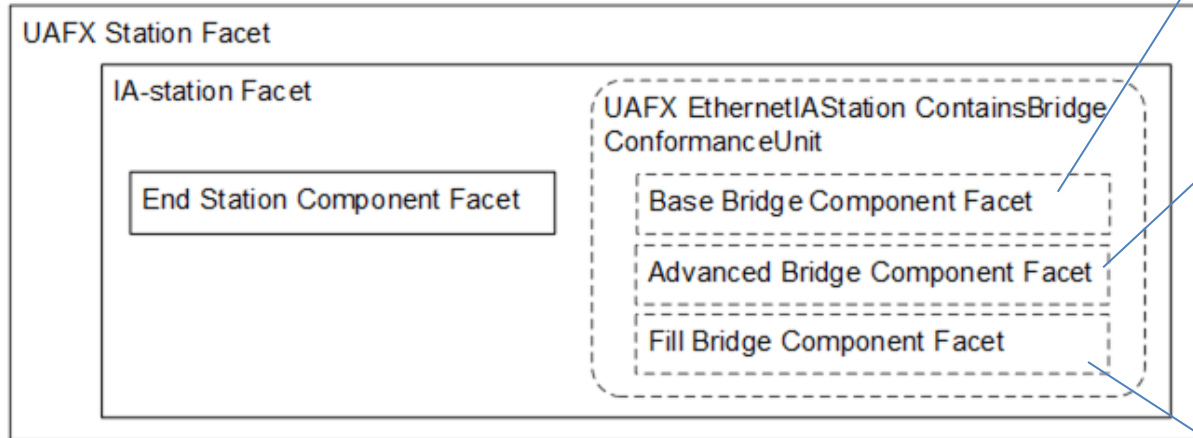
1 Additional DSCP values may be defined in a future release of this document.

2 Currently, there is no OPC UA means for the assignment of priority information for these services. This is expected to be added in a future release, e.g., through IEC/IEEE [60802](#).

UAFX Profiles

OPC 10000-84:

<https://reference.opcfoundation.org/UAFX/Part84/v100/docs/6.6.3>



Base Bridge Component Facet

(Close to IEC/IEEE 60802 ccB)

- minimum functionality
- remote management
- 4 queues, 8 C-VLAN, strict priority
- ...

Advanced Bridge Component Facet

(Close to IEC/IEEE 60802 ccB)

- 8 queues, priority regeneration, frame preemption
- gPTP
- TE-MSTID
- Interference 500/200
- ...

Full Bridge Component Facet

(Close to IEC/IEEE 60802 ccA)

- Scheduled Traffic GCL 16/64
- Scheduled Traffic Cycle Time 800/1000
- ...

Proposals for IEC/IEEE 60802 – Edition 2

Interoperability based on Conformance Classes ?

- ccB / ccA are a good basis for feature selection, but not specific enough
- Bridge Interoperability **within a system** is good when deriving concrete profiles from ccA or ccB
- Bridge Interoperability **between groups** (other than OPC UA) will be **difficult**

Proposal:

- **Additional 60802 conformance classes, more specific definitions of mandatory/optional features and quantities**



Thank you for your attention !

Thomas Enzinger
IEEE 802.1 Interim, Munich, May 2026