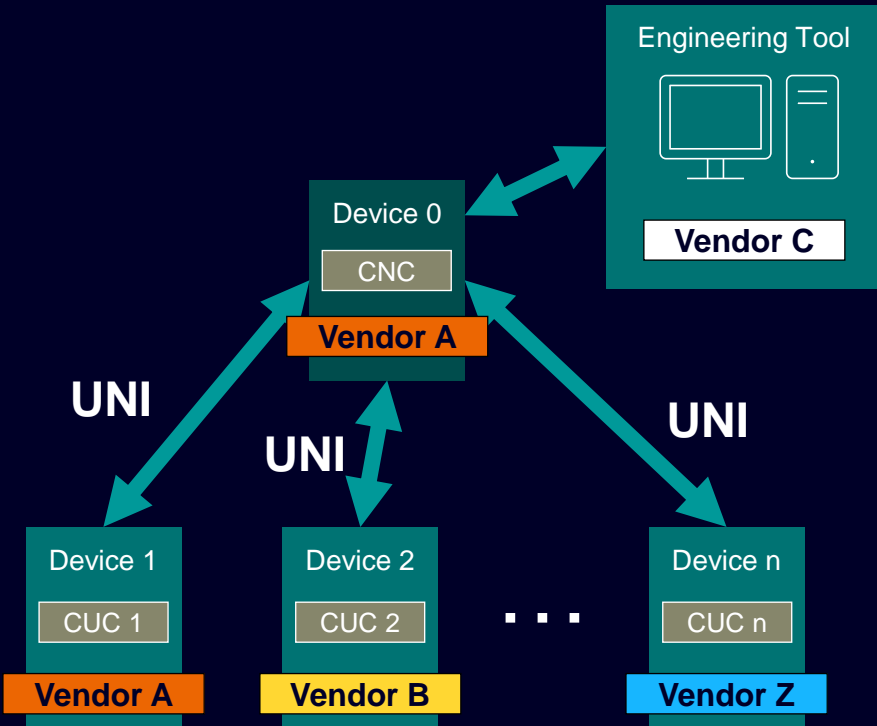


# **Accounting for multiple CUCs and CNCs (and their capabilities and quantities) in YANG module ieee802-dot1dj-tsn-config-uni**

Rodrigo Ferreira Coelho [Siemens AG]

# Motivation

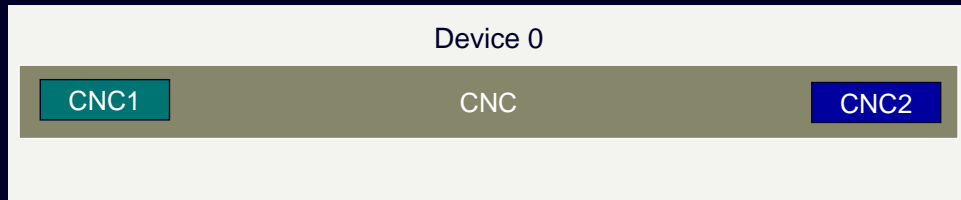


## Requirements

- Multivendor interoperability
- Converged network, plug & produce
- Security and access control **by default**
- **Multiple CUCs**

How does `ieee802-dot1dj-tsn-config-uni` **YANG module** account for **multiple CUCs**

# Motivation

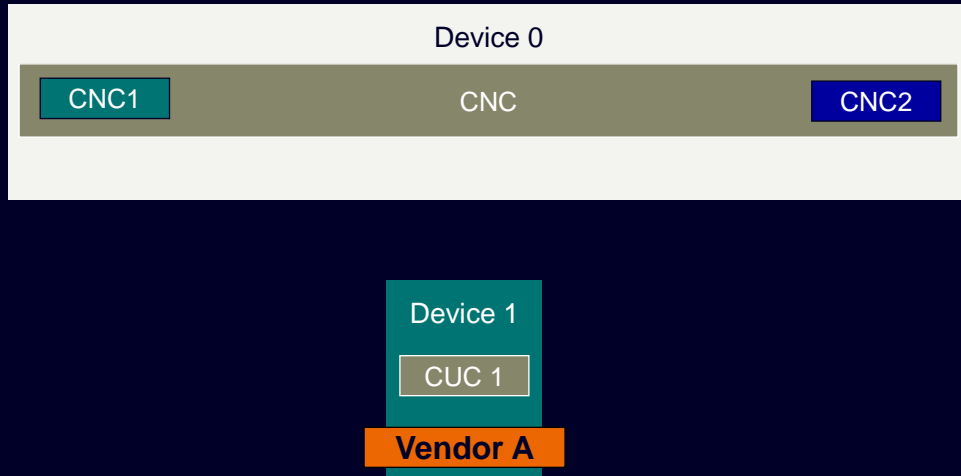


## Requirements

- Multivendor interoperability
- Converged network, plug & produce
- Security and access control **by default**
- **Multiple CNCs in a chassis**

How does `ieee802-dot1dj-tsn-config-uni` **YANG module** account for **multiple CNCs**

# Motivation



## Requirements

- Multivendor interoperability
- Converged network, plug & produce
- Security and access control **by default**
- Description of **capabilities and quantities of CNCs and CUCs**
  - **Offline** and **online** available

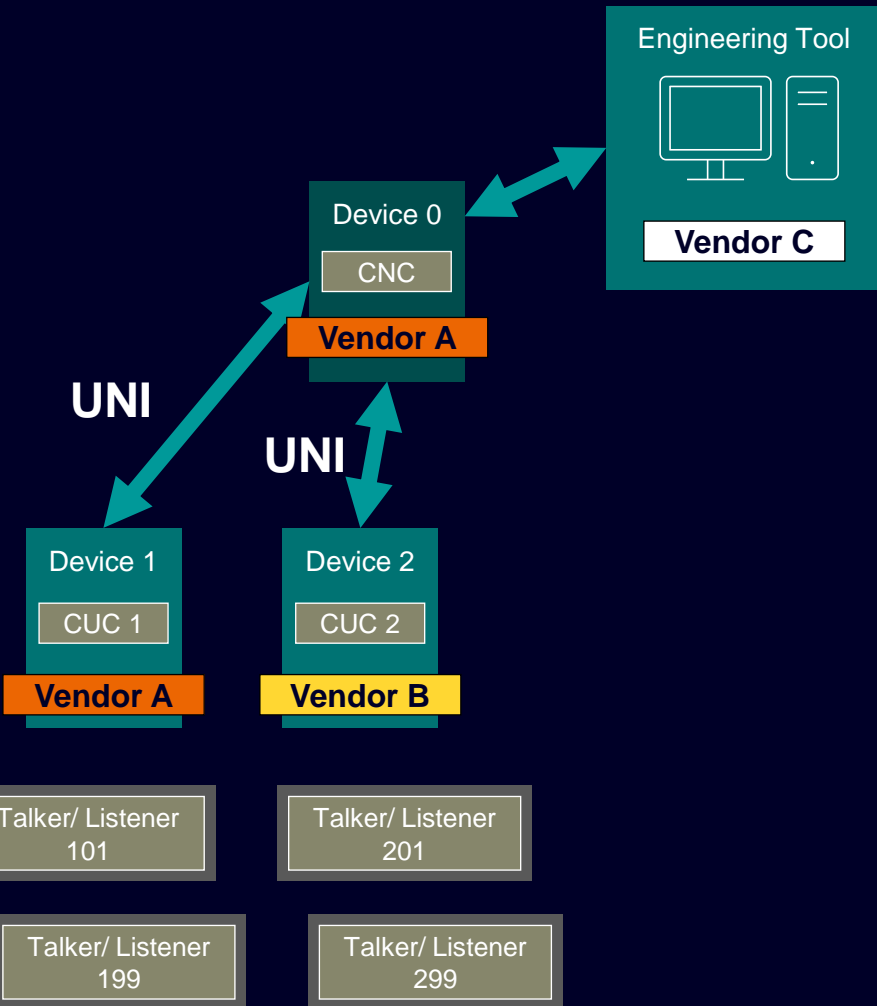
How does `ieee802-dot1dj-tsn-config-uni` **YANG module** account for **capabilities and quantities of CNCs and CUCs**

# Agenda

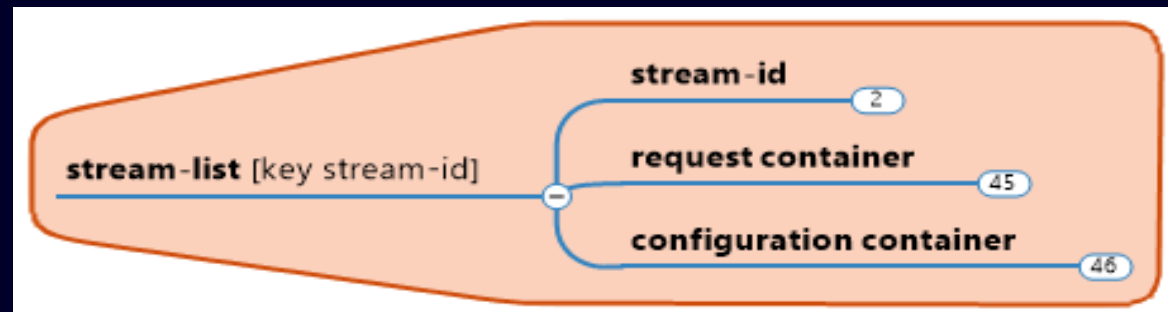
1. Support of **multiple CUCs** in the YANG module
2. Support of **multiple CNCs** in the YANG module
3. Support of **capabilities and quantities of CNCs and CUCs** in the YANG module

# Adding support to **multiple CUCs** in the YANG module `ieee802-dot1dj-tsn-config-uni`

# Motivation

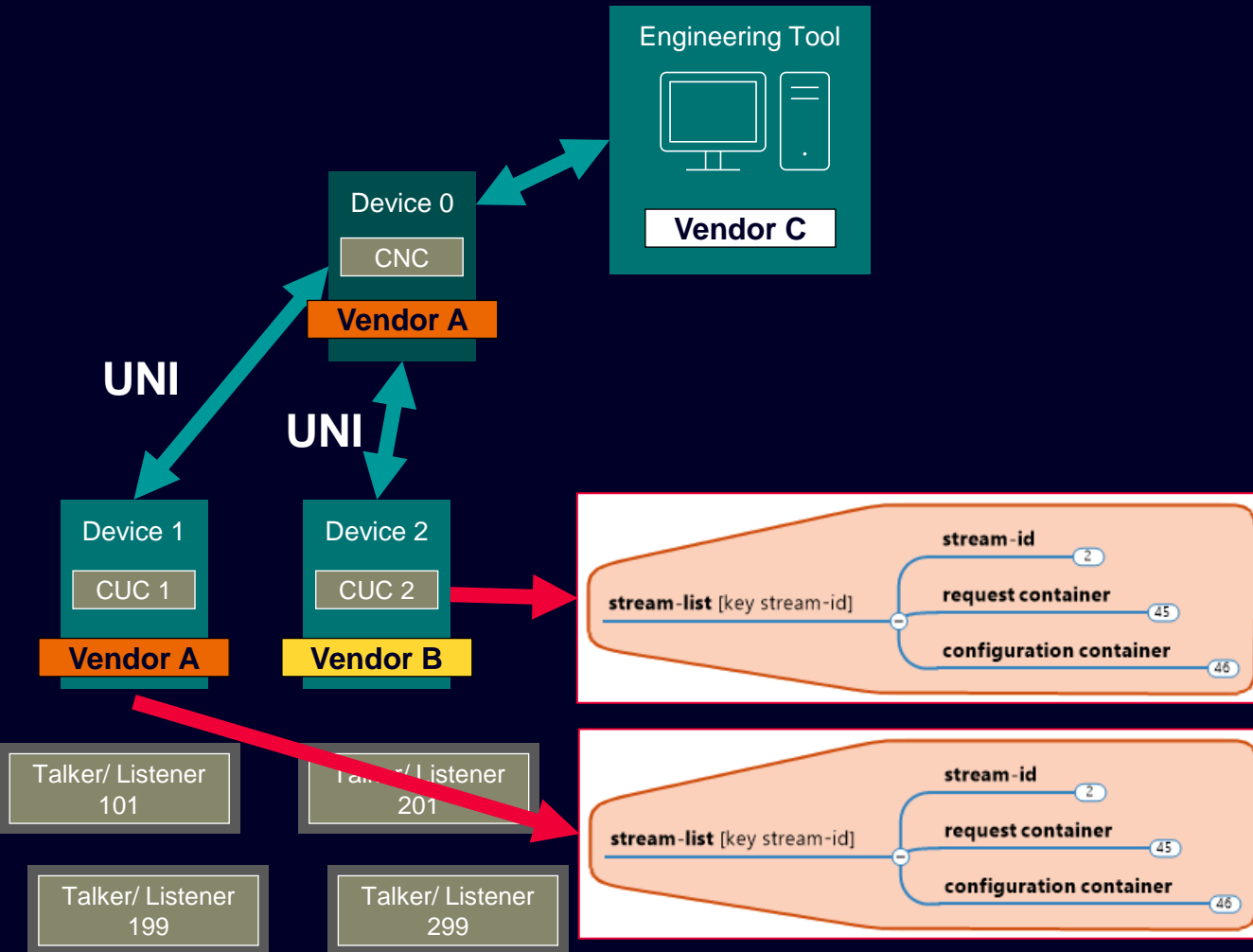


How to accommodate streams requested/ managed by CUC2 ?



Graphical representation of stream-list extracted from 802.1Qdj YANG module

# Motivation



Expected (most common) relationship between CUCs and streams

- A CUC requests a stream
- Future requests related to this stream (e.g. add/ remove Listener) done by the same CUC



# Proposed YANG Module extension for multiple CUCs

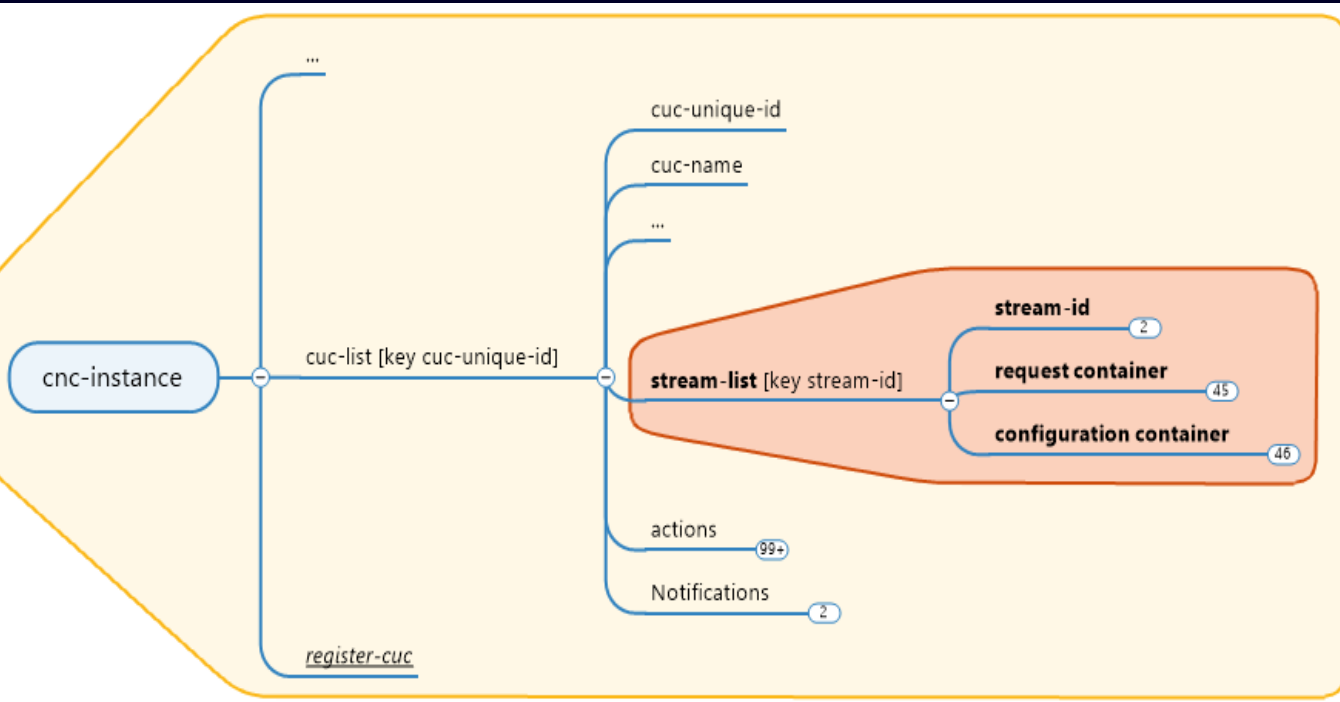
Expected (most common) relationship between CUCs and streams

- A CUC requests a stream
- Future requests related to this stream (e.g. add/ remove Listener) done by the same CUC

In this case, *stream-list* under a CUC branch facilitates

- Network Access Control Management
- Stream management per CUC

For use cases in which multiple CUCs access same stream, same structure can be used

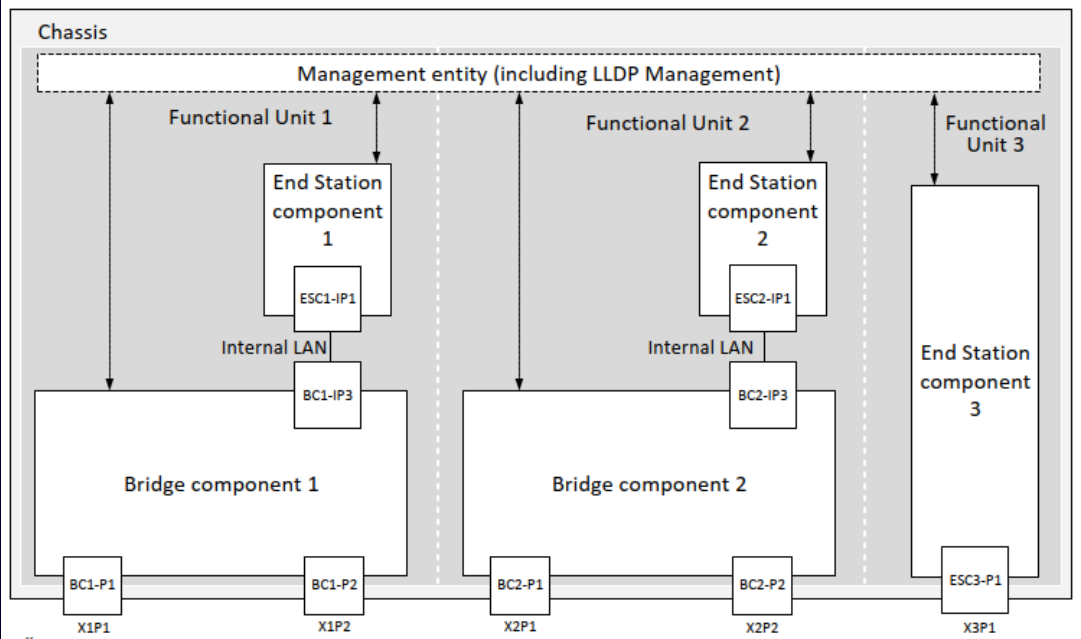


Reminder:  
StreamID & StreamDA managed by CNC  
(see dj-coelho-yang-module-0122-v02.pdf)

# Adding support to **multiple CNCs** in the YANG module `ieee802-dot1dj-tsn-config-uni`

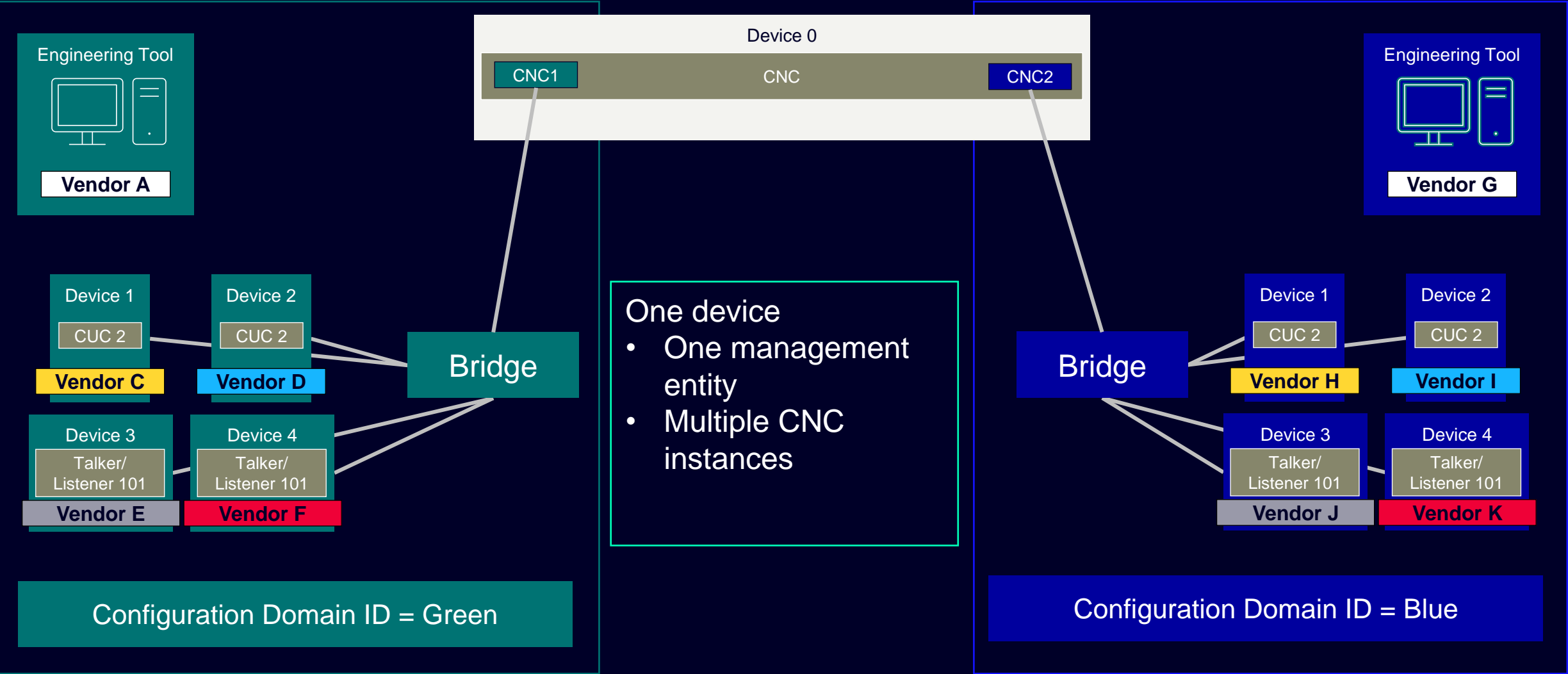
# Motivation

One management entity per chassis  
Possibly multiple CNCs (Config Domains) per chassis

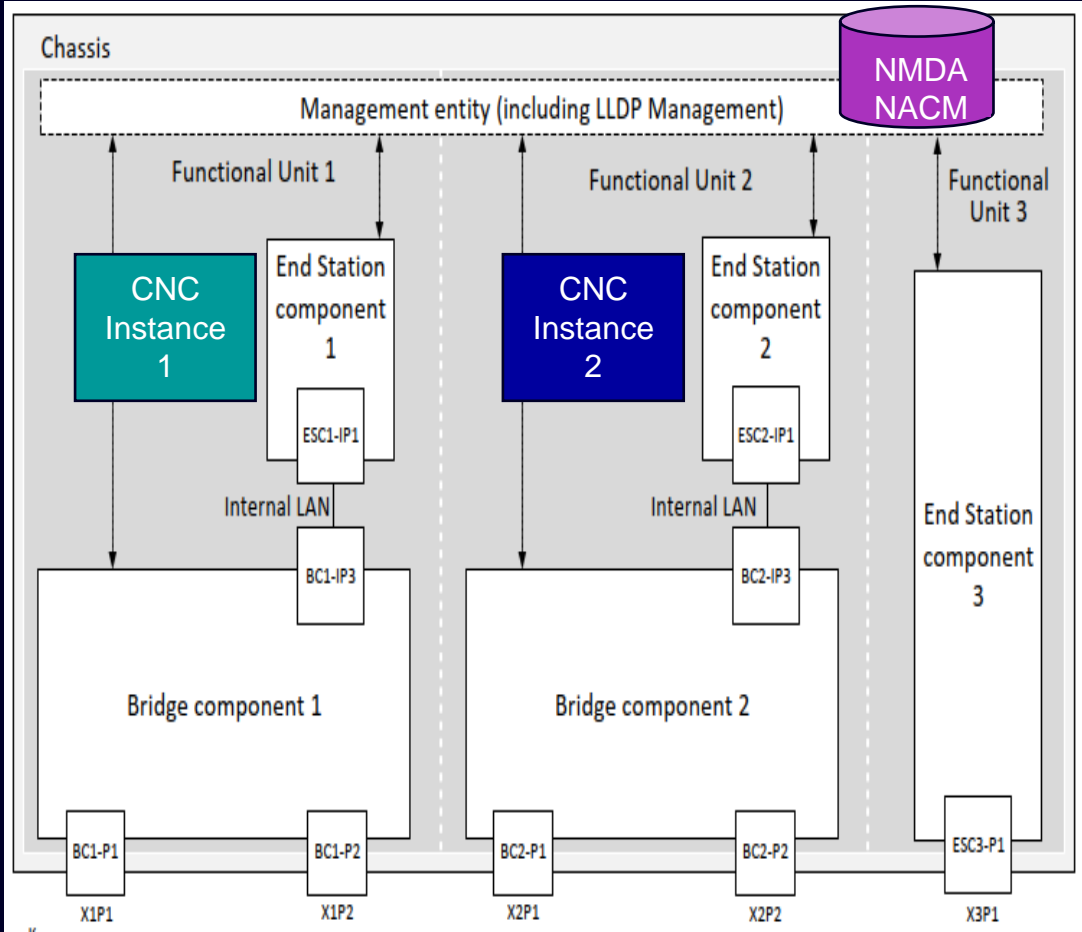
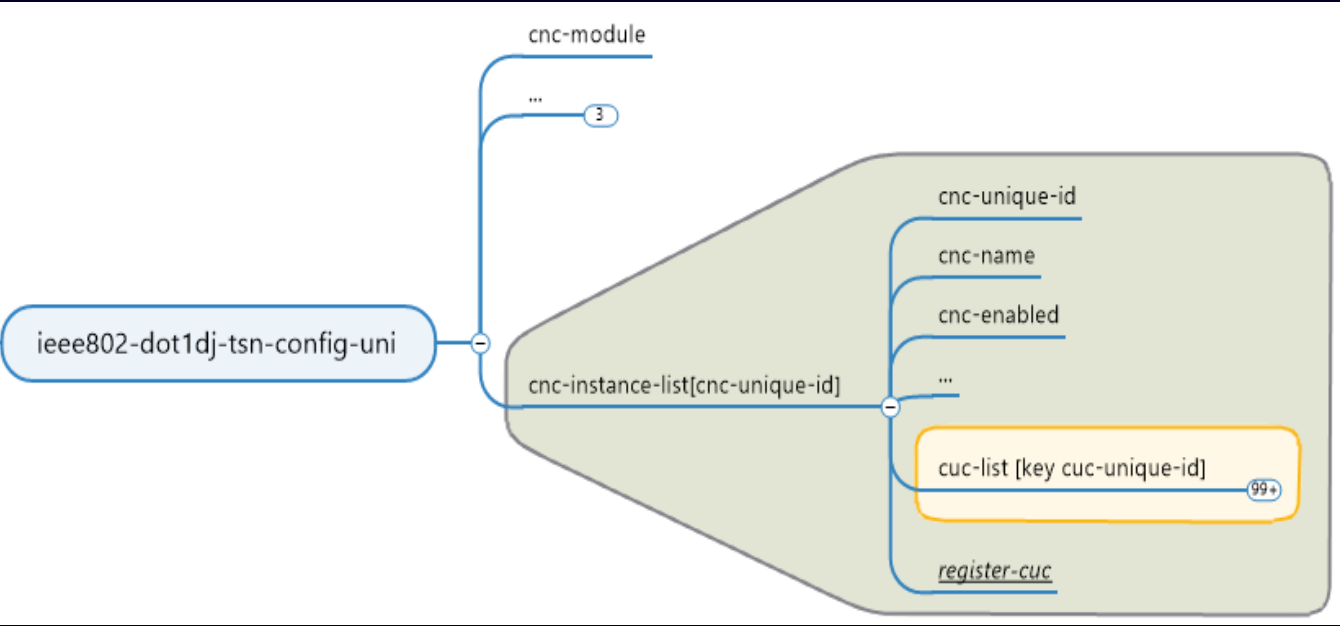


Extracted from IEC/IEEE 60802 d1-3

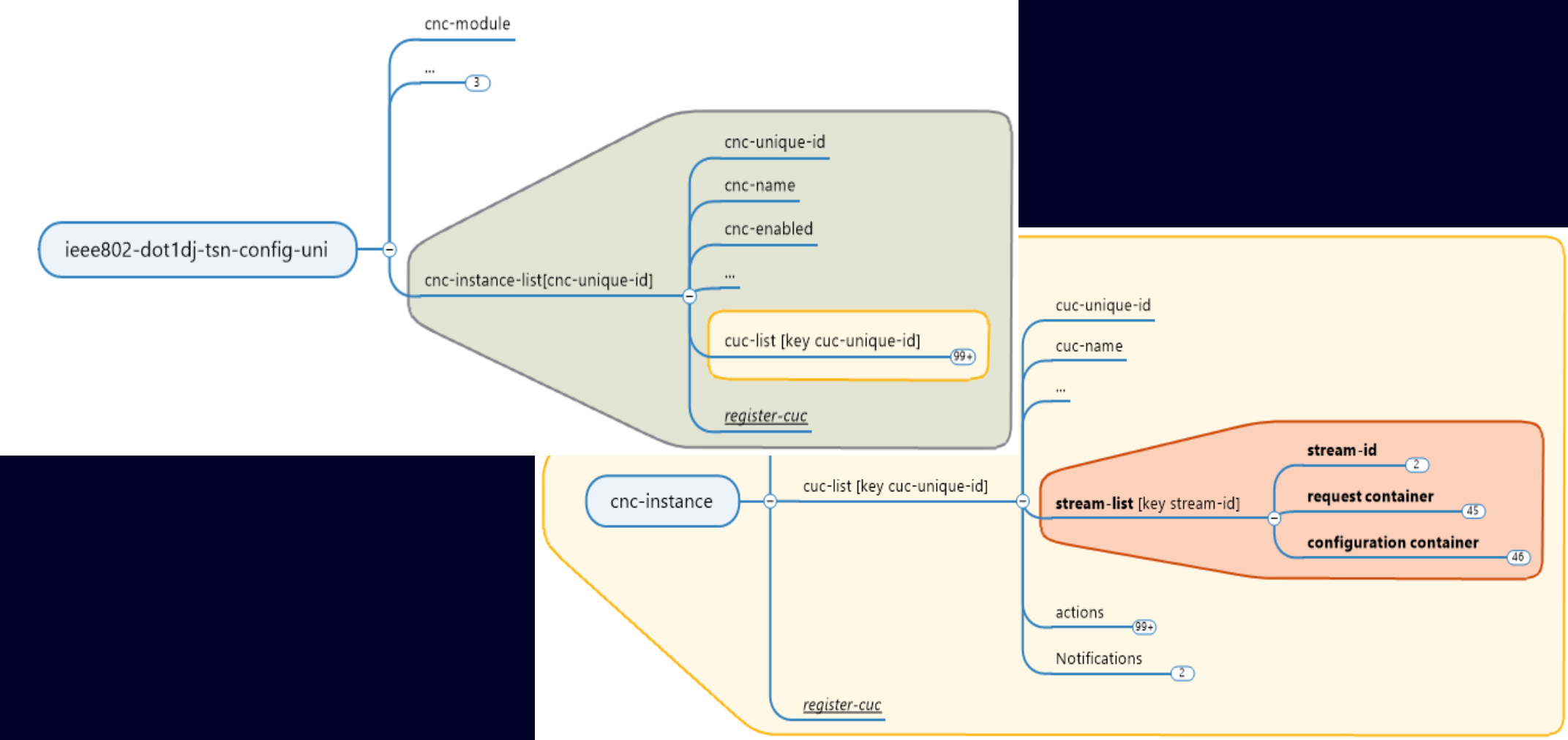
# Motivation



# Proposed YANG Module extension for multiple CNCs



# Proposed YANG Module extension for multiple CNCs



# Adding support to **CNC and CUC capabilities & quantities** in the YANG module `ieee802-dot1dj-tsn-config-uni`

# Motivation

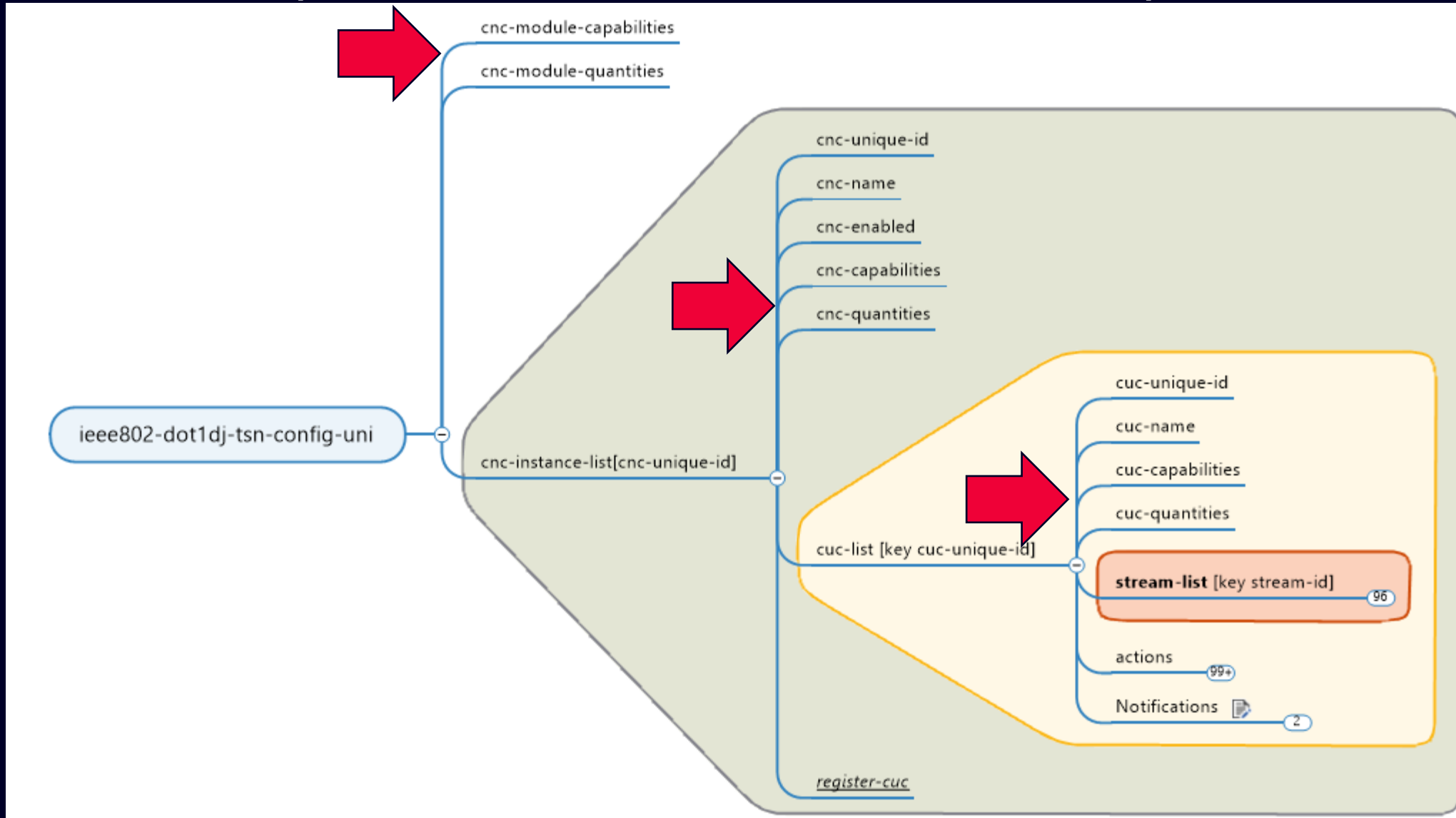
## Needed

- Means to specify relevant capabilities and quantities supported by
  - Management entity, e.g.
    - Num CNCs, NumStreams, NumDevices
  - CNC, e.g.
    - NumStreams, NumDevices, NumCUCs, StreamClasses
  - CUCs, e.g.
    - NumStreams, NumDevices
- Available in a machine readable format
- Offline and online
  - Feature description at “purchase”
  - Early detection if designed features are available

`ieee802-dot1dj-tsn-config-uni`  
YANG module is the natural  
choice to store this information



# YANG Containers: Proposed extension for CNC & CUC capabilities & quantities



| Further questions?

# | Contact

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