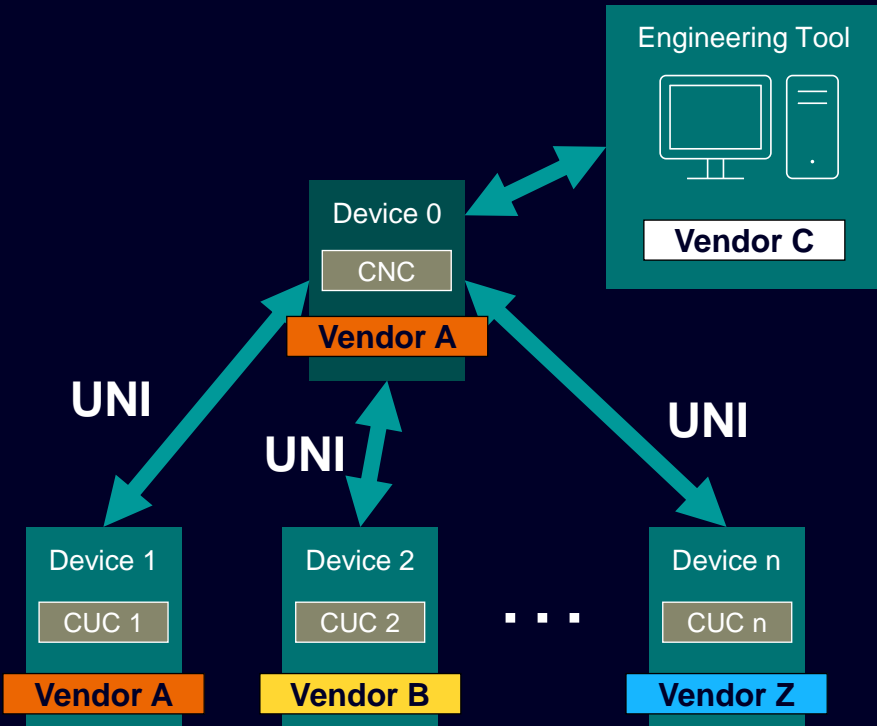


Accounting for multiple CUCs and CNCs (and their capabilities and quantities) in YANG module ieee802-dot1dj-tsn-config-uni

Rodrigo Ferreira Coelho [Siemens AG]

Motivation



Requirements

- Multivendor interoperability
- Converged network, plug & produce
- **Multiple CUCs**

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

Motivation

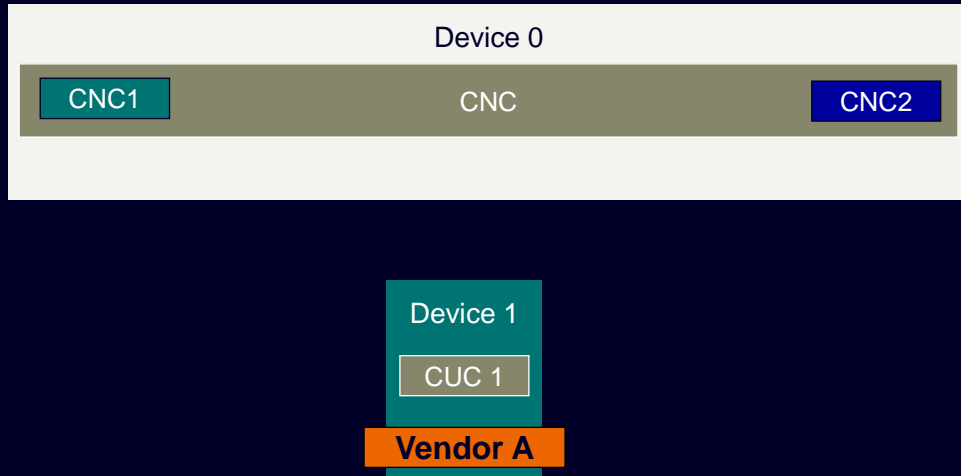


Requirements

- Multivendor interoperability
- Converged network, plug & produce
- **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
- Description of **capabilities and quantities of CNCs and CUCs**

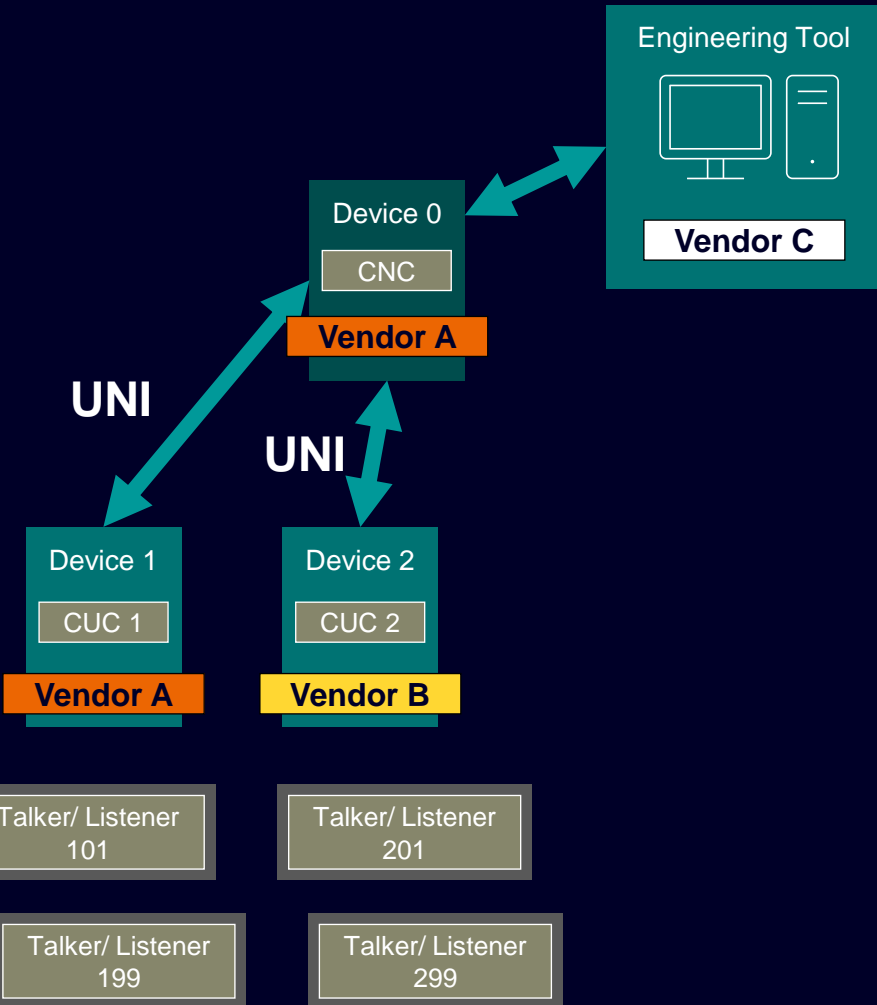
How does `ieee802-dot1dj-tsn-config-uni` **YANG module** account for **capabilities and quantities of CNCs and CUCs**

Agenda

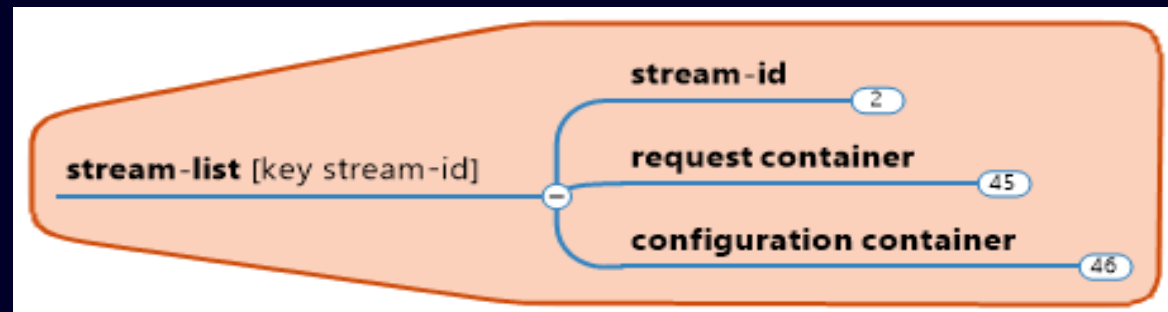
1. Support of **multiple CUCs** in the YANG module
2. Support of **multiple CNCs** in the YANG module
3. Support of **capabilities and quantities of CNCs and CUCs** in the YANG module

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

Motivation

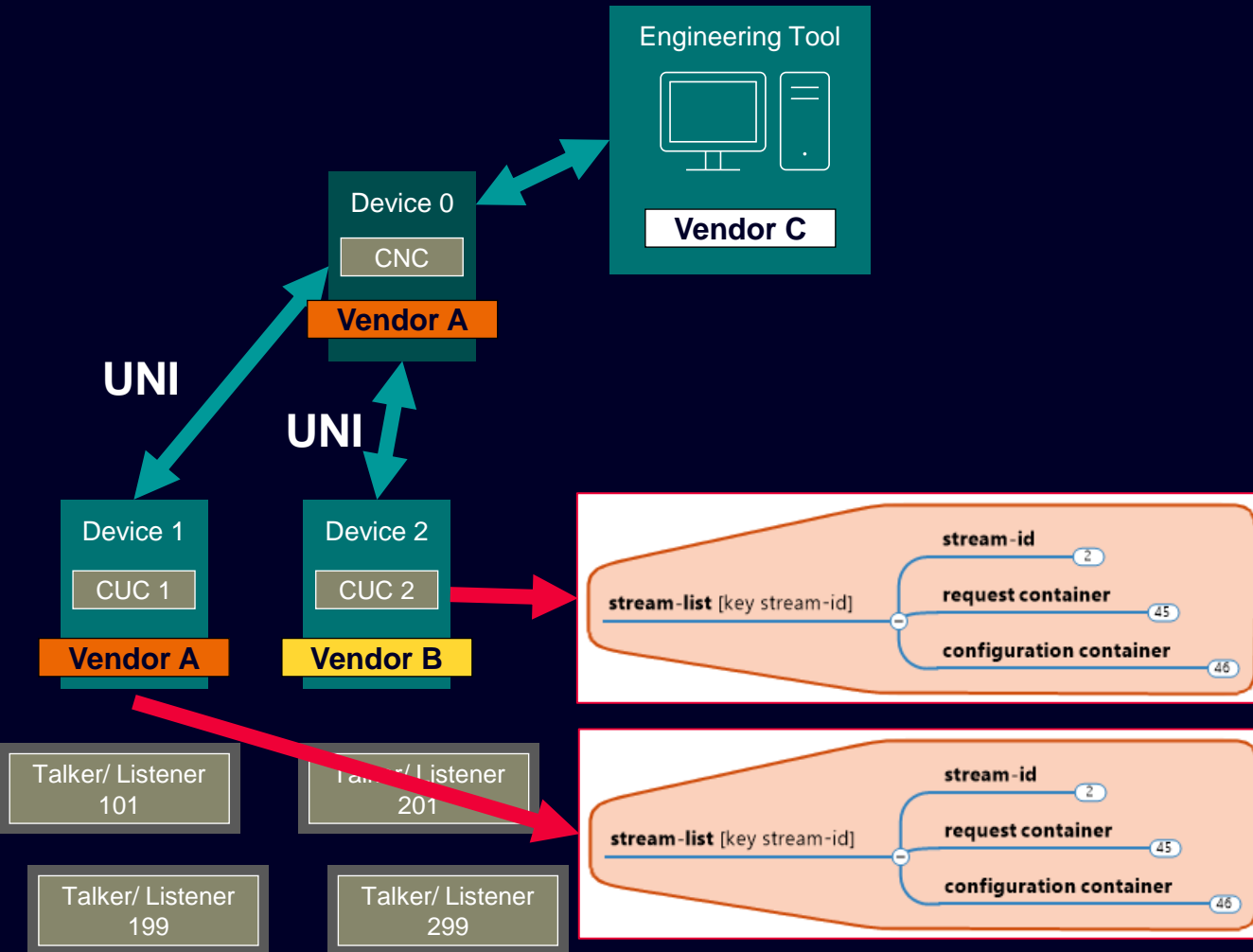


How to accommodate streams requested/ managed by CUC2 ?



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

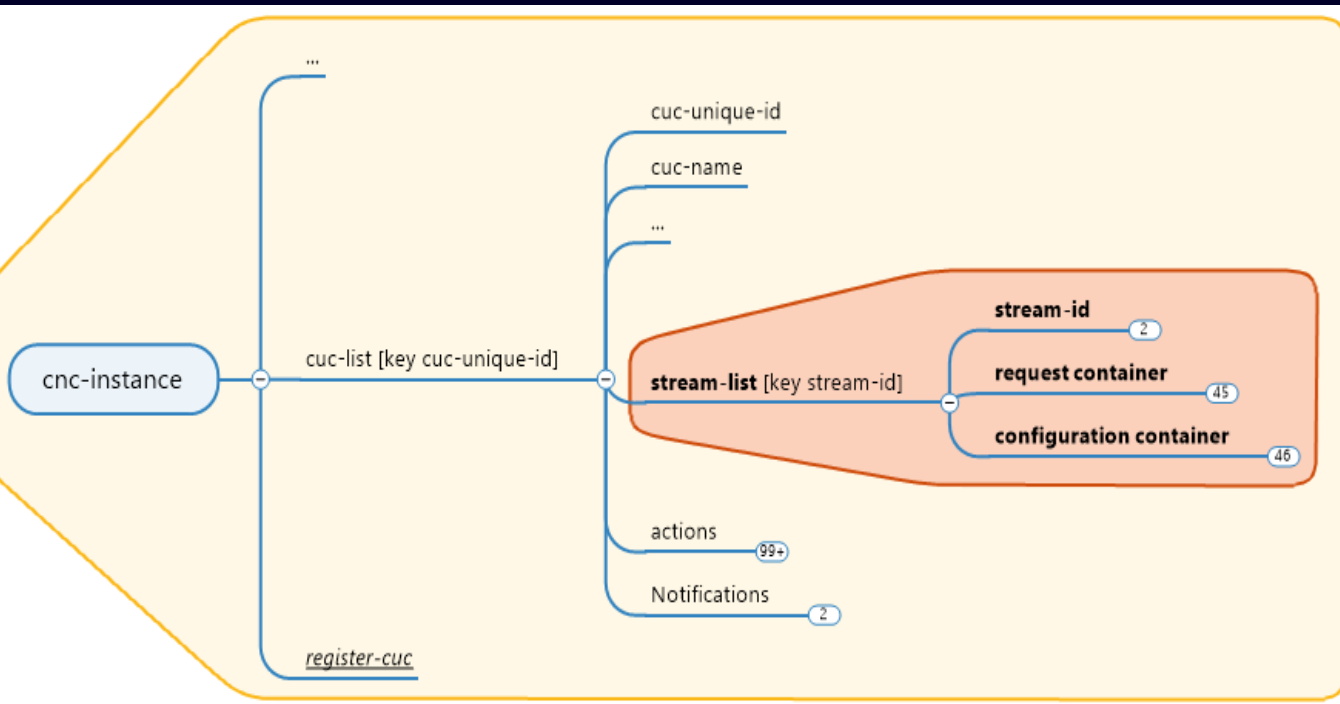
Expected (most common) relationship between CUCs and streams

- 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

- NACM
- Stream management per CUC

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

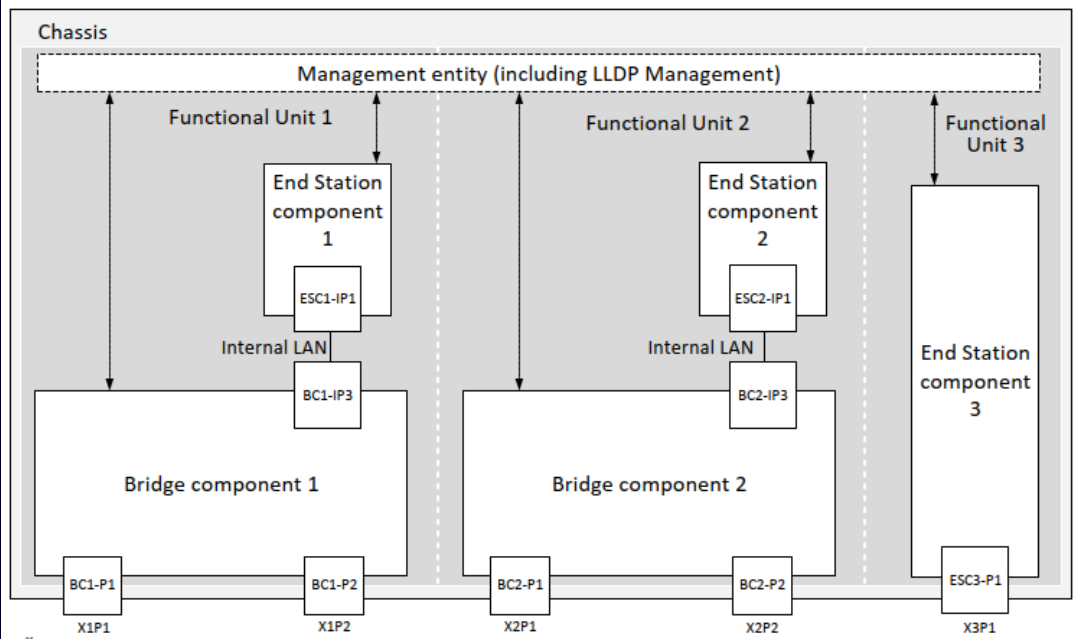


Reminder:
StreamID & StreamDA managed by CNC
(see [dj-coelho-yang-module-0122-v02.pdf](#))

Adding support to **multiple CNCs** in the YANG module `ieee802-11-dj-tsn-config-uni`

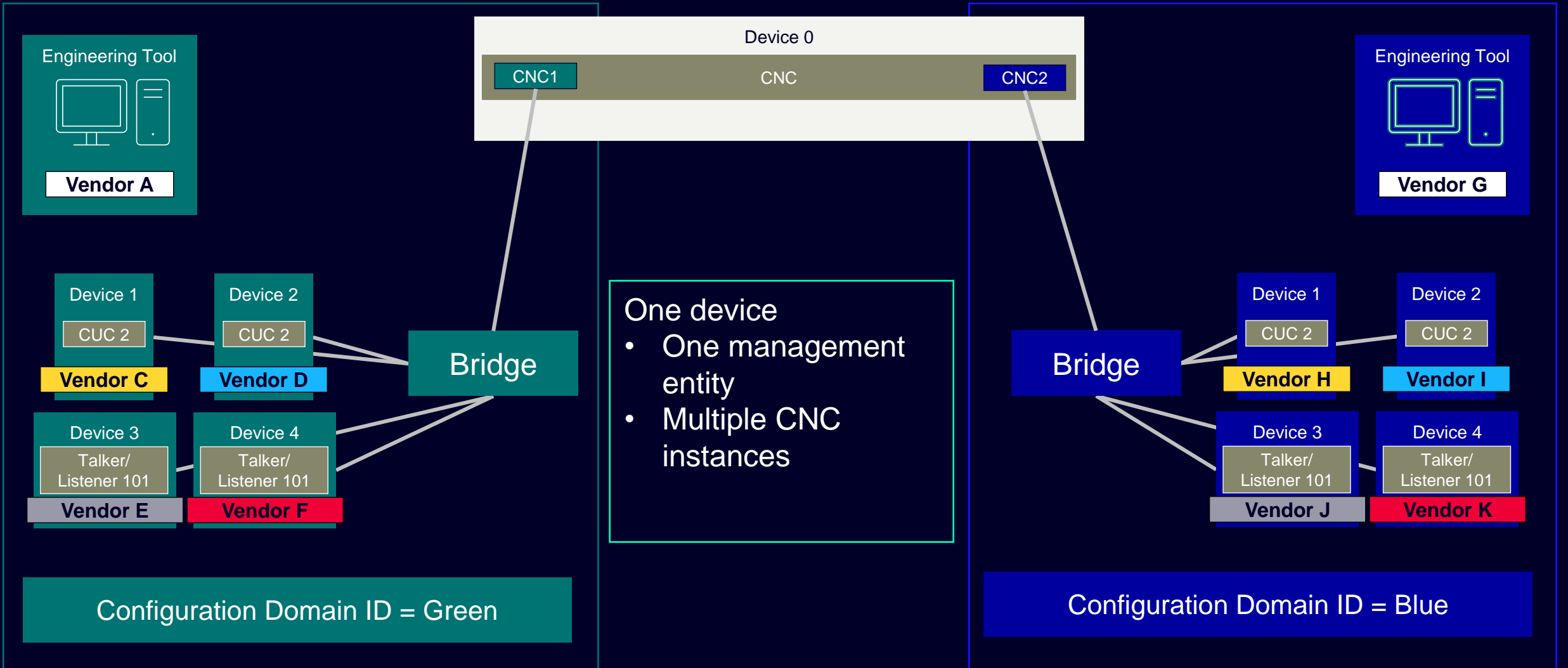
Motivation

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

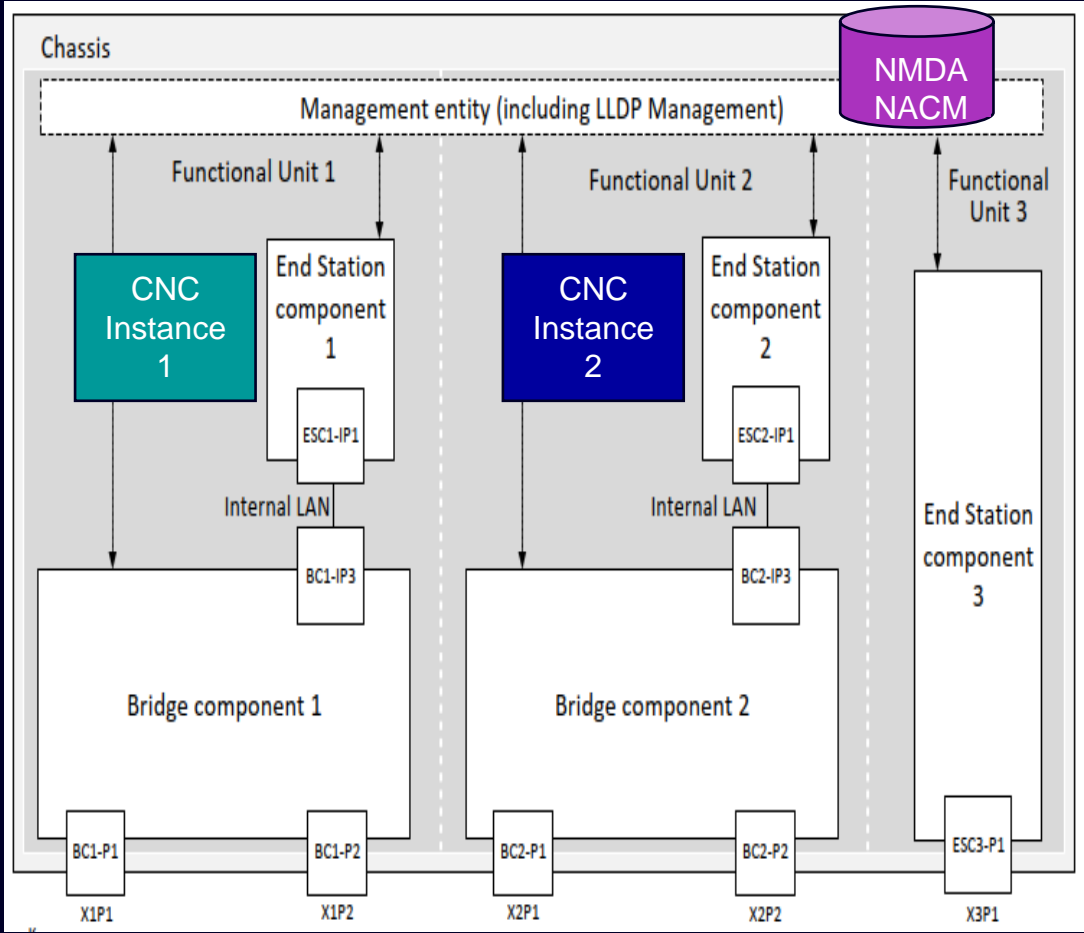
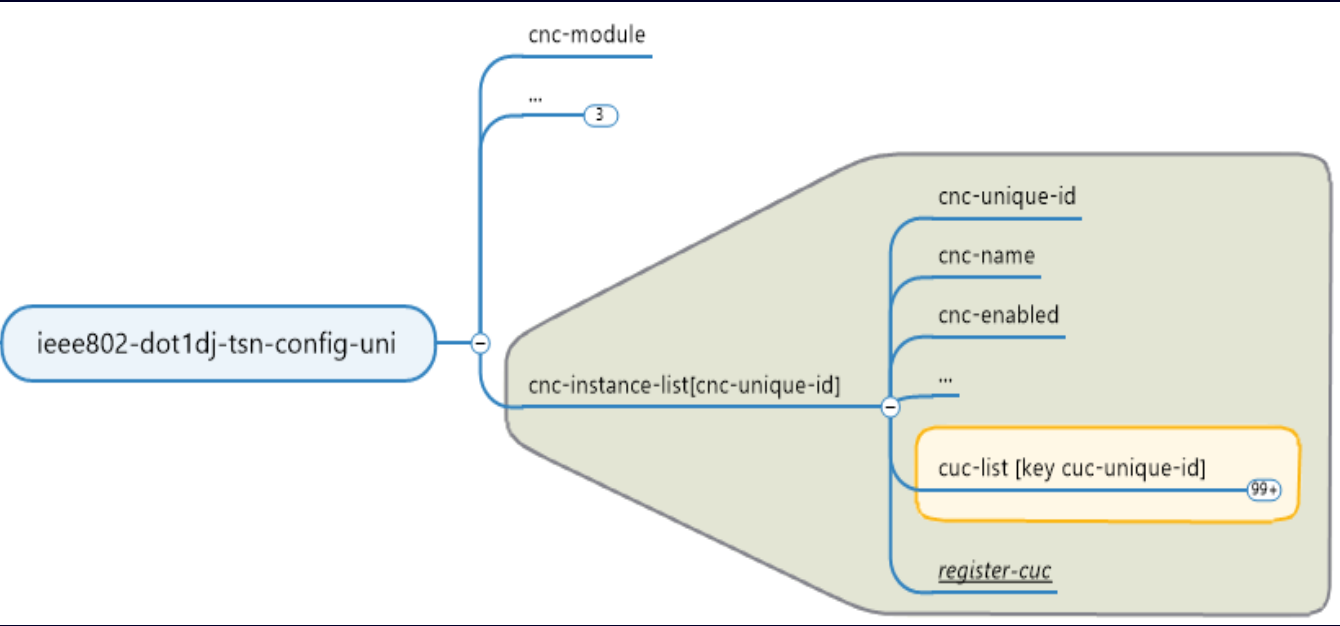


Extracted from IEC/IEEE 60802 d1-3

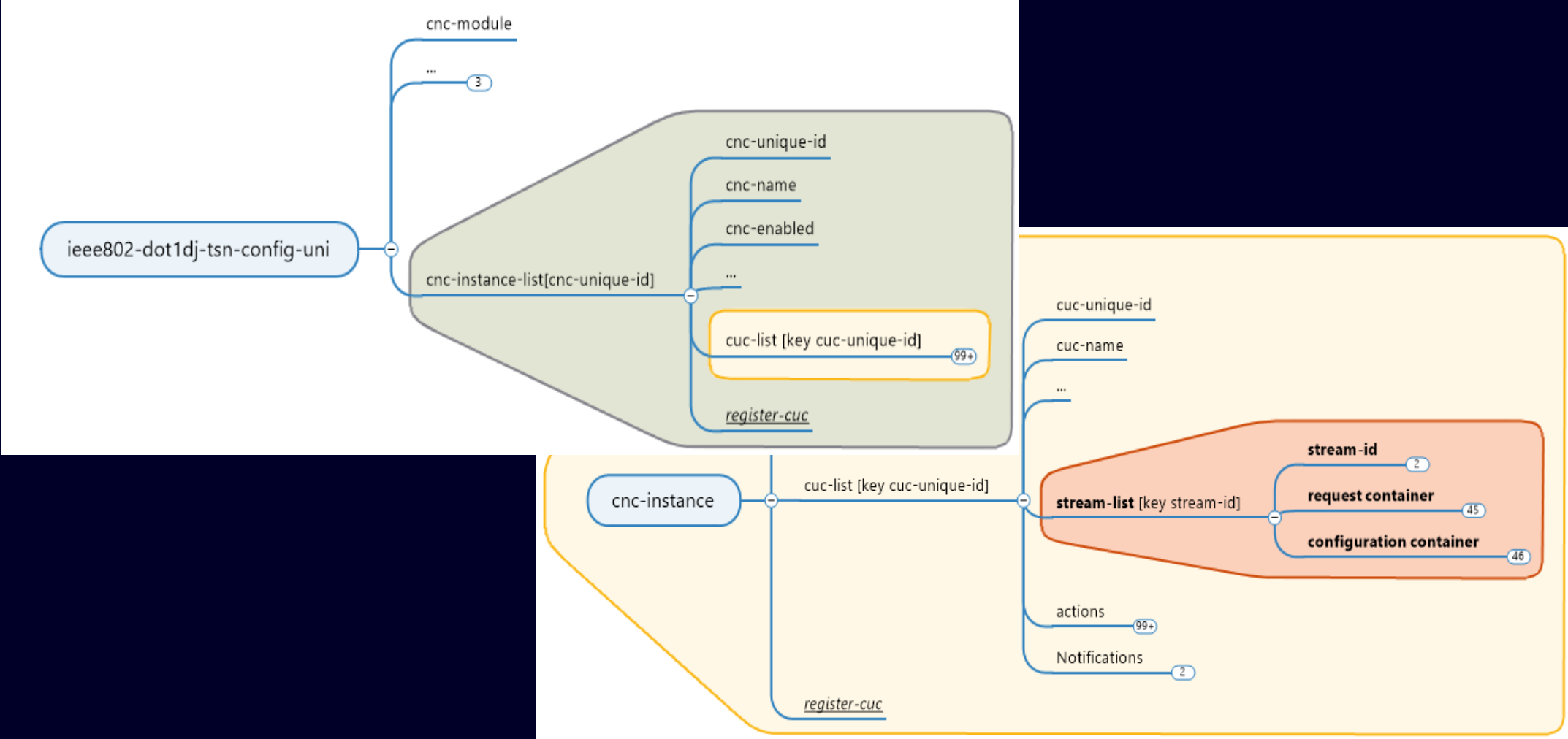
Motivation



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

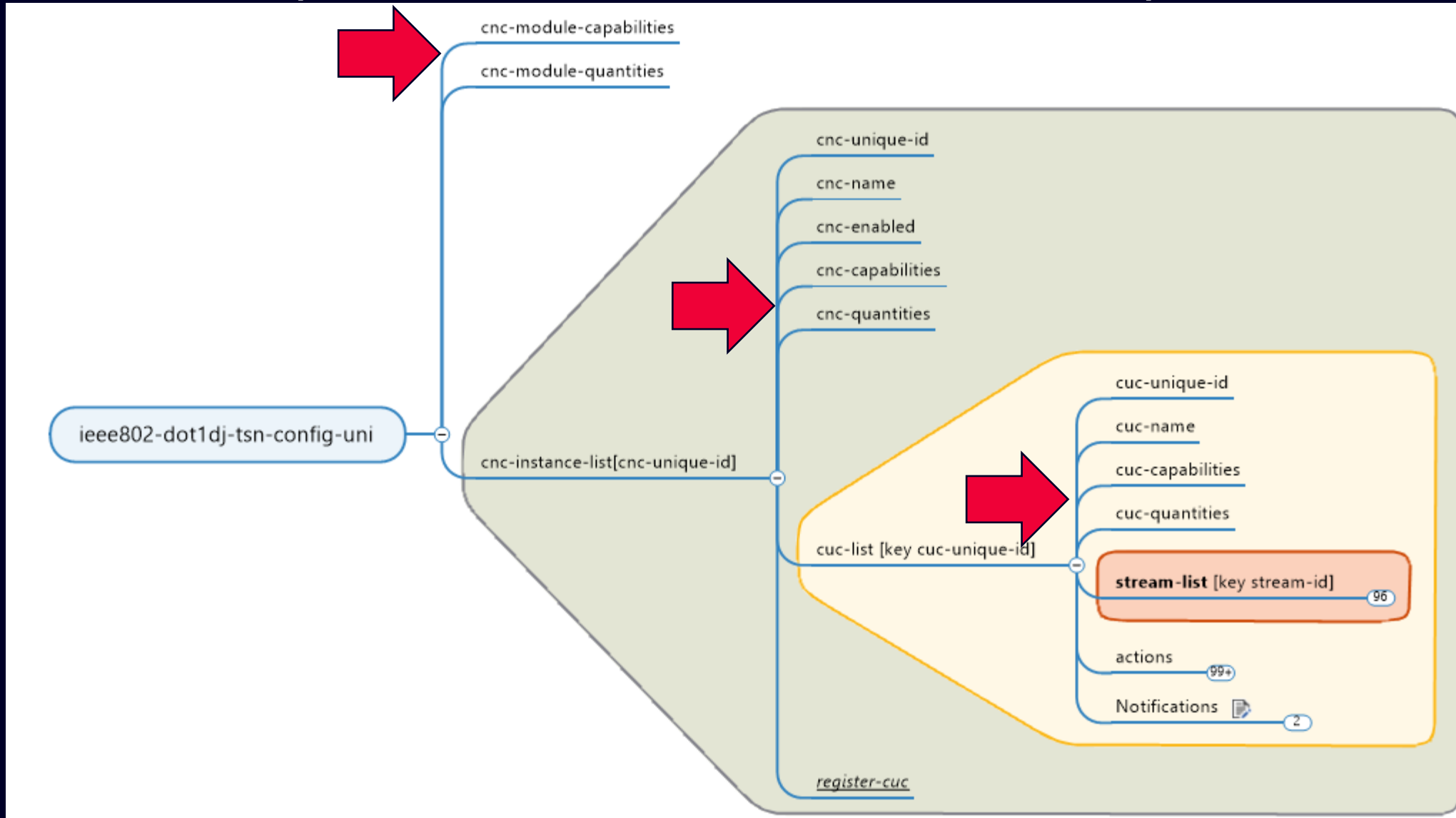
Needed

- 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

Qdj YANG module is the natural choice to store this information

- Domain manager

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



| Further questions?

| Contact

Dr. Rodrigo Ferreira Coelho

System Architect

DI FA CTR ICO ARC

Siemenspromenade 1

91058 Erlangen

Deutschland

Phone: +49 9131 17-45546

E-mail: rodrigo.ferreira_coelho@siemens.com