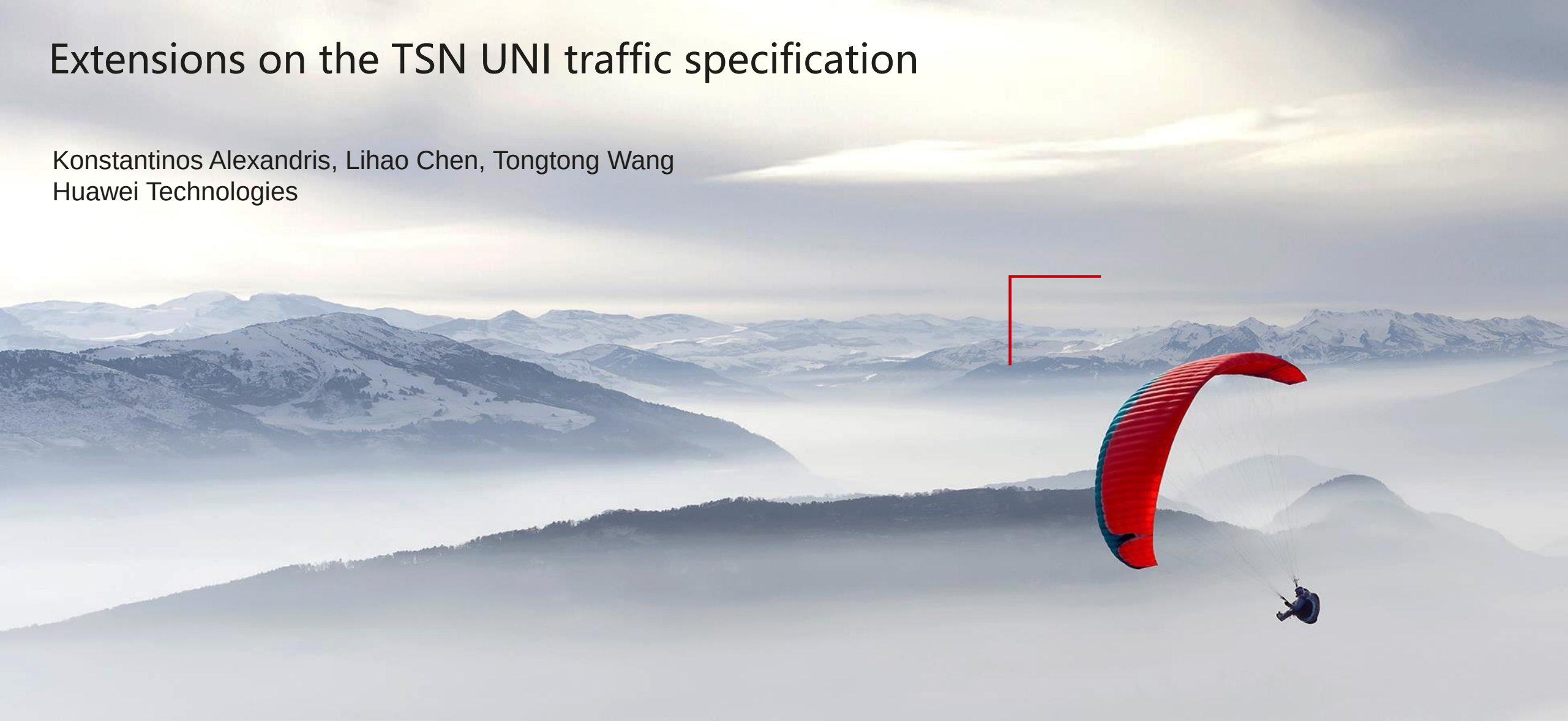
Extensions on the TSN UNI traffic specification

Konstantinos Alexandris, Lihao Chen, Tongtong Wang
Huawei Technologies



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Objective

- TSN UNI TSpec to handle TokenBucket traffic model [1,2]
  - Need for a standard way to receive stream requirements
  - Only basic and TimeAware Tspec elements are included in 802.1Q-2022
- Enable TSN UNI to support the TokenBucket traffic model in conjunction with centralized configuration [*]
  - End-station/CUC needs to send the TokenBucket Tspec via TSN UNI
  - Current projects and standards do not define specific YANG models
  - Centralized configuration involves CNC assistance support
  - To be complementary to RAP (P802.1Qdd) that uses distributed configuration

[*] Both fully centralized and centralized network/distributed user configuration models

[1] https://standards.ieee.org/ieee/802.1Q/10323/
[2] https://www.ieee802.org/1/files/public/docs2021/new-specht-onats-0921-v01.pdf

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Proposal

- **Tspec** definition is not **complete**: Addition of parameters for the TokenBucket model
- Existing YANG models do not support centralized configuration via TSN UNI including the TokenBucket Tspec

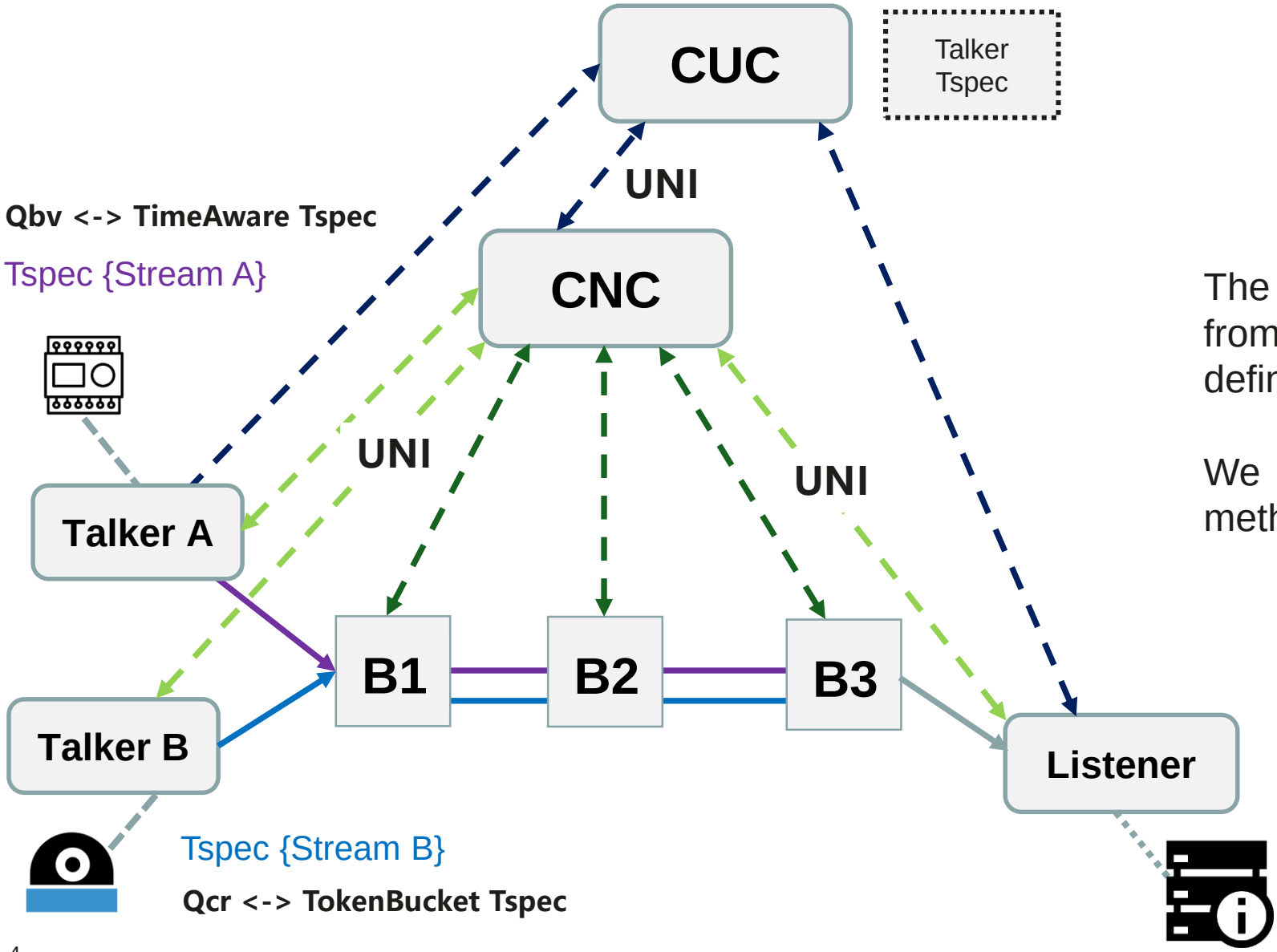
Sub-clauses to be extended:

- **46.2.3.5 – Table 46.8:** Extension of the existing Tspec incorporating the relevant parameters (currently missing)
  - Committed Information Rate (CIR), Committed Burst Size (CBS) & Max/Min Frame Length

- **48.5.13:** Extension of the respective YANG model to support configuration via TSN UNI (currently missing)
  - `traffic-specification` [3]: To include TockenBucket TLV parameters **[TokenBucket Tspec]**

[3] https://1.ieee802.org/tsn/802-1qdj/

Configuration Model & Tspec



The way TimeAware Tspec is conveyed from user to CNC has already been defined.

We should follow the same methodology with TokenBucket Tspec.

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Conclusion

Need to develop the TSN UNI extension.

1. A new PAR for this extension.
2. Other alternatives ?

Thank you.