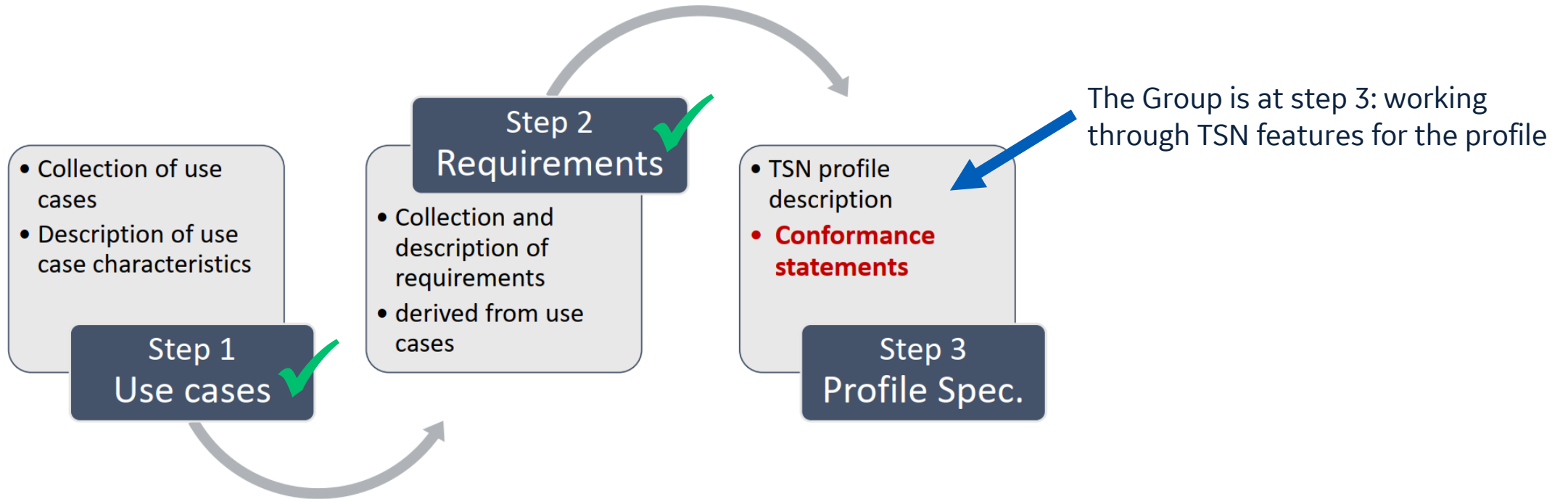# P802.1DP Status

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GE Research

Objective

- **Review progress of aerospace profile development**
- **Chart a path forward**

TSN Aerospace Profile Development

Step 1
Use cases ✓
- Collection of use cases
- Description of use case characteristics

Step 2
Requirements ✓
- Collection and description of requirements
- derived from use cases

Step 3
Profile Spec.
- TSN profile description
- **Conformance statements**

The Group is at step 3: working through TSN features for the profile

Reference: IEEE 802.1 TSN Profiles, Janos Farkas
https://www.ieee802.org/1/files/public/docs2021/dp-farkas-TSN-profiles-0221-v01.pdf

Status Summary

- Use cases collected and requirements derived

- Two profile approach is being adopted – Synchronous Profile and Asynchronous Profile

- Functions needed for aerospace networks are identified

- TSN features/standards necessary to support the necessary functions are being discussed

- Attention is being paid to the safety critical nature of aerospace and regulatory certification needs

- Scope, direction, and approach are well aligned with the aerospace industry and committee participants

- Initial draft specification in progress

TSN Profile for Aerospace Progress
Status

Functions	Profile Specification	Status (open items)
Time Synchronization	802.1AS-2020*	**Availability, integrity, certifiability**
Egress Traffic Shaping	Credit Based Shaper Time Aware Shaper*	No significant open issues
Redundancy	Frame Replication and Elimination	Minor: FRER for integrity by sending multiple frames to the application
Ingress Policing	Per-Stream Filtering and Policing	No significant issues. Small differences in the filters compared to A664.
Stream Separation	Stream identification, transformation, and separation	Aerospace bridges may require significantly higher number of stream entries.
Configuration	Fully centralized, Yang models	CBS and Talker/Listener configuration. Device Data Sheets
Forwarding	Per-stream forwarding	Minor: Policy-based forwarding with TCAM will not be standardized for brownfield use cases
Management and Monitoring	Required error, fault, and performance metrics	Not Yet Discussed

* Only applicable to Synchronous profile

Next Steps

- Address remaining features (group 1)

  1. CBS Yang model – PAR/CSD is being developed now

  2. Device Data Sheets – Piggyback on 60802 work? Skip in the first release?

  3. Monitoring Objects/Parameters – Upcoming contributions

  4. Management Objects and Management Protocol – Skip in the initial release? Implementation specific

- Address remaining features (group 2)

  - Availability, integrity, and certification aspects of Time Sync

- Drafts and workgroup balloting

  - Editor is getting help ☺

802.1 is contribution driven – need contributions to advance the specification