LNI 4.0 TSN Testbed
Update of Stream Reservation Approach

13.11.2019
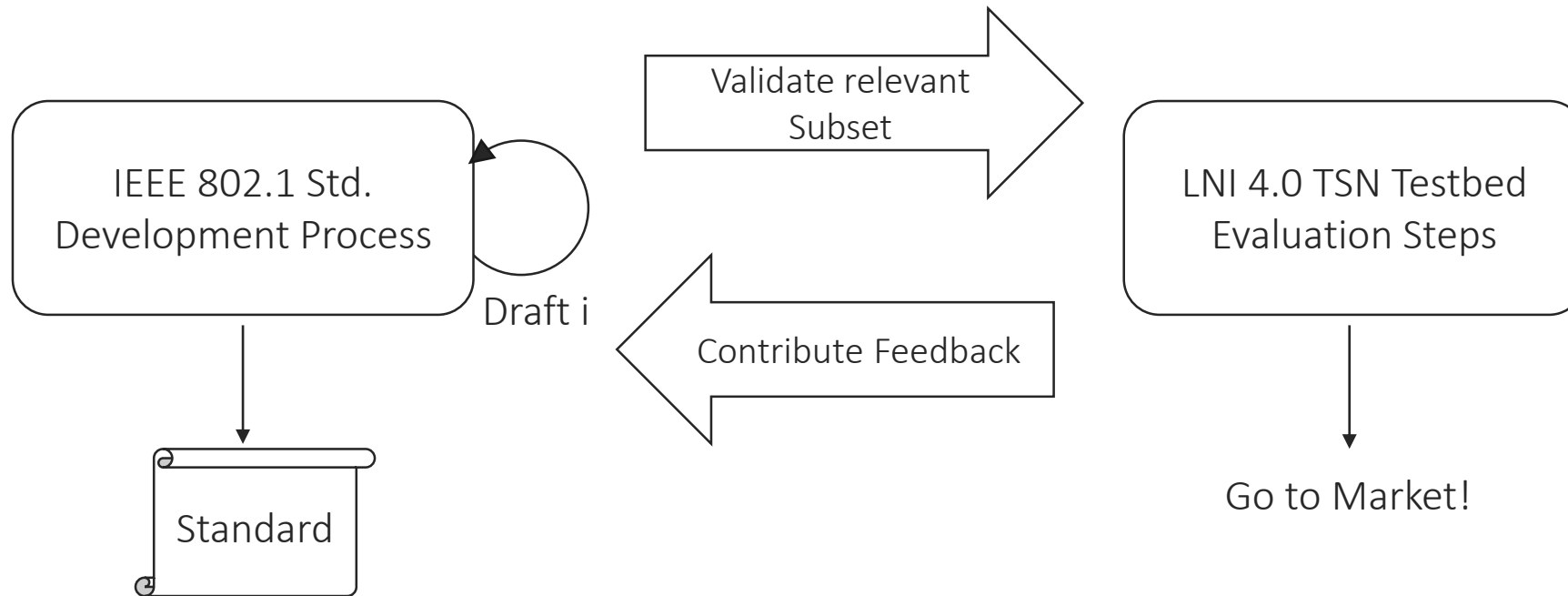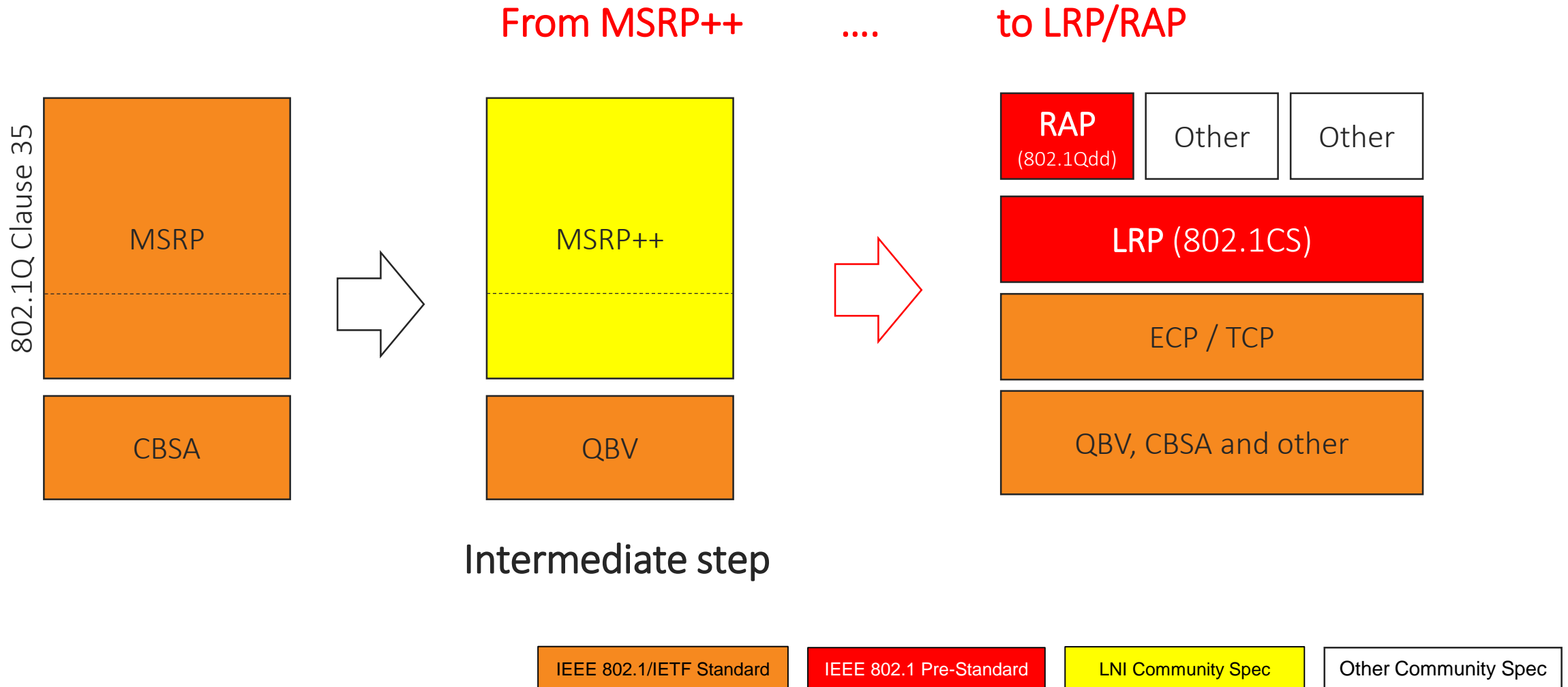
LNI 4.0 Goals

Drive solution for dynamic Industry 4.0 M2M use-cases:

- Provide Proof of concept for distributed stream configuration model
- Contribute feedback to standardization (Liaison with IEEE 802.1)
- Perform plug-fests to achieve cross-vendor interoperability

IEEE 802.1 Std. Development Process

Draft i

Validate relevant Subset

LNI 4.0 TSN Testbed Evaluation Steps

Contribute Feedback

Standard

Go to Market!

LNI 4.0 Approach to Distributed Stream Reservation
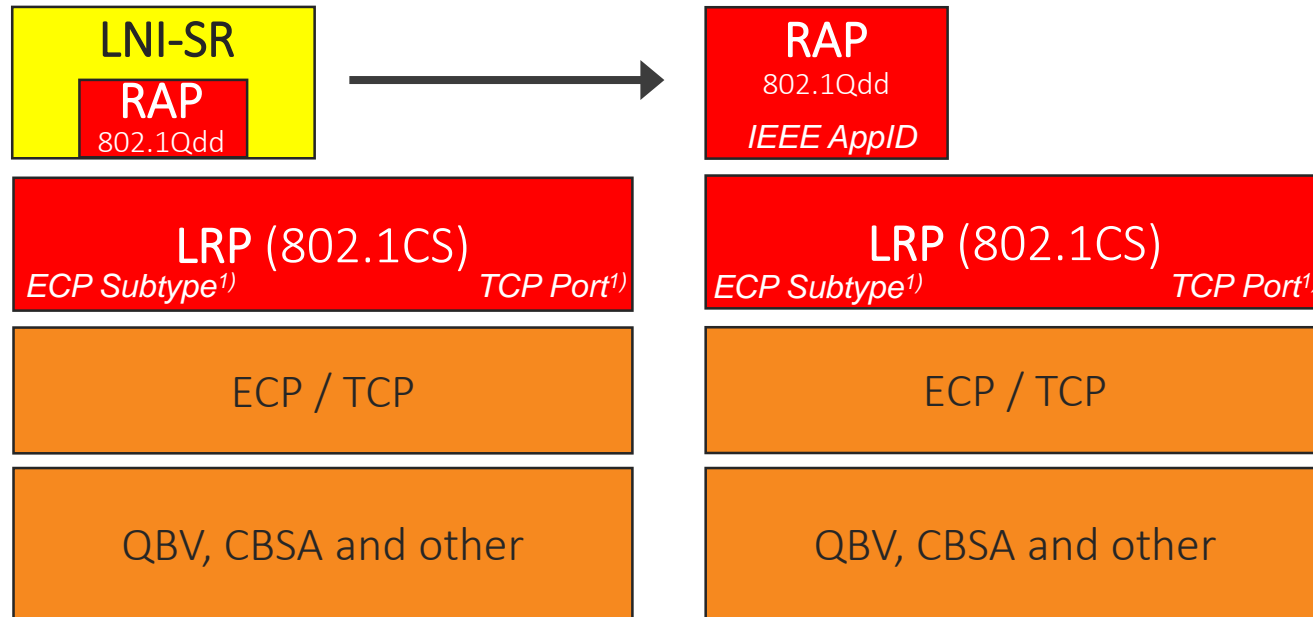
LNI 4.0 Expectations

▪ The LRP/ RAP standards will provide a **flexible and generic framework** of resource allocation models for distributed stream reservation:

- Enhanced for arbitrary shapers / resource models,
- Open for vendor / organization specific enhancements,
- With proxy support to add "centralized" RAP stream reservation entities.

▪ The LRP/ RAP standards will be referenced by **IEC/IEEE 60802**

LNI 4.0: Options for "fast go to market"

LNI Stream Reservation Application with RAP Draft Functionality

RAP Pre-Standard

LNI-SR
RAP 802.1Qdd

LRP (802.1CS)
ECP Subtype[1)]   *TCP Port[1)]*

ECP / TCP

QBV, CBSA and other

RAP 802.1Qdd *IEEE AppID*

LRP (802.1CS)
ECP Subtype[1)]   *TCP Port[1)]*

ECP / TCP

QBV, CBSA and other

The LNI-SR Application is an organization specific LRP Application, identified by an LNI CID based AppID.

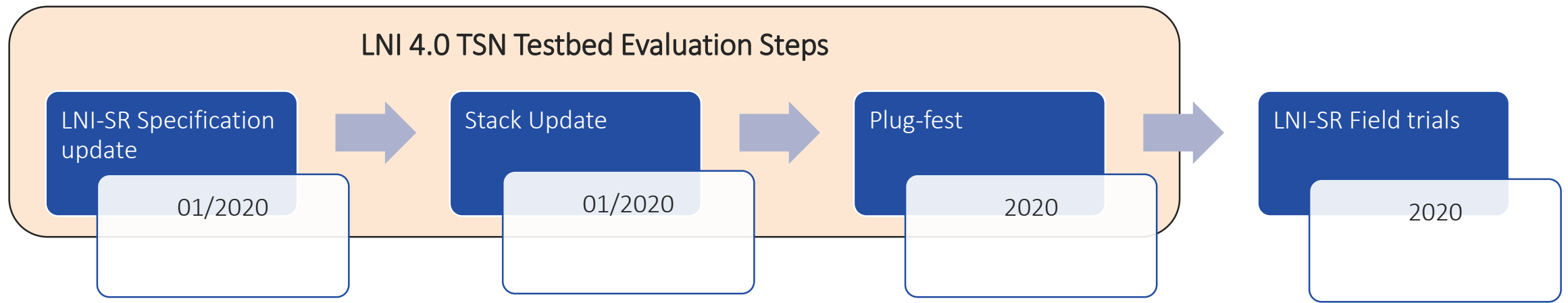The LNI-SR Application implements a subset of the RAP draft functionality.

LNI required enhancements (QBV) are contributed to RAP.

Goal is easy migration from LNI-SR Application to IEEE Std 802.1Qdd.

[1)] will be specified just before Sponsor Ballot commences

IEEE 802.1/IETF Standard	IEEE 802.1 Pre-Standard	LNI Community Spec	Other Community Spec

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LNI 4.0: Next steps

➤ Transfer MSRP++ Specification into LNI-SR Application Specification for LRP/RAP based Stream Reservation

➤ Deliver new stack for LNI members

➤ Plugging the next generation stack

➤ Deliver feedback to IEEE

LNI 4.0 TSN Testbed Evaluation Steps

LNI-SR Specification update		Stack Update		Plug-fest		LNI-SR Field trials
01/2020		01/2020		2020		2020

Questions ?