Autoconfiguration in P802.1CB-2017-Rev
— Context, Past & Potential Future —

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Context

… in short

The issue & subsequent questions

Issue per comment #11 against P802.1CB-2017-Rev/D0.3

- Autoconfiguration would require Redundancy Tags to be detected …
- … but Redundancy Tags cannot be detected

→ *Autoconfiguration is dysfunctional and should be removed*

Questions resulting from subsequent discussions

- Q1: Should autoconfiguration be removed from the standard?
- Q2: Should autoconfiguration be revised in the standard?
- Q3: If the answer to Q2 is yes, who would do the work?
- Q4: Who uses autoconfiguration at all?

Past

… when autoconfiguration was created

Early in 2016

What we want

- We would like Sequence Recovery and Individual Recovery to auto-configure themselves.
- This means that an instance of one or both of these state machines pops into existence whenever a new Stream (for Individual recovery) or a new Seamless Stream (for Sequence recovery) is seen, using default parameters specified by (a little bit of) configuration.
- When the timeout expires, sending a state machine into "accept any" mode, the state machine can be destroyed.
- We must identify the **Seamless Stream** to auto-configure **Sequence Recovery** functions, and we must identify the individual **Stream** for **Individual Recovery** functions.
- We must also distinguish (as we will see) on which ports recovery functions are to be applied.

cb-finn-simplifying-seamless-redundancy-0116-v02.pdf IEEE 802.1 interim, Atlanta GA USA, Jan. 2016 4

Author's opinion

	Sequence Recov. based on	Individual Recovery based on	Comments
1.	{VLAN, Dest}	{VLAN, Dest, Port}	**Non-starter.** Identical packets are criss-crossing through the network.
2.	{VLAN, Dest}	{VLAN, Dest, A/B tag}	**Non-starter.** Almost-identical packets are criss-crossing through the network. (The A/B bits in the tag are not used by forwarding.)
3.	{Dest}	{VLAN, Dest}	→ **contender**. SR cannot be used except on multicast streams, and multicast DAs are required (now) only for bandwidth reservation.
4.	{Source, VLAN}	{Source, VLAN, Dest}	No. Requires multicast DAs without gaining advantages of per-Stream sequencing.
5.	{Source, VLAN}	{Source, VLAN, A/B tag}	→ **Compatible with HSR/PRP. Seamless Redundancy not locked to MSRP.**

cb-finn-simplifying-seamless-redundancy-0116-v02.pdf IEEE 802.1 interim, Atlanta GA USA, Jan. 2016 9

Source: https://www.ieee802.org/1/files/public/docs2016/cb-finn-simplifying-seamless-redundancy-0116-v02.pdf

Still in 2016

SuggestedRemedy

Add a stream identification configuration that uses source MAC address only (no VID, no DA)

Response *Response Status* **C**

ACCEPT.

Source: Final comment disposition against D2.1 of P802.1CB

ACCEPT IN PRINCIPLE. Autoconfiguration is not limited to PRP/HSR; it works fine with just the Redundancy tag. A NOTE will be added to the end of the introductory material in E.11. No knowledge of PRP or HSR is needed beyond what is presented in earlier sections of P802.1CB.

NOTE---Although the following examples describe interoperation between HSR/PRP and the Redundancy tag, such interoperability is not the primary reason for defining autoconfiguration. Autoconfiguration greatly simplifies the amount of configuration required for networks that use only the Redundancy tag.

Source: Final comment disposition against D2.3 of P802.1CB

ACCEPT IN PRINCIPLE. Autoconfiguration will be optional. Editor will move description of how autoconfiguration works (9.7.1 and 9.7.2) to Clause 7. Clause 5 will be altered as necessary to clearly show autoconfiguration as being optional.

Source: Final comment disposition against D2.4 of P802.1CB

Author's Comments

- Purpose summarized:
  1. Use with PRP/HSR
  2. Simplify configuration
- But:
  1. No autoconfiguration in PRP/HSR (IEC 62439-3) at all
  2. No material on use-cases in the IEEE 802.1 archives identified
  3. (Just) optional

➢ Removal may be ok, however, …

➢ … it is unclear if someone uses it(Q4)

Potential Future

… options & discussion

Discussion: Options to proceed with autoconfiguration

A	B	C
Remove	**Make it an informative annex *WITHOUT* revising it**	**Revise**

Easiest to implement in the document, but autoconfiguration may be in use	**Graceful**
	• Deprecation notice added to the annex, visible in the next 802.1CB Rev.
	• If autoconfiguration use is indicated to IEEE 802.1:
	  • Clarity to IEEE 802.1 on Q4 possible
	  • Answer to Q3 *not required now*
	  • Can become normative again in a *later* 802.1CB Rev.
	• If not:
	  • Can be removed in a *later* 802.1CB Rev.
		Answer to Q3 required

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Thank You for Your Attention!

Questions,
Comments,
A.o.B.?

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