

Dual-Homing Protection for MPLS and MPLS-TP Pseudowires

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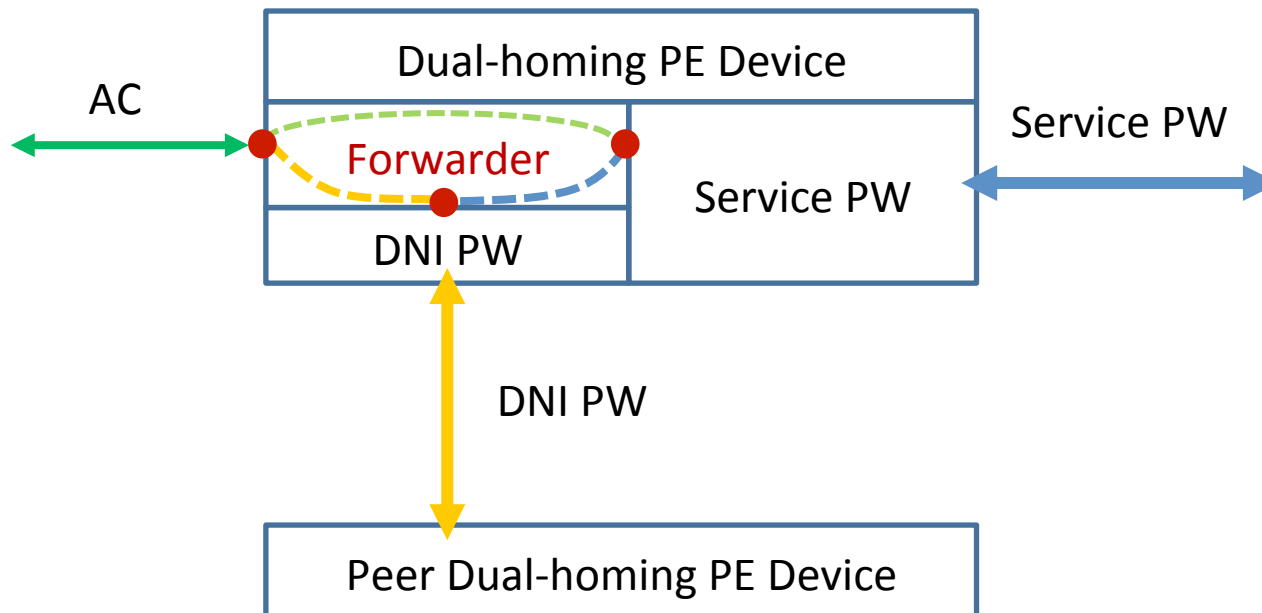
Background

- Work was presented in IETF 88 and 90
- Split the draft according to PWE3 chairs' suggestion:
 - **Framework and scenarios of dual-homing PW protection**
 - Protocol extensions for dual-homing protection with static MPLS-TP PWs

Benefits of Dual-homing Protection

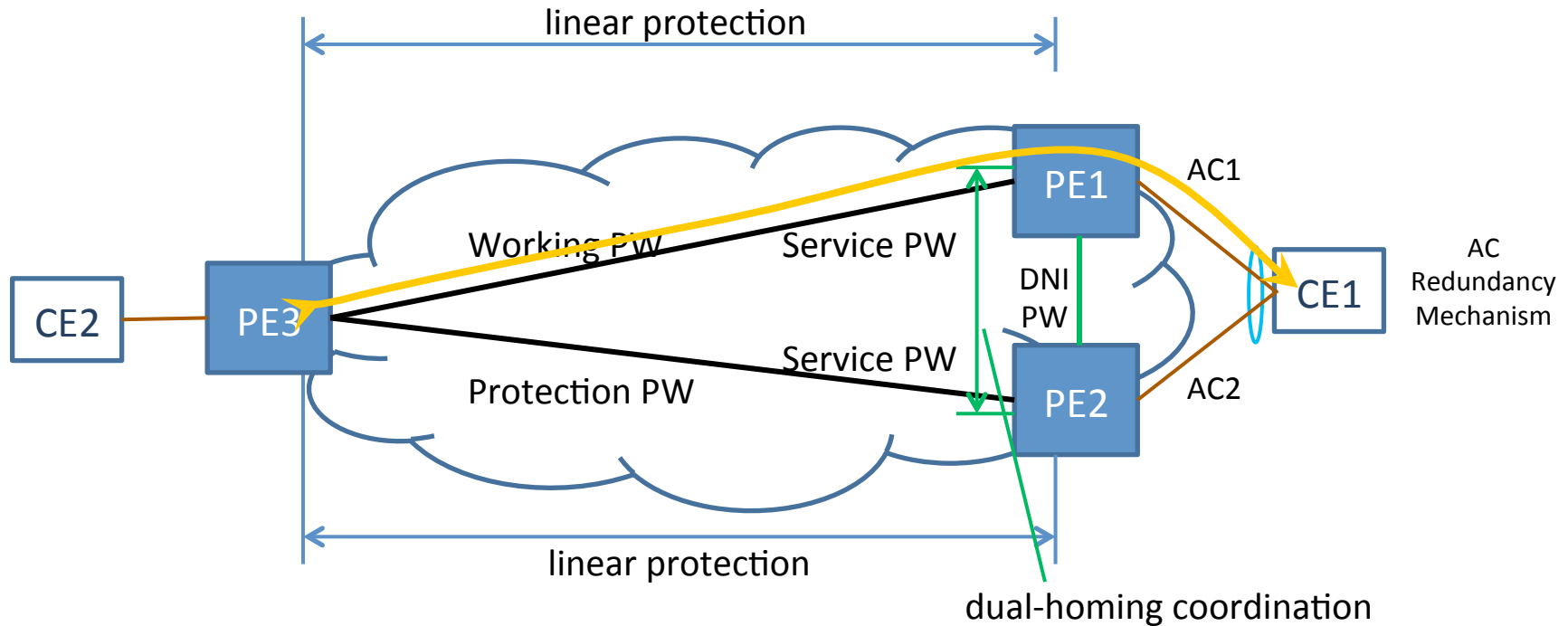
- Local protection
 - Avoid PW switchover due to AC failure
 - Avoid AC switchover due to PW failure
- PSN tunnel protection is no longer a MUST

PE Architecture Update



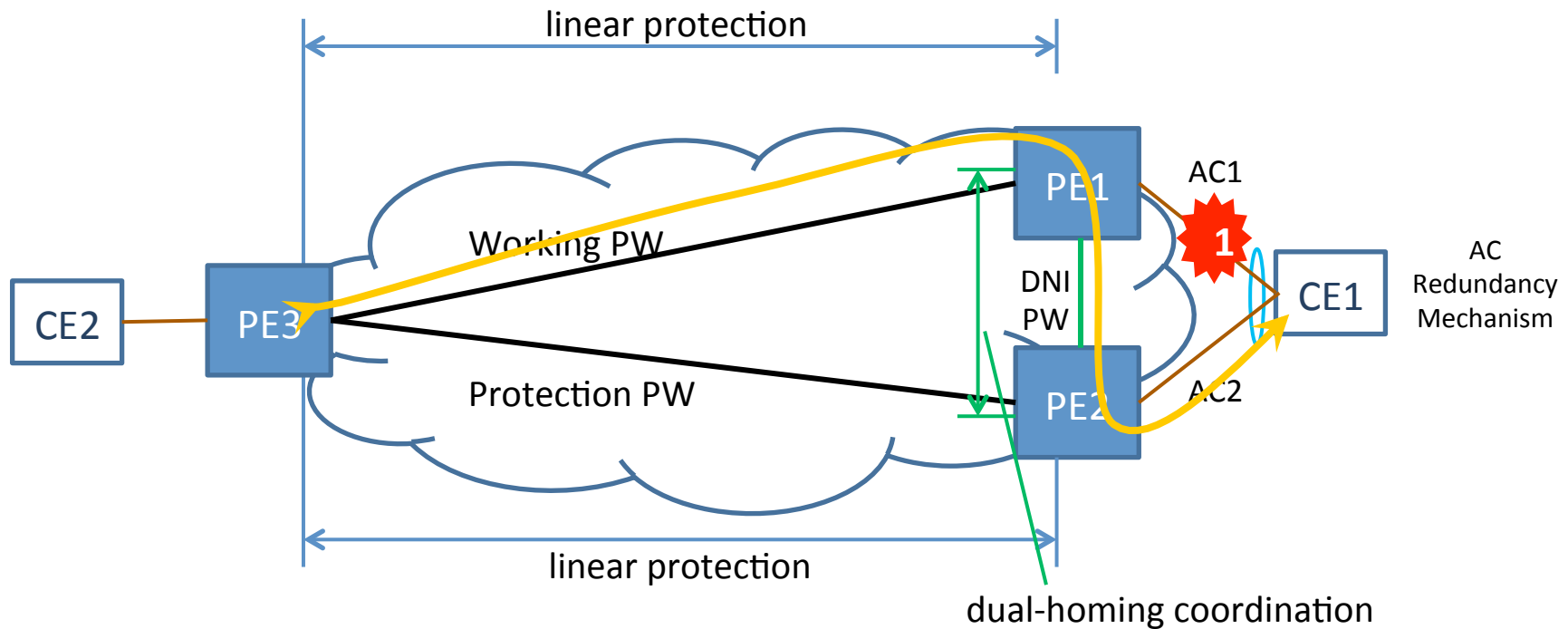
- DNI PW between dual-homing PEs can carry traffic during failure
- Forwarder is responsible for switching traffic between AC, service PW and DNI PW.

One-side Dual-homing Scenario



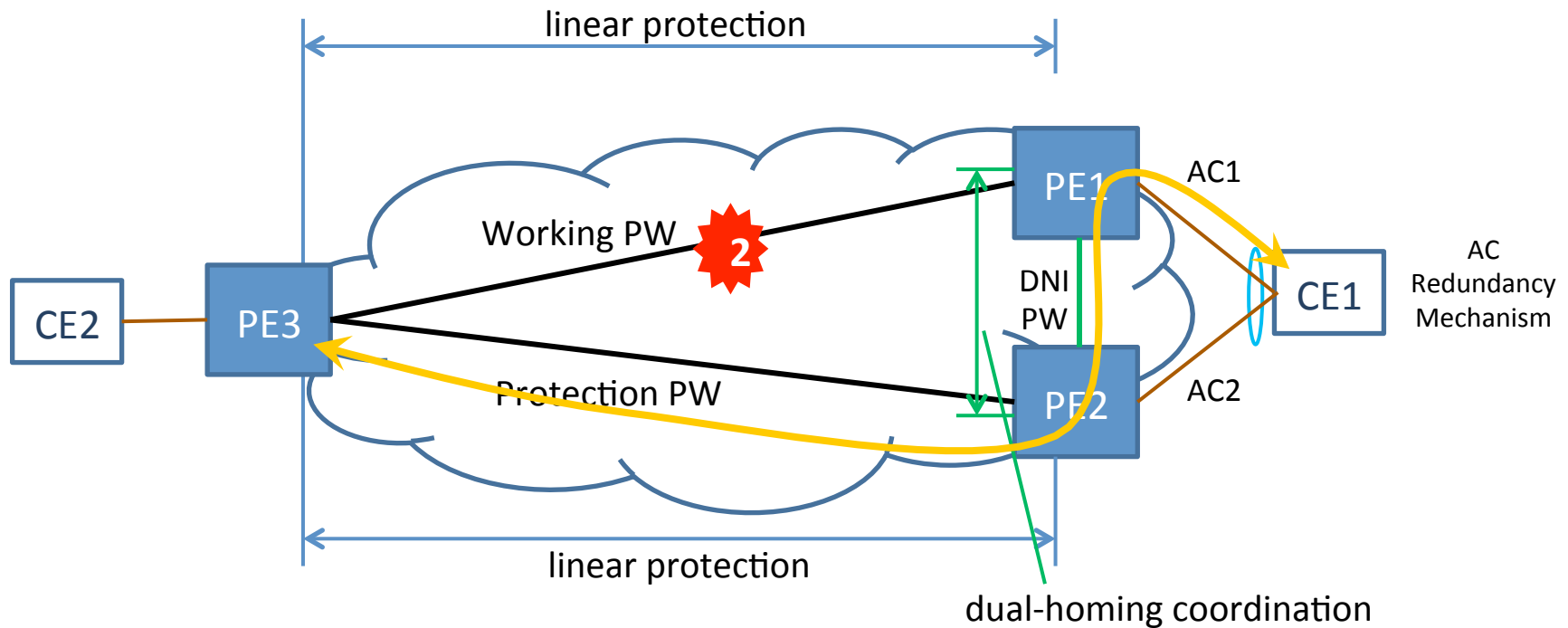
- Can Provide protection for:
 - AC failure
 - PE failure
 - PSN network failure

One-side Dual-homing Scenario



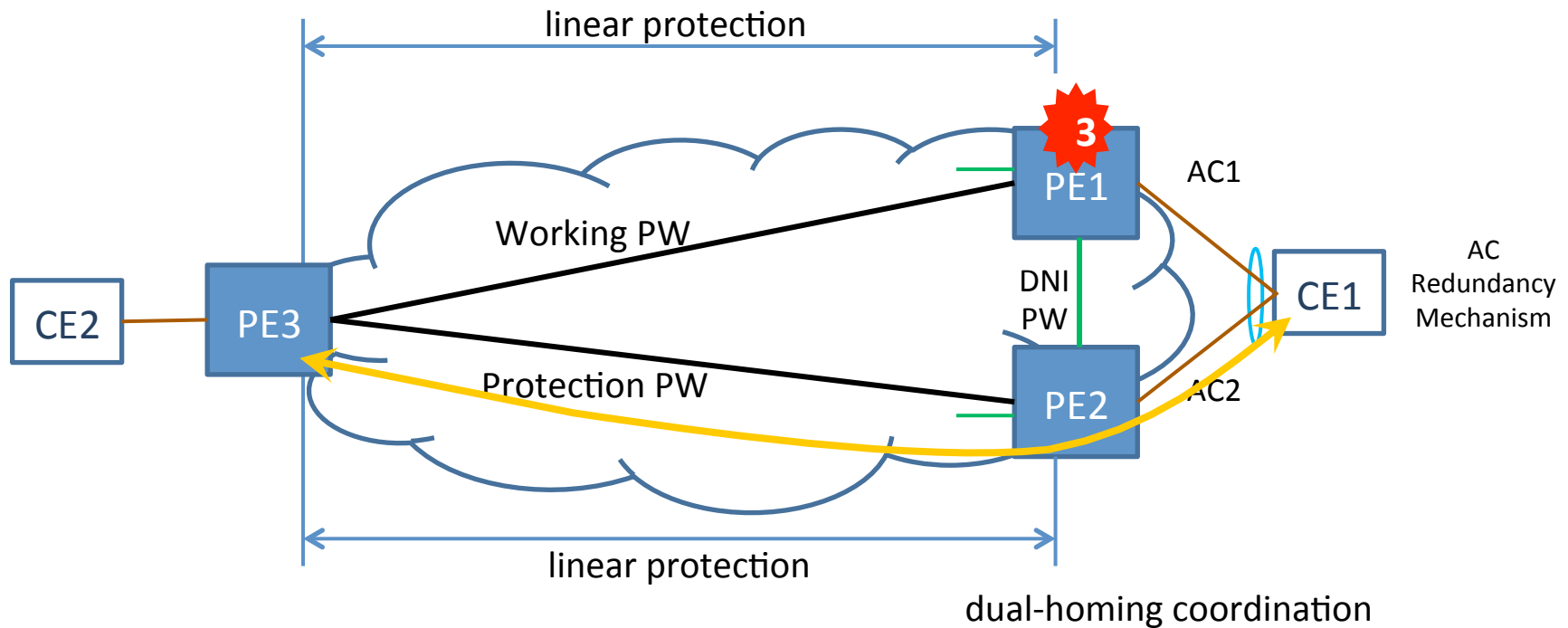
- Can Provide protection for:
 - **AC failure**
 - PSN network failure
 - PE failure

One-side Dual-homing Scenario



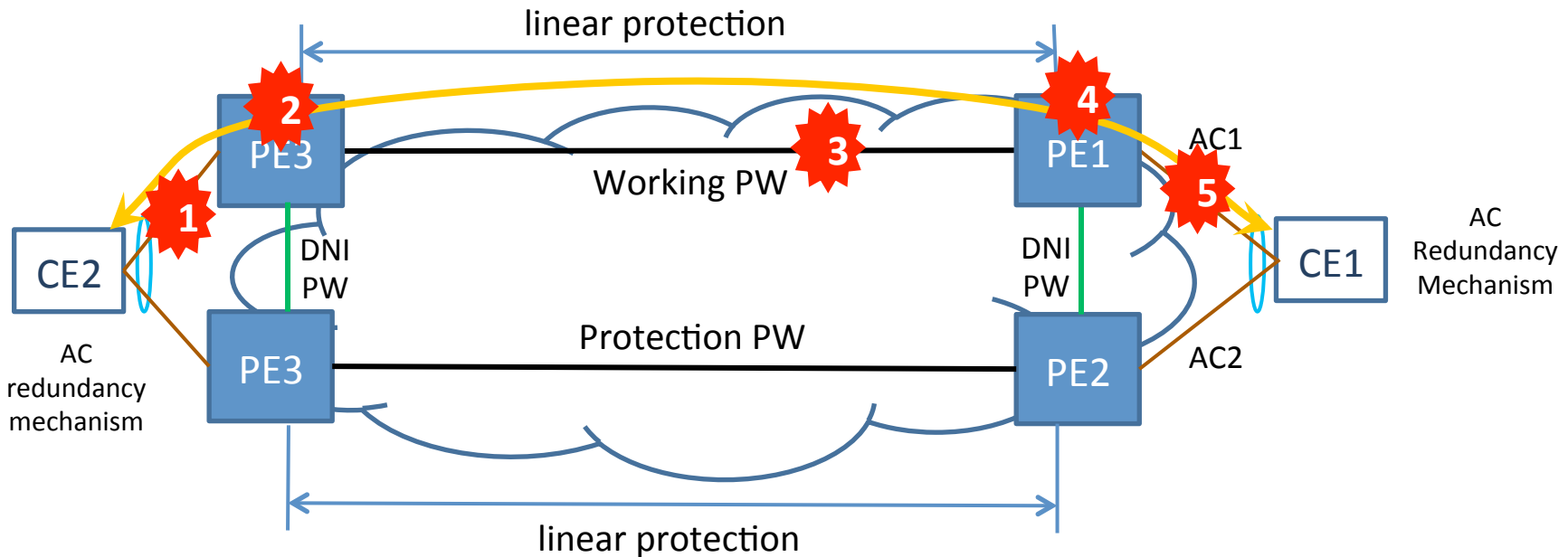
- Can Provide protection for:
 - AC failure
 - **PSN network failure**
 - PE failure

One-side Dual-homing Scenario



- Can Provide protection for:
 - AC failure
 - PSN network failure
 - **PE failure**

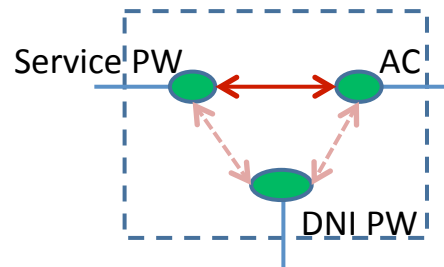
Two-side Dual-homing Scenario



- Can Provide protection for:
 - AC failure
 - PE failure
 - PSN network failure

General Procedures

- Dual-homing PEs need to exchange PW state and switchover coordination request to synchronize the protection switching
- Forwarding behavior of dual-homing PE is determined by:
 - Status of Service PW
 - Status of AC
 - Status of DNI PW



Service PW	AC	DNI PW	Forwarding Behavior
Active	Active	Up	Service PW <-> AC
Active	Standby	Up	Service PW <-> DNI PW
Standby	Active	Up	DNI PW <-> AC
Standby	Standby	Up	Drop all packets

Next Steps

- Solicit comments from WG
- WG adoption?