# Extensions to PCEP for Distributing Label across Domains

draft-chen-pce-label-x-domains-00

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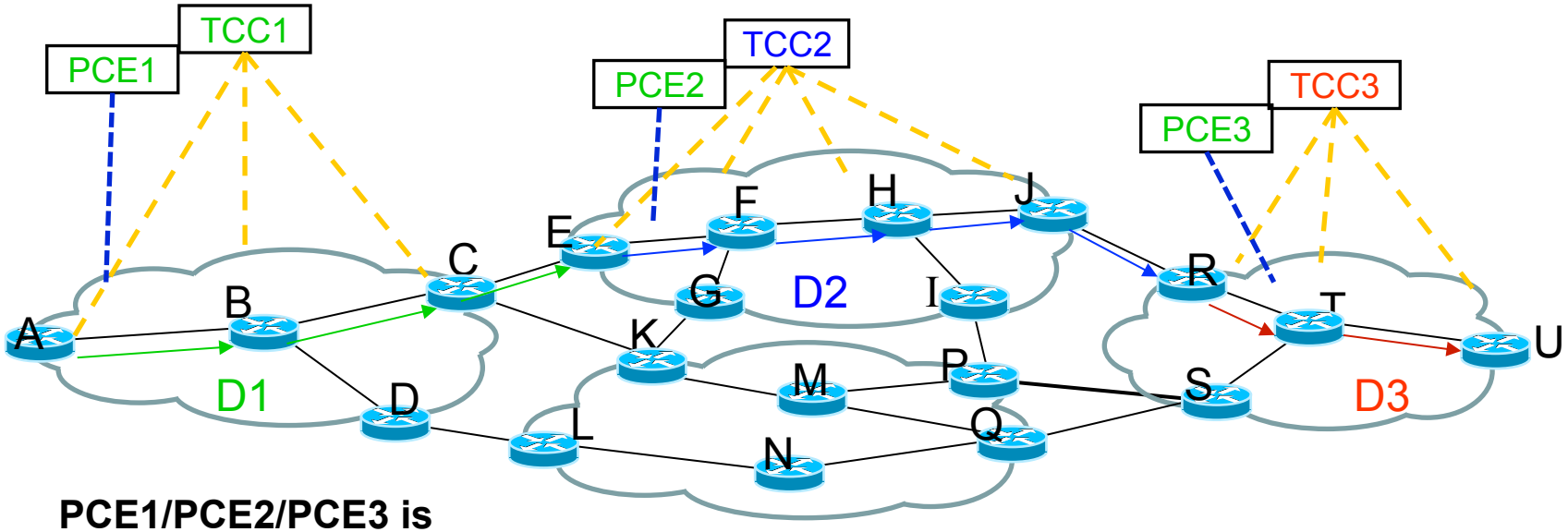
# Introduction

- Multiple Tunnel Central Controllers (TCC)
- Each controller controls one domain
  - Manage/Allocate resources including Label resource
  - Set up segment of TE LSP tunnel in the domain
- Path for TE LSP crossing domains is computed by PCEs



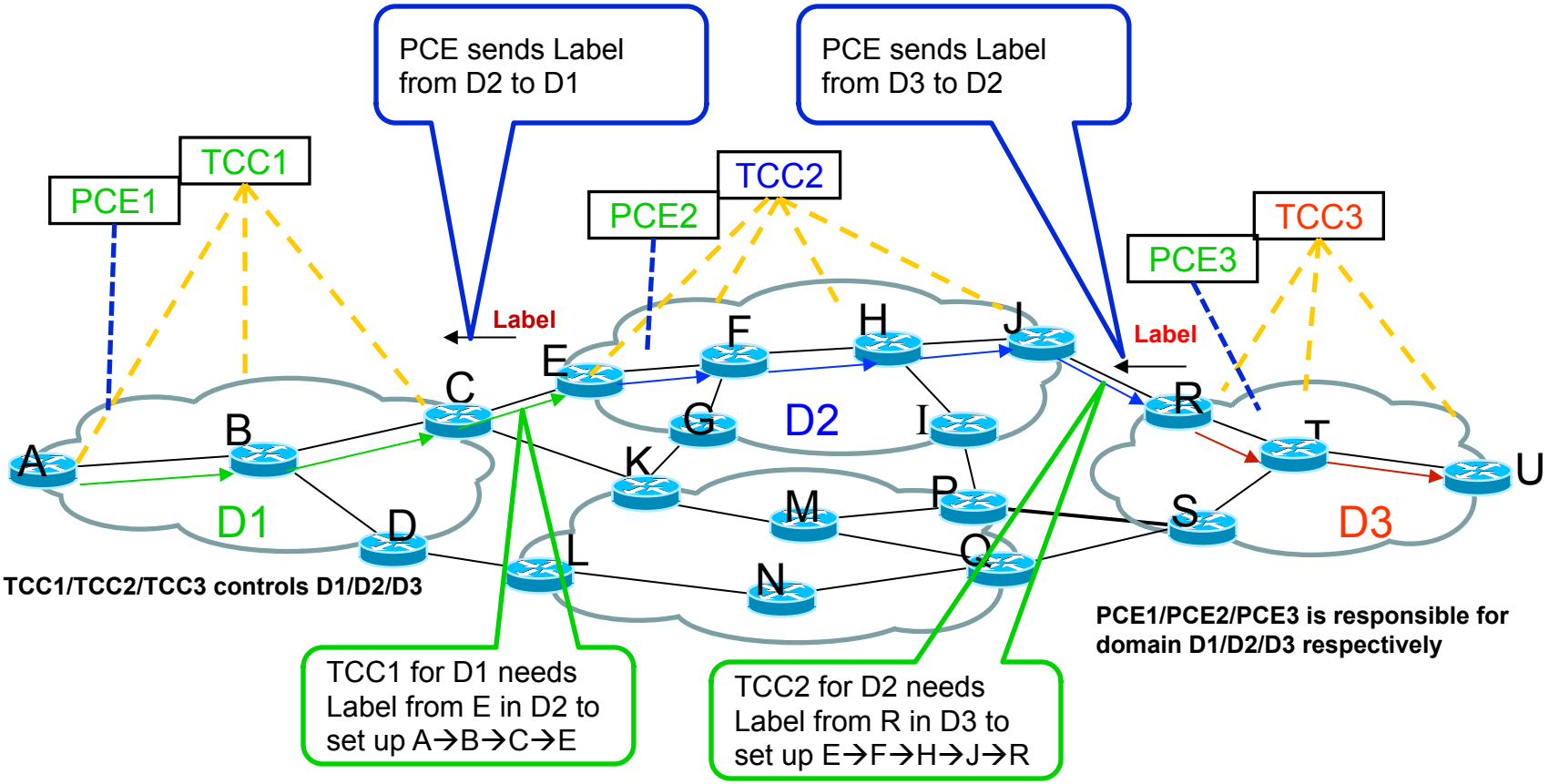

**PCE1/PCE2/PCE3 is responsible for domain D1/D2/D3 respectively**

**TCC1/TCC2/TCC3 controls D1/D2/D3 respectively**

# Problem to be solved

To create an E2E TE LSP crossing domains by controllers

- Each upstream controller needs a Label from downstream domain
- Label for entry border node (e.g., node E) along LSP in downstream domain (e.g., domain D2) needs to be sent to upstream controller (e.g., controller TTC1)
- Distribution of Label can be done by PCE



# Next Step

- Request for comments and suggestions

# Extensions to PCEP

- **2 Bits in RP Object**
  1) L (Label distribution): 1: PCReq or PCRep message for distributing label crossing domains.
  2) C (LSP Creation): 1: PCReq or PCRep message for creating segment of LSP before distributing label

- **Label Object**

  Containing a Label and a node from which Label is allocated


- **LSP Tunnel Object**

  Containing information identifying an LSP tunnel in multiple controller environment