

# **IPv6 Migration Plan**

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**IPv6 Workshop**  
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# Presentation Content

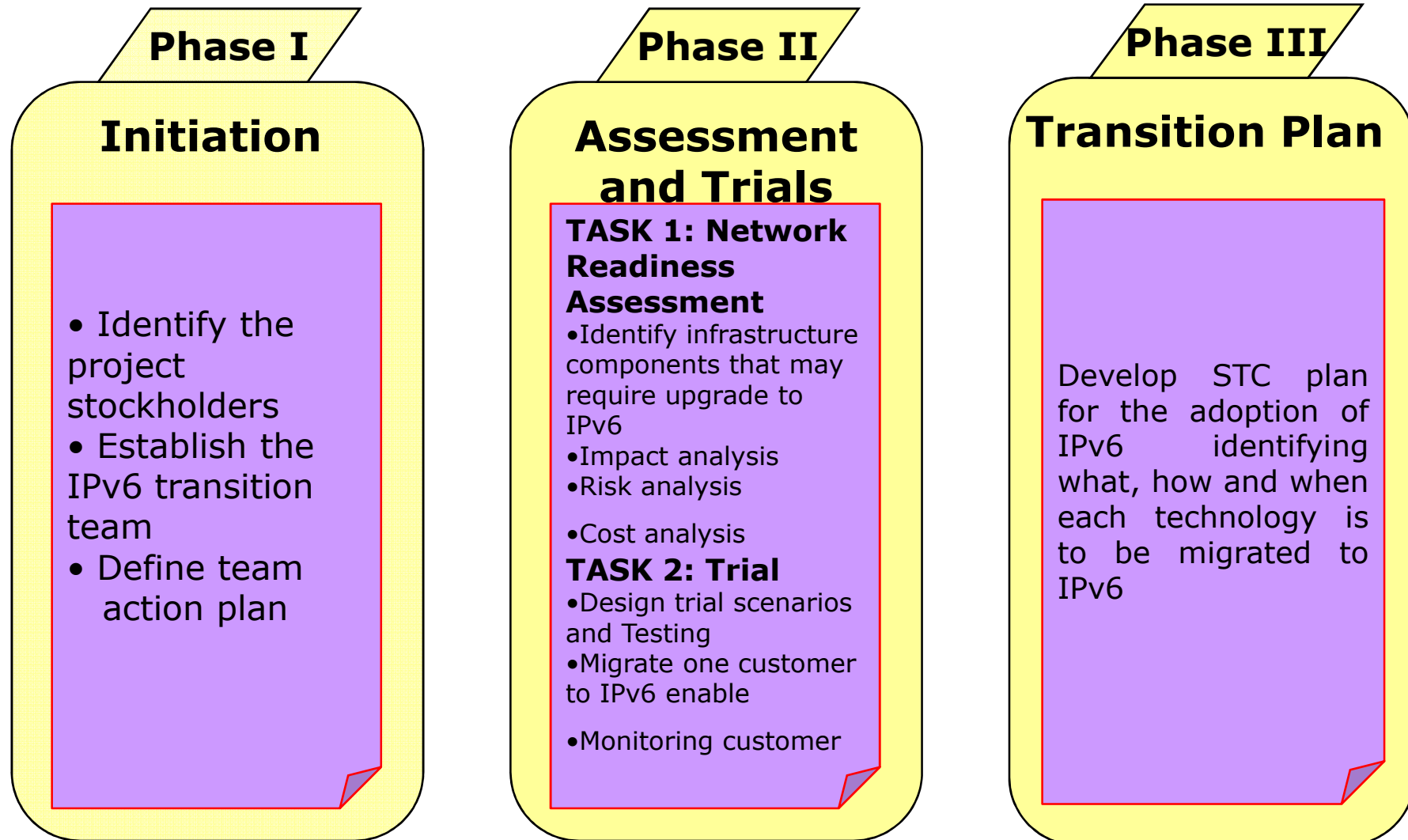


- **STC Plan Overview**
- **Initiation Phase**
- **Assessment and Trials Phase**
- **IPv6 Test bed configuration**
- **Latest STC IPv6 activities**

# STC Plan For Migration - R&D highlight



Migration plan will be developed based on the following phases:



# Phase II: Assessment and Trials



## **TASK 1: Network Readiness Assessment**

1. Identify infrastructure components that may require upgrade to IPv6, including:
  - NE Hardware and Software
  - NW services
  - NW Management Systems
  - BSS Systems
2. Impact analysis outcome:
  - Infrastructure components to be upgraded
  - Infrastructure components to be replaced
  - Infrastructure components to be kept unchanged
3. Risk analysis for the IPv6 implementation
4. Cost analysis for transition

# Phase II: Assessment and Trials

## TASK 2: Trial

### 1. Design trial scenarios and Testing

- Develop migration scenarios
- Develop Test cases
- Conduct the tests
- Develop test report

### 2. Migrate one customer to be IPv6 enabled

- Select one customer to be IPv6 enable
- Enable IPv6 protocol to his equipment

### 3. Monitoring customer

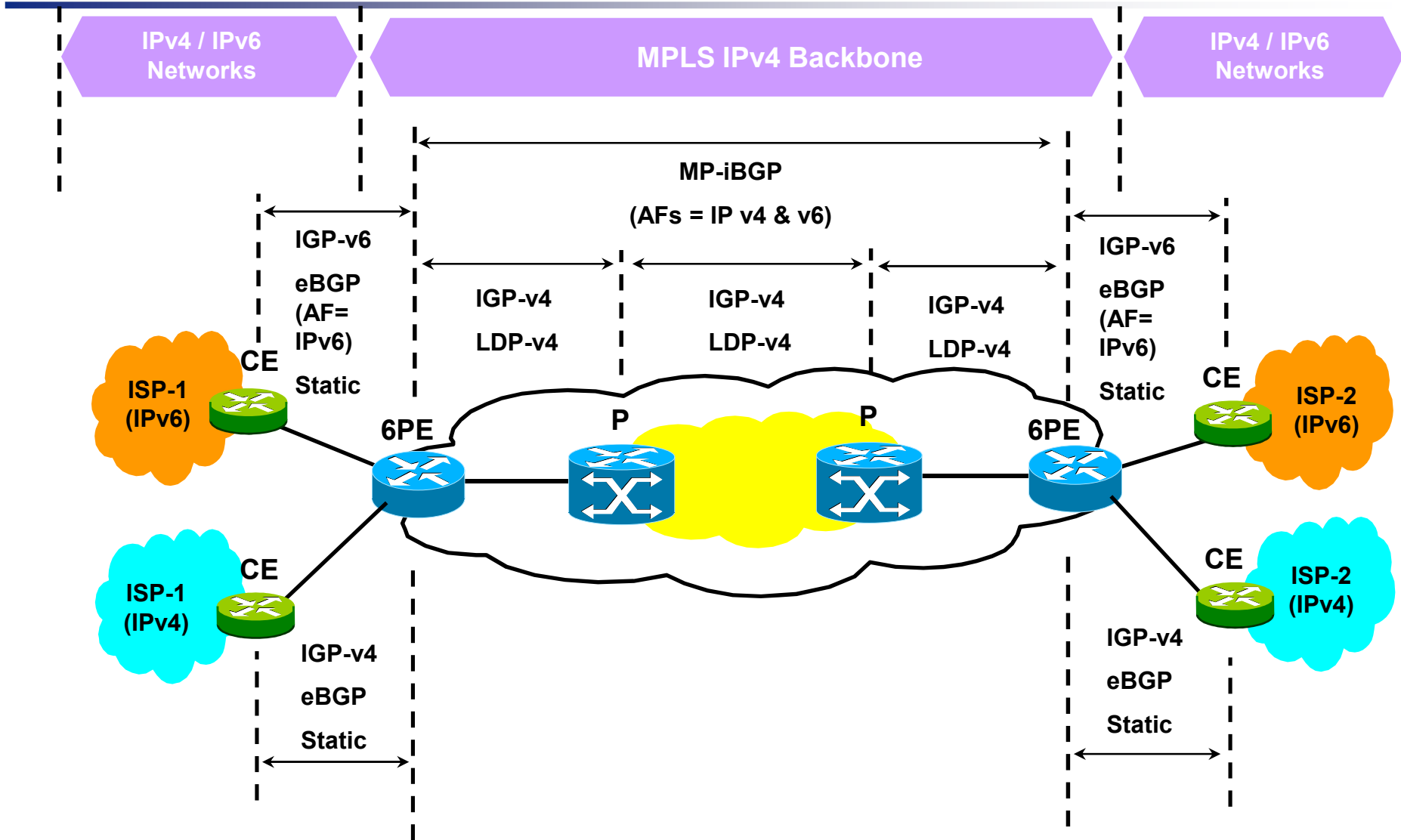
- Monitoring service related SLAs
- Report all issues to the team
- Identify IPv6 operational gaps

# IPv6 Over MPLS

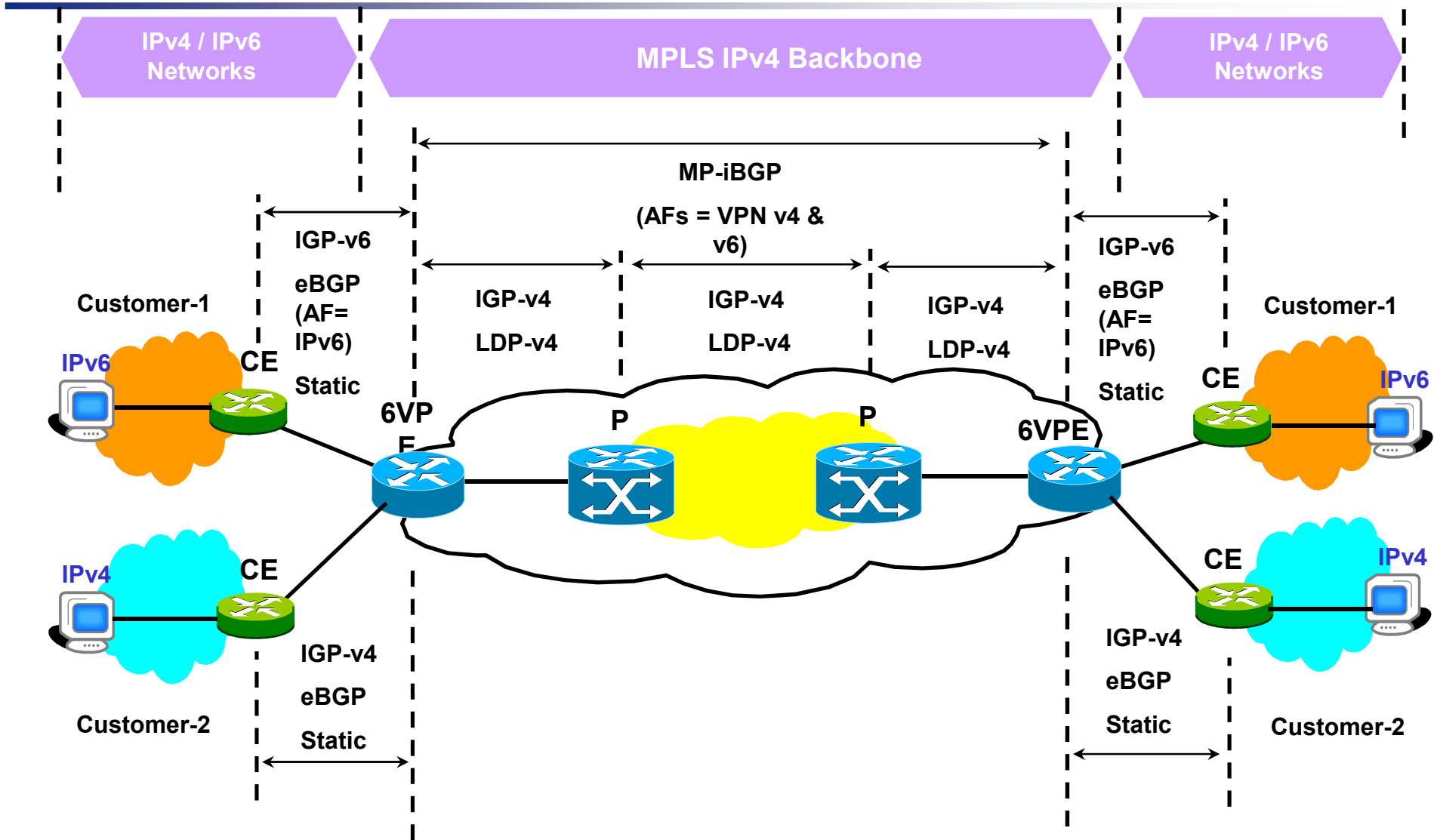


- Two main schemes defined:
  - IPv6 islands over MPLS IPv4 core (aka "6PE")
    - [RFC 4798]: "Connecting IPv6 Islands over IPv4 MPLS Using IPv6 Provider Edge Routers (6PE)"
    - PEs are updated to support Dual Stack/6PE
    - IPv6 reachability exchanged among 6PEs via iBGP (MP-BGP)
    - IPv6 packets transported from 6PE to 6PE over MPLS (LSP)
  - IPv6 VPN services over MPLS IPv4 core (aka 6VPE)
    - [RFC 4659]: "BGP-MPLS IP Virtual Private Network (VPN) Extension for IPv6 VPN"
    - PEs upgraded to Dual-Stack 6VPEs
    - Customer IPv6 Routes reside in VRFs on each 6VPE
- Both schemes avoid need to turn on IPv6 in the core of the network
- Existing IPv4-signalled transport LSP infrastructure can be used

# 6PE: Inter-ISP National Routing



# 6VPE: IPv6 VPNs



## Latest STC IPv6 activities

- STC active participation in IPv6 National-IPv6 Task Force
- STC will hold next IPv6 Task Force meeting #5 next month.
- Creating awareness within STC.
- STC-R&D IPv6 test bed.
- Regulatory Affairs is working with relevant STC sectors to build IPv6 comprehensive plan.

**Thank You**