



# Ethernet Connect Sales Presentation

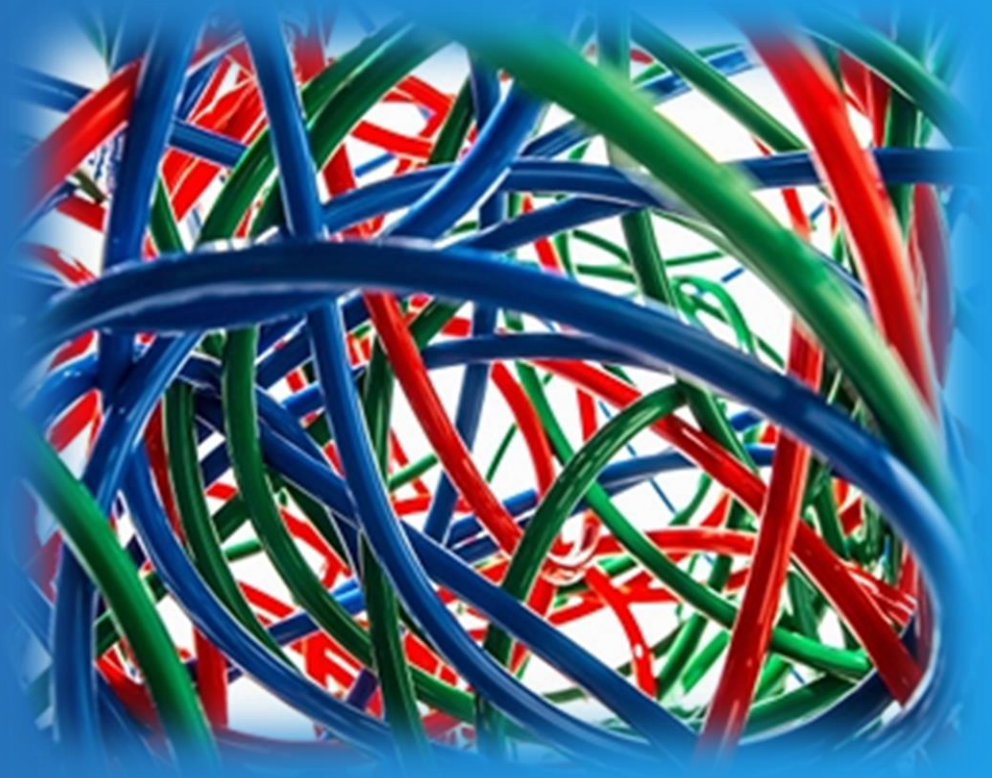


Desember 2015

A solid blue horizontal bar spanning the width of the slide, located at the bottom.

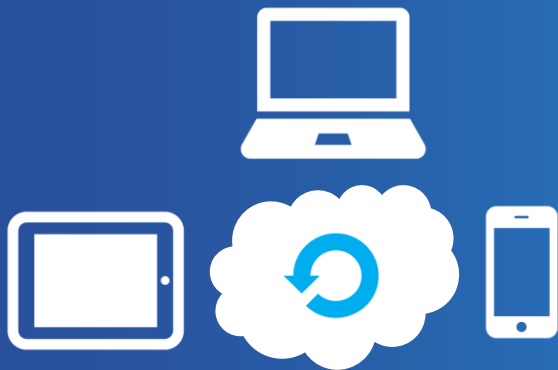
# Professional WAN decision making

«you have a choice of technologies.  
- have you decided what to use ?»



# «Your network – your choices»

«you know what is required to ensure network adaptation to your network needs»



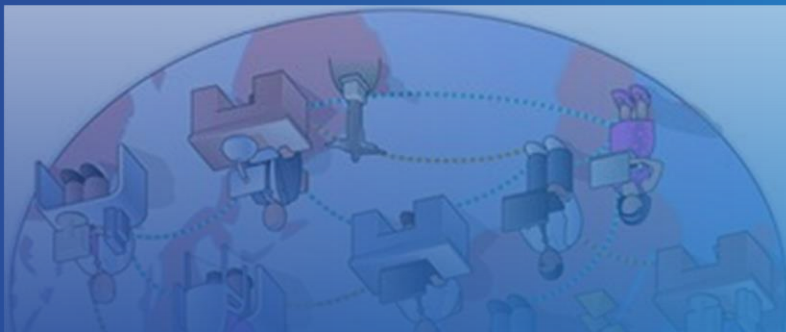
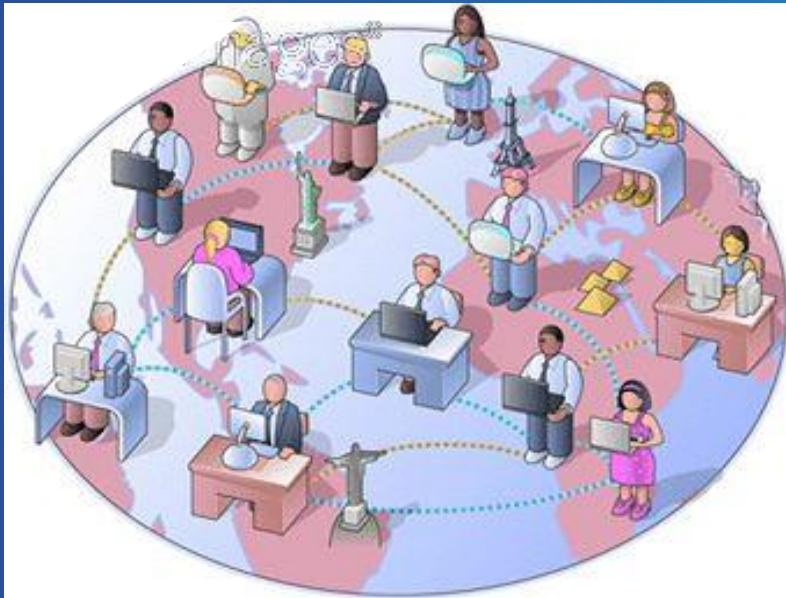
# The Telenor Wholesale portfolio

## - choose your solution

Main area	Wholesale				
Category	Kapasitet	Bredbånd	Fasttelefon Mobil	"Ethernet"	Internet Service Portfolio
Product	<div>Kapasitet</div> <div><ul style="list-style-type: none"><li>- MF</li><li>- Analoge samband</li><li>- Optisk kanal</li><li>- Etc.</li></ul></div>	<div>Bredbånd</div> <div><ul style="list-style-type: none"><li>- XDSL</li><li>- Operatøraksess</li><li>- Eline</li><li>- IP connect etc.</li></ul></div>	<div>Fasttelefon Mobil</div> <div><ul style="list-style-type: none"><li>- MVNO/TL</li><li>- Samtrafikk</li><li>- y-Videresalg fasttelefoni</li></ul></div>	<div>"Ethernet"</div> <div><ul style="list-style-type: none"><li>- Ethernet Connect</li></ul></div>	<div>Internet Service Portfolio</div> <div><ul style="list-style-type: none"><li>- SPA GIPT</li><li>- CDN</li><li>- CoLo</li></ul></div>

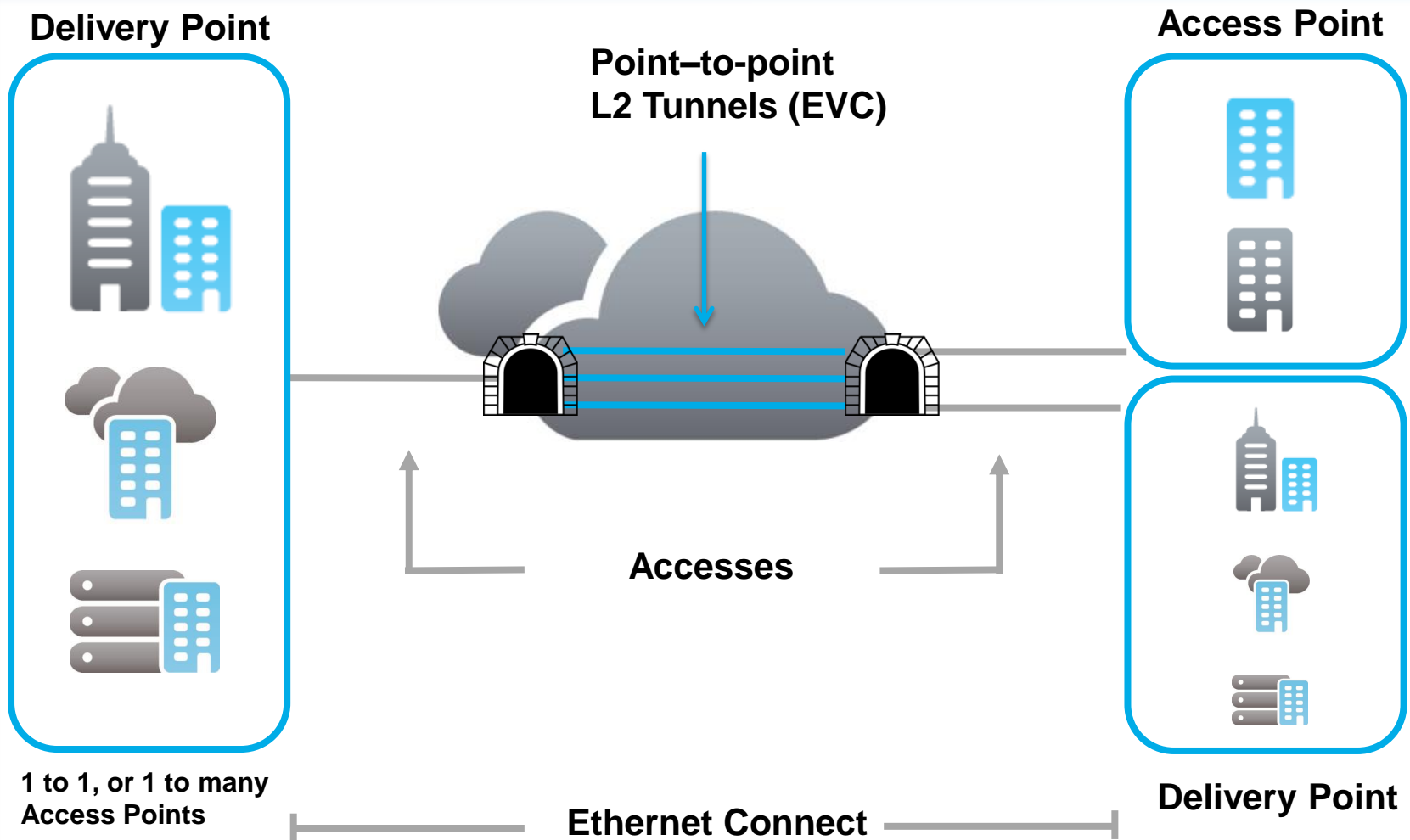
  
**New !**

# Our new WAN solution: Ethernet Connect



- A layer 2 Point-to-Point service covering the whole of Norway as a managed service
- Can provide connectivity to all sites in an operator community, a corporation or a cloud user community
- MPLS based service ensuring traffic separation and high quality service
- Improved service control

# Ethernet Connect – principle drawing





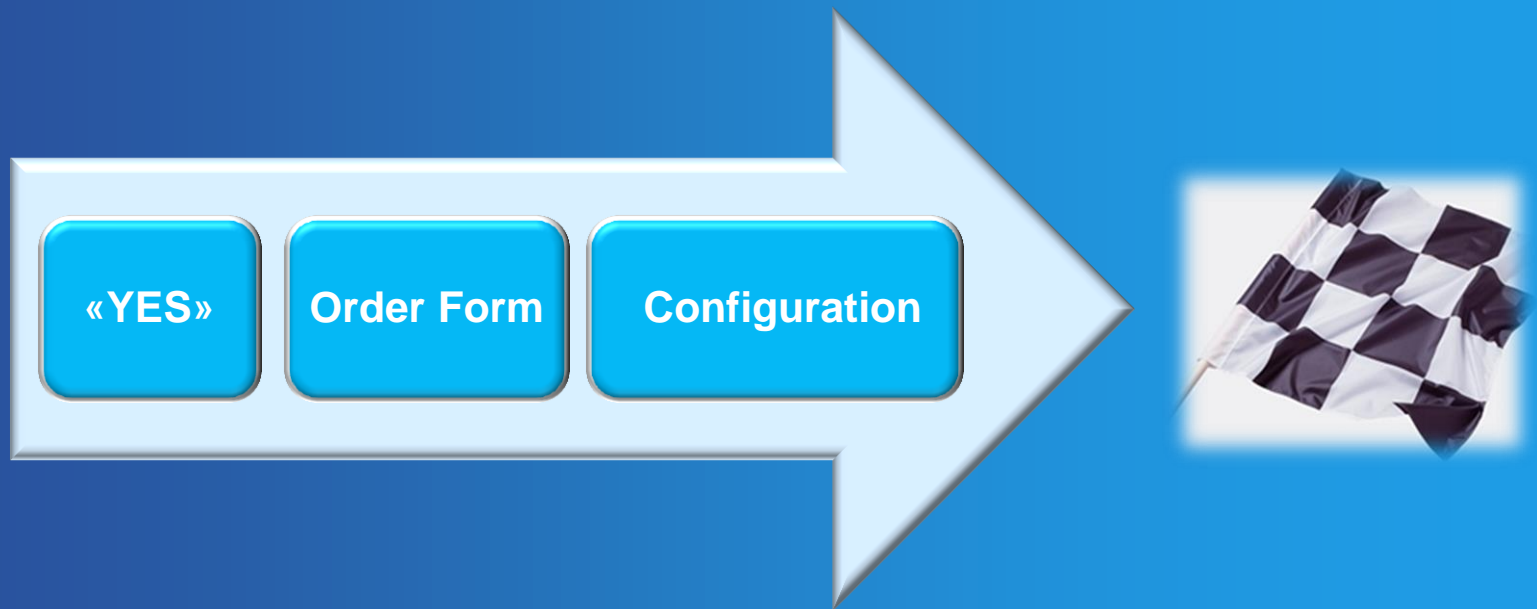
# The Quality in the underlaying network service distinguish Telenor from its competitors !



## Quality Parameters:

- Robustness
- Redundancy
- Packet loss
- Capacity
- Delay
- Jitter
- No Single Point of Failure
- Network parameter control
- Management routines and competence

# Ethernet Connect in three steps:



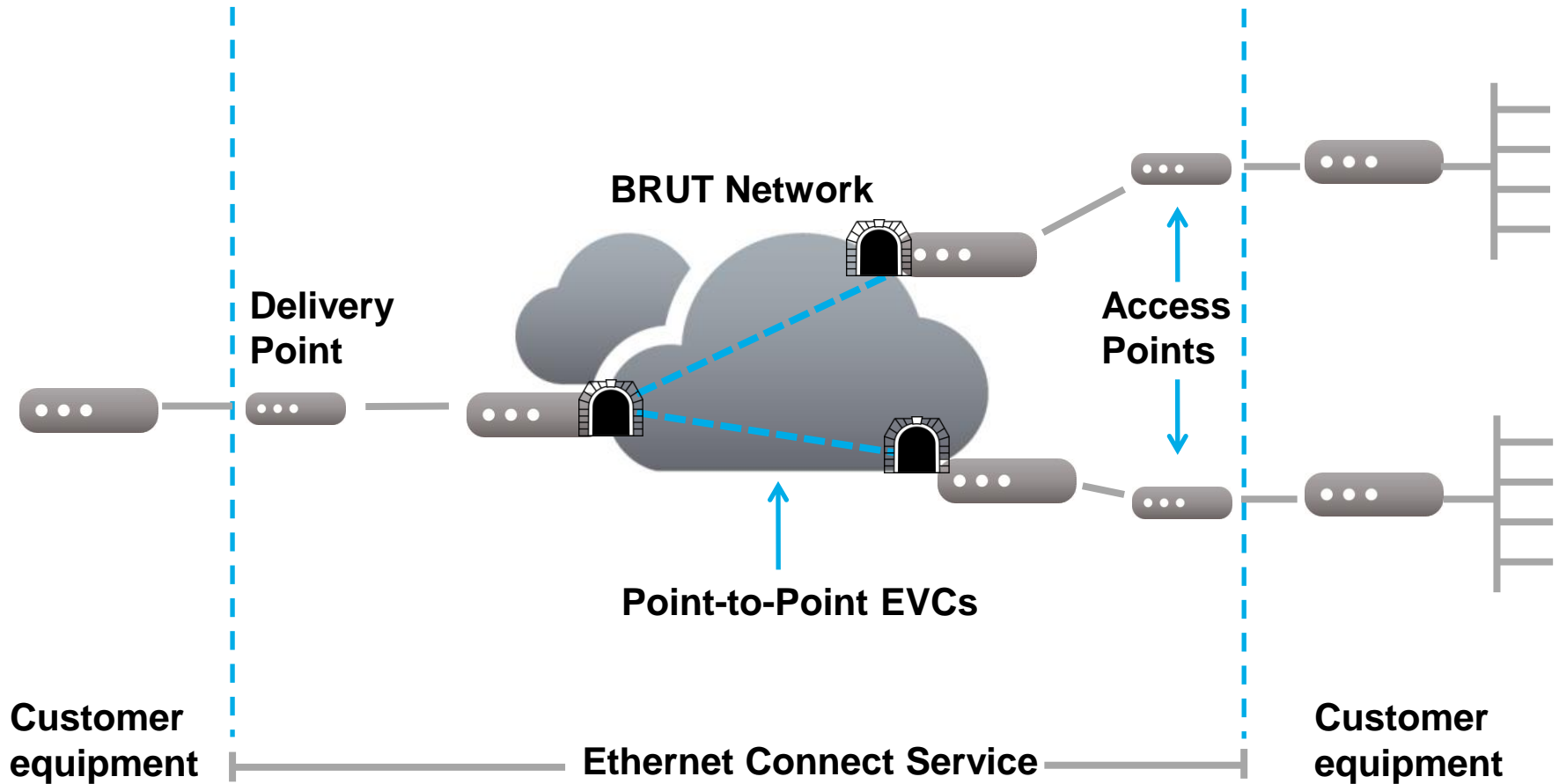


# Ethernet Connect

## Product description

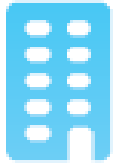


# Customer with Ethernet Connect network solution



# Leased Line Scenario

**Delivery Point  
or Access  
Point**



**Delivery Point  
or Access  
Point**



# Access Bandwidth

The table provides an overview of the different access types that are used to provide access to Ethernet Connect:

Access Point		Delivery Point	
Bandwith	Access type	Bandwith	Access type
4M	SHDSL		
8M	SHDSL		
10M	Fibre		
100M	Fibre		
1000M (*)	Fibre	1000M	Fibre
		10G	Fibre

\* (when connected to an eDSLAM there might be 400 speed limitation

# EVC capacity

Access Point – Delivery Point	Delivery Point – Delivery Point
3M	3M
7M	7M
10M	10M
20M	20M
50M	50M
100M	100M
200M	200M
400M	400M
600M	600M
1G	1G
	10G

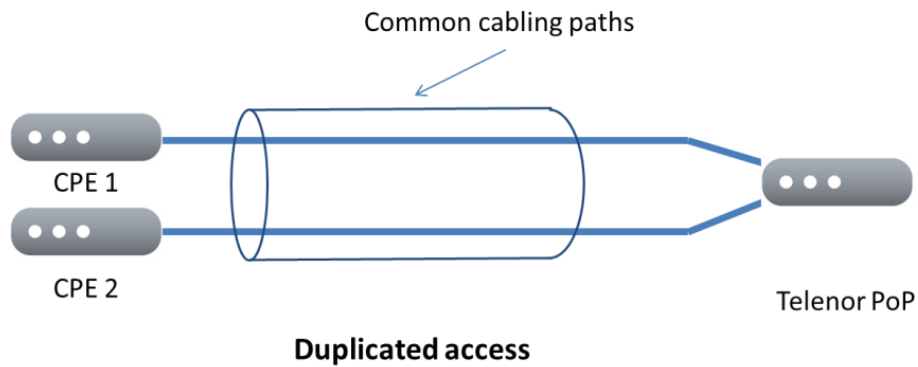
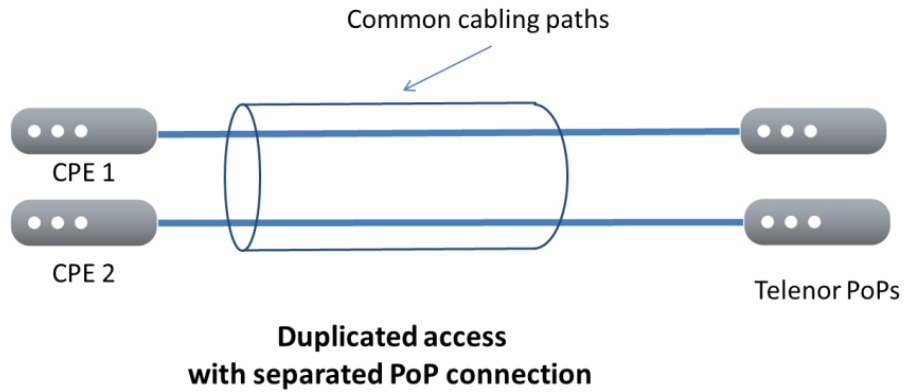
# CoS – Class of Service

The following CoS mapping will be used based on customers P-bit setting:

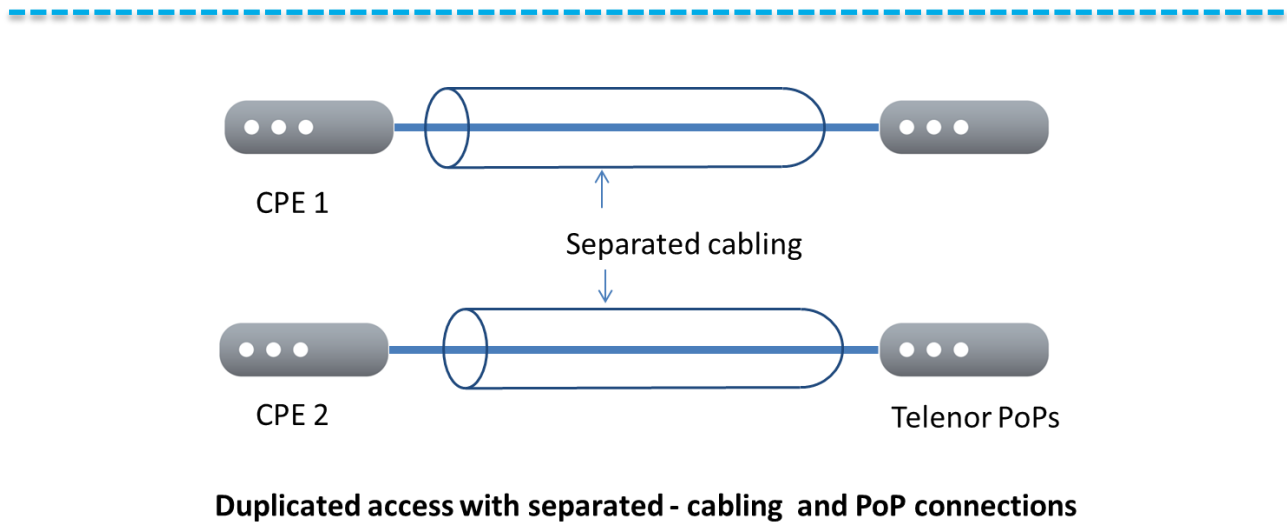
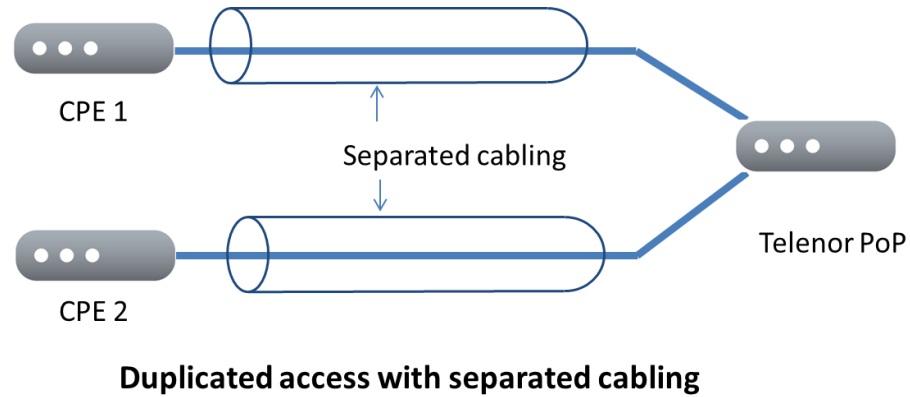
P bit	Voice	Best effort	Premium
5	X		
0		X	
else			X



# Resilient Access Lines



# Resilient Access Lines #2



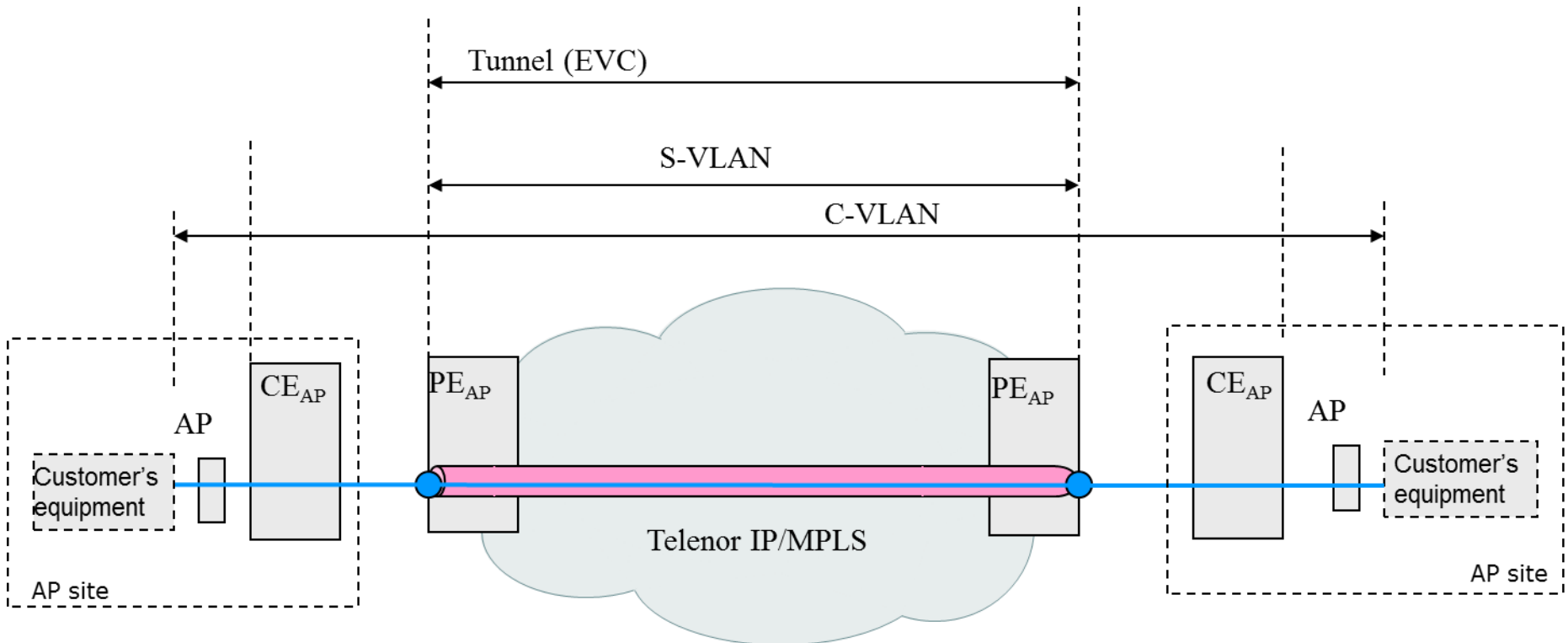
# Usecase – examples:

1. Leased line scenario
2. A large municipal administration
3. A national service network - connecting 2000 sites
4. Cloud vendor serving national customer (in progress)
5. An Internasjonal operator wanting to connect a customer site in Norway

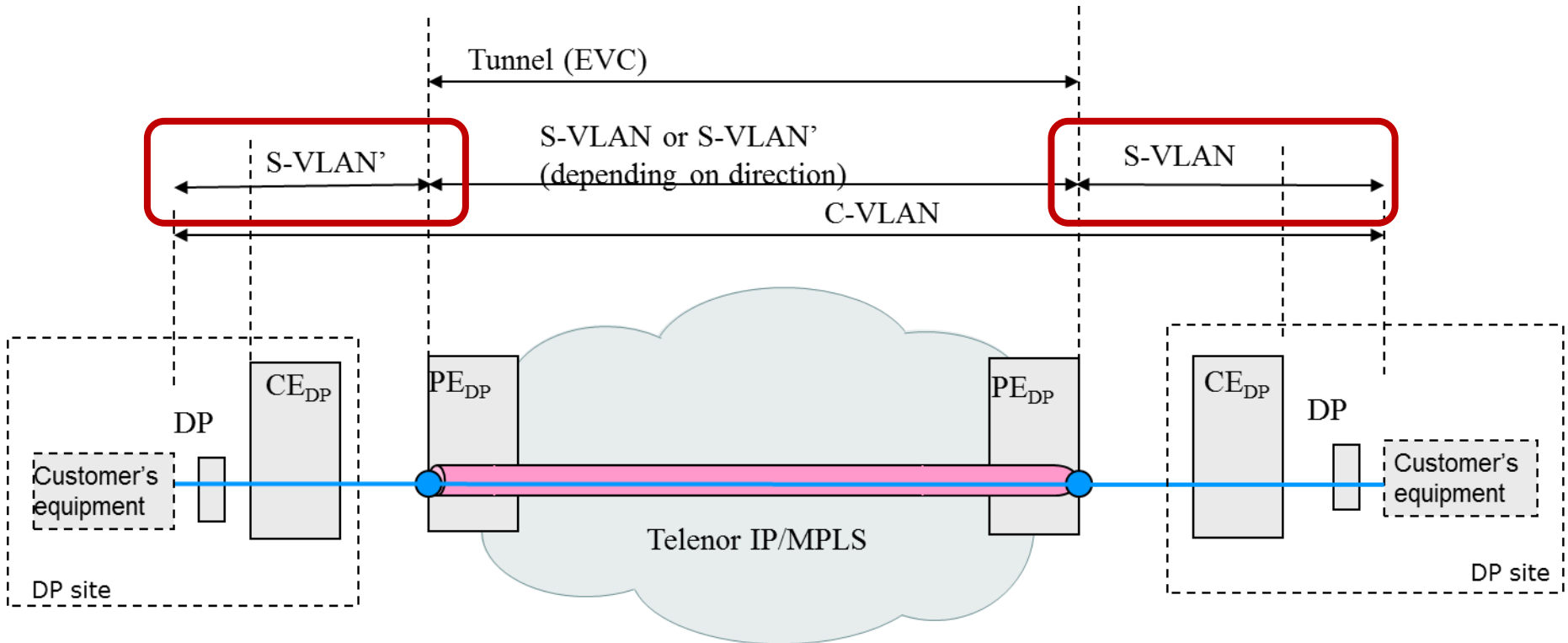
# Leased Line Scenario



# VLAN mapping, AP-AP connections

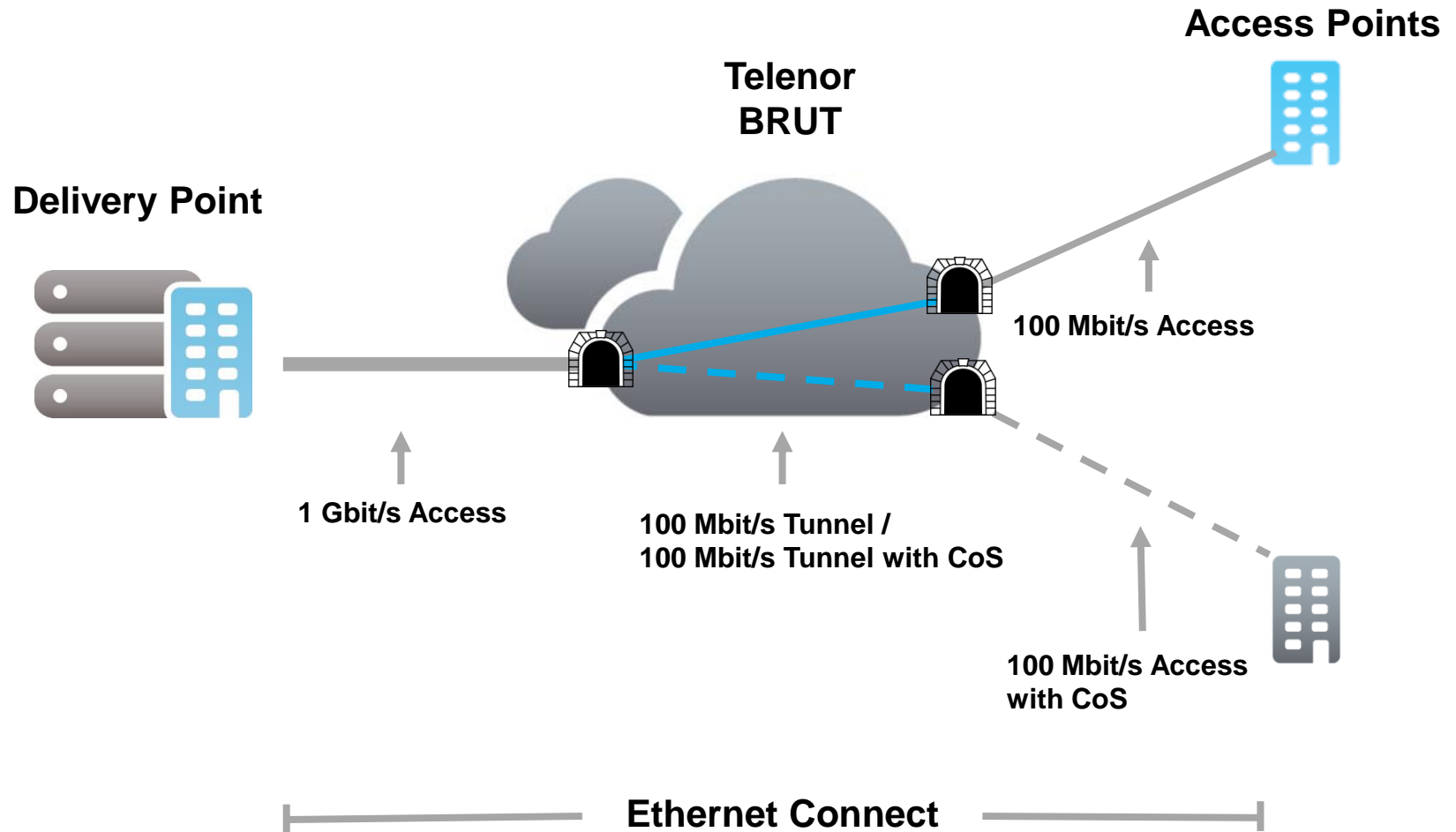


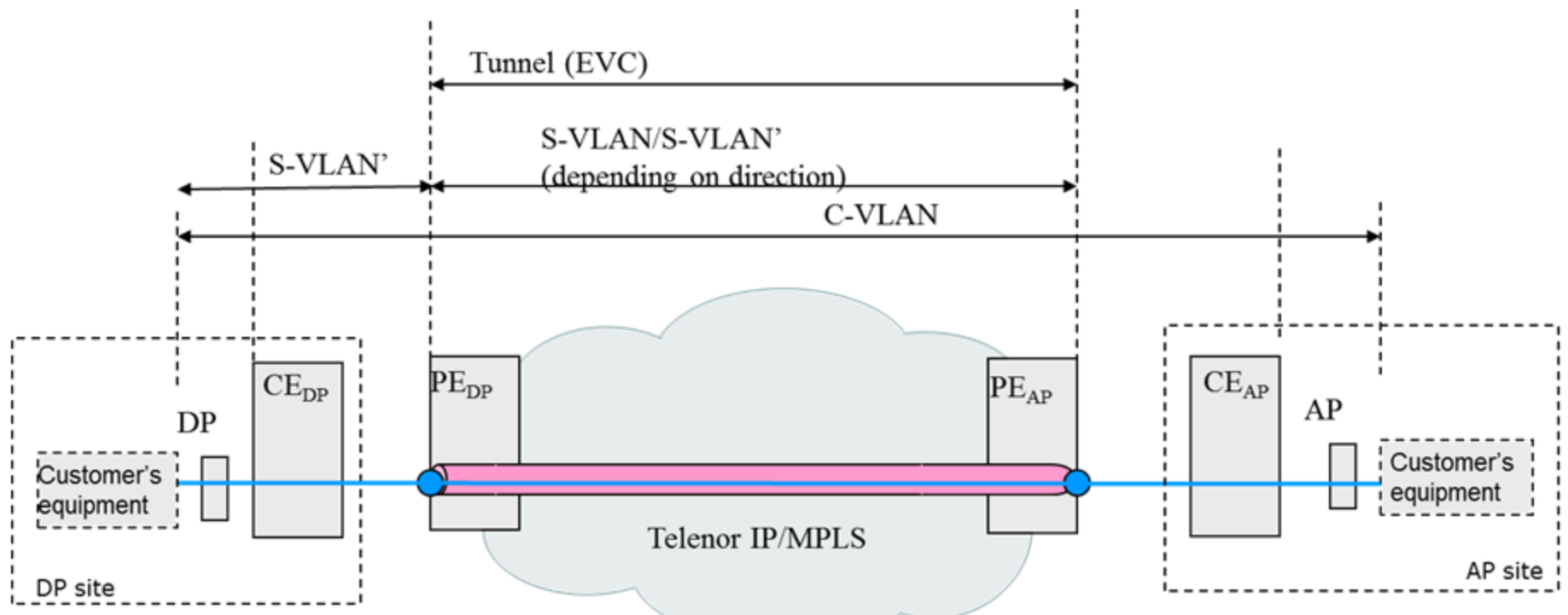
# VLAN mapping, DP-DP connections





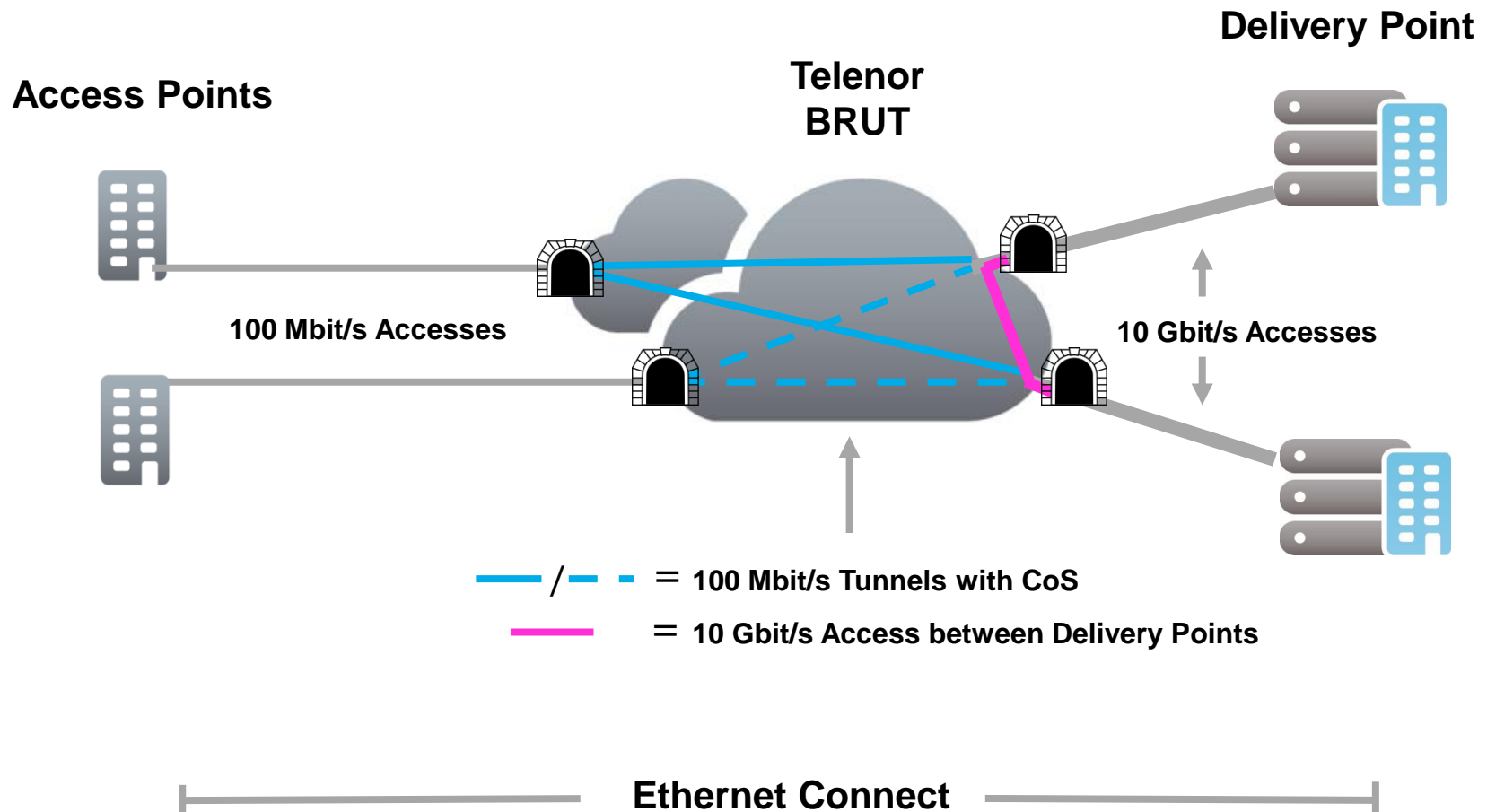
## Use case 2: A large municipal administration



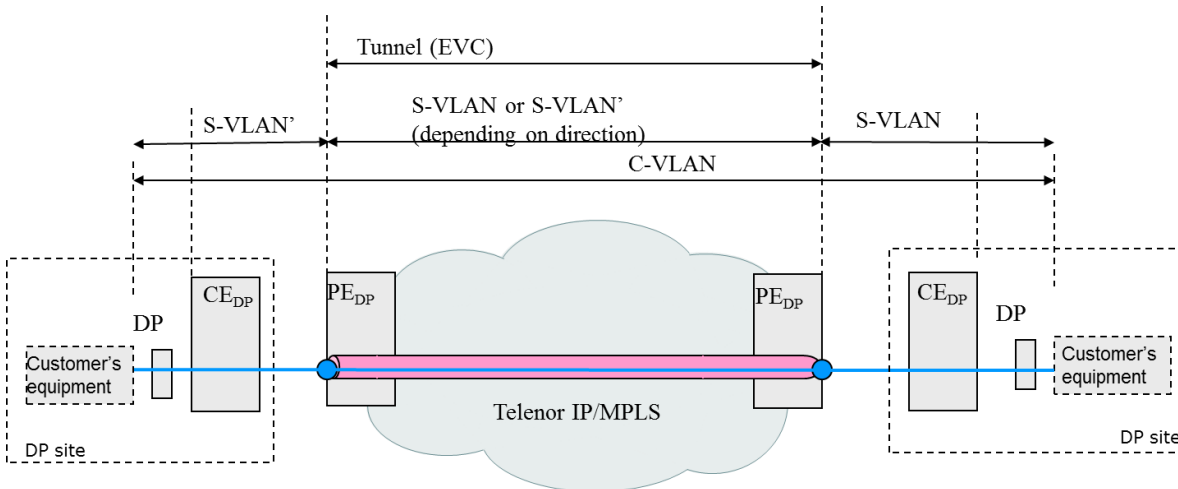
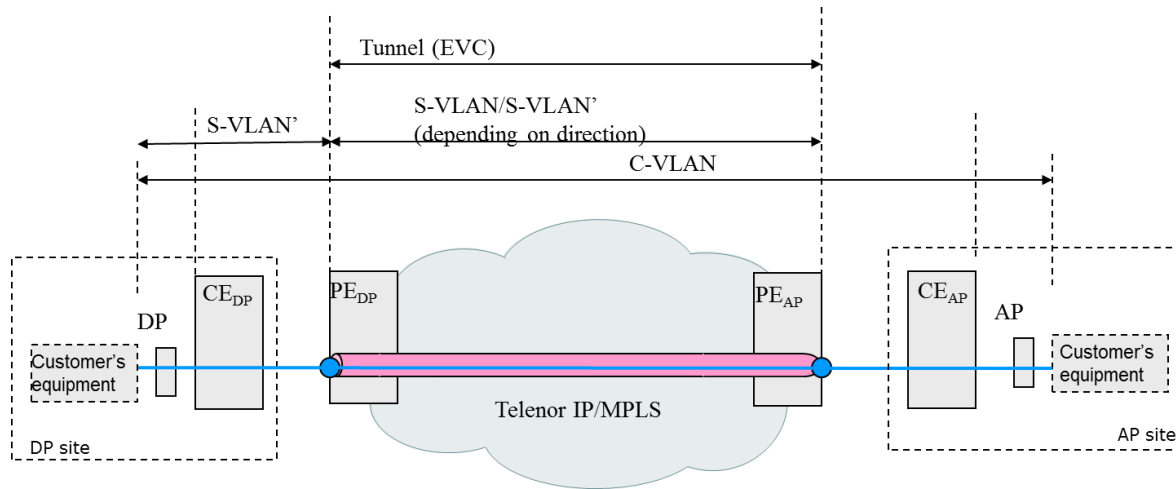


## Use case 3: A national service network

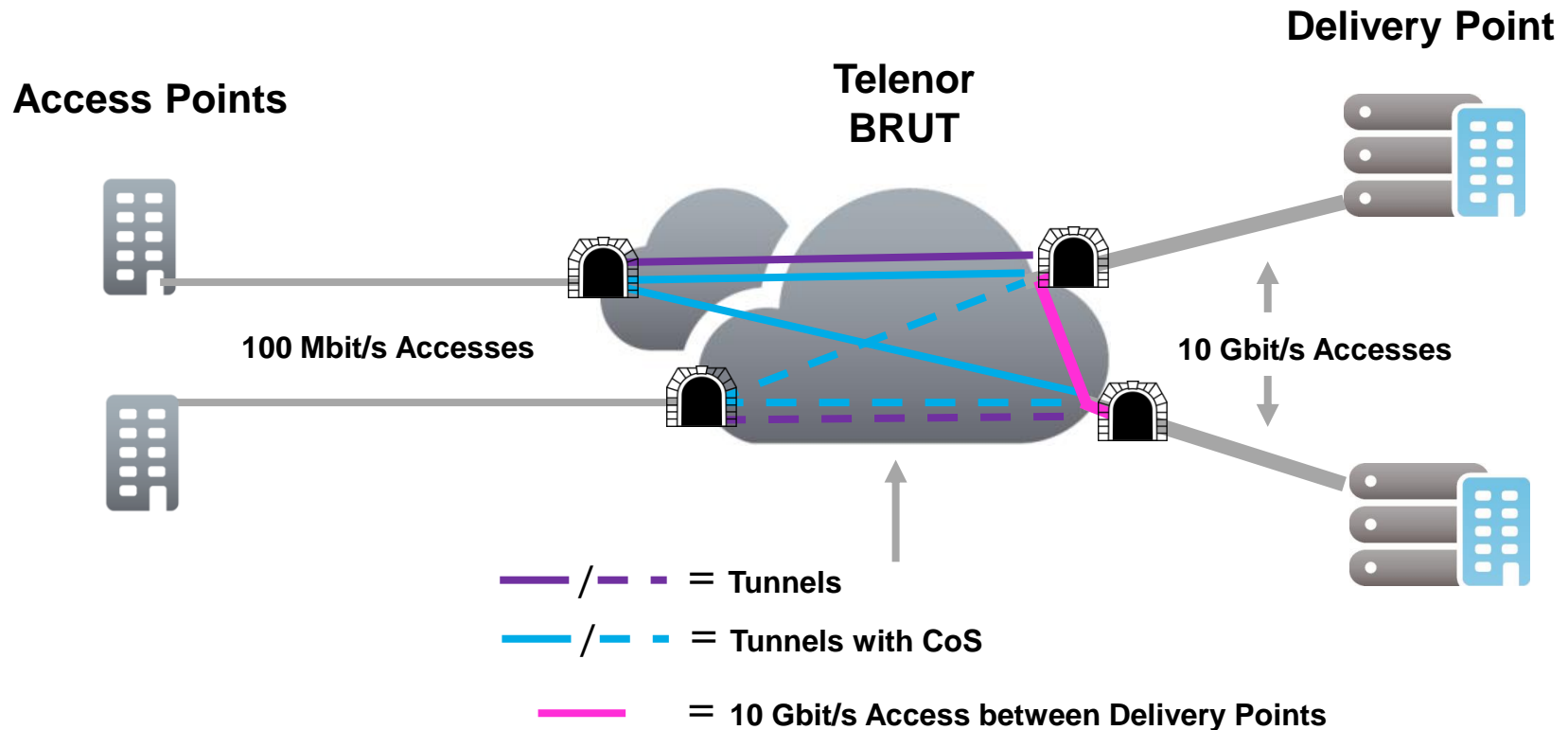
- connecting 2000 sites



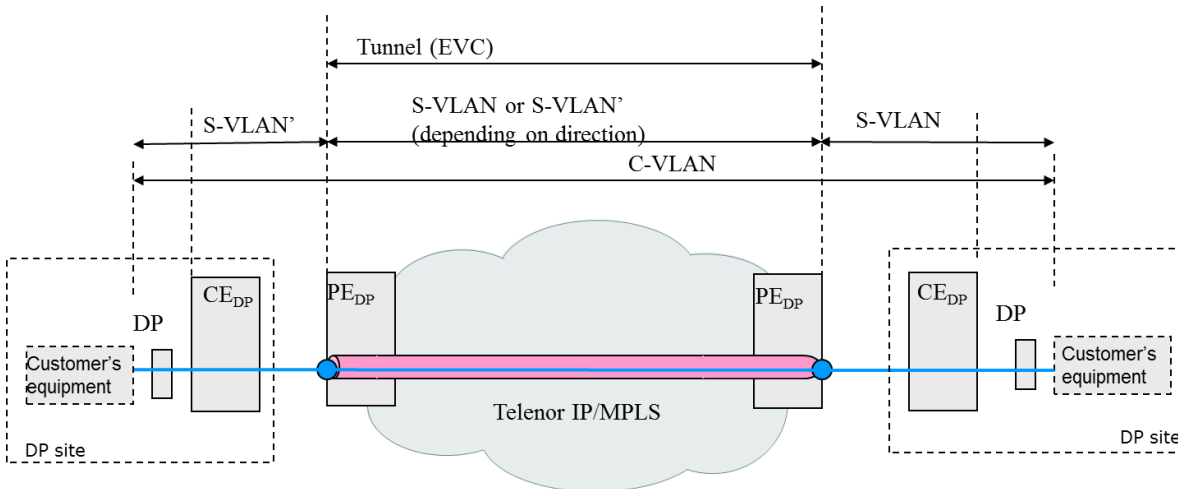
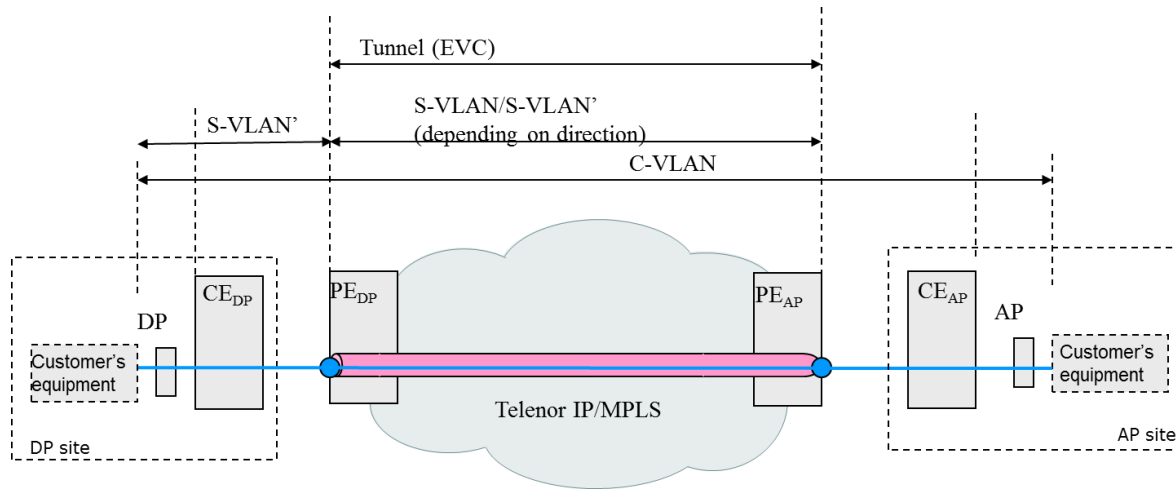
# VLAN-mapping



## Use case 3: Cloud vendor serving national customer

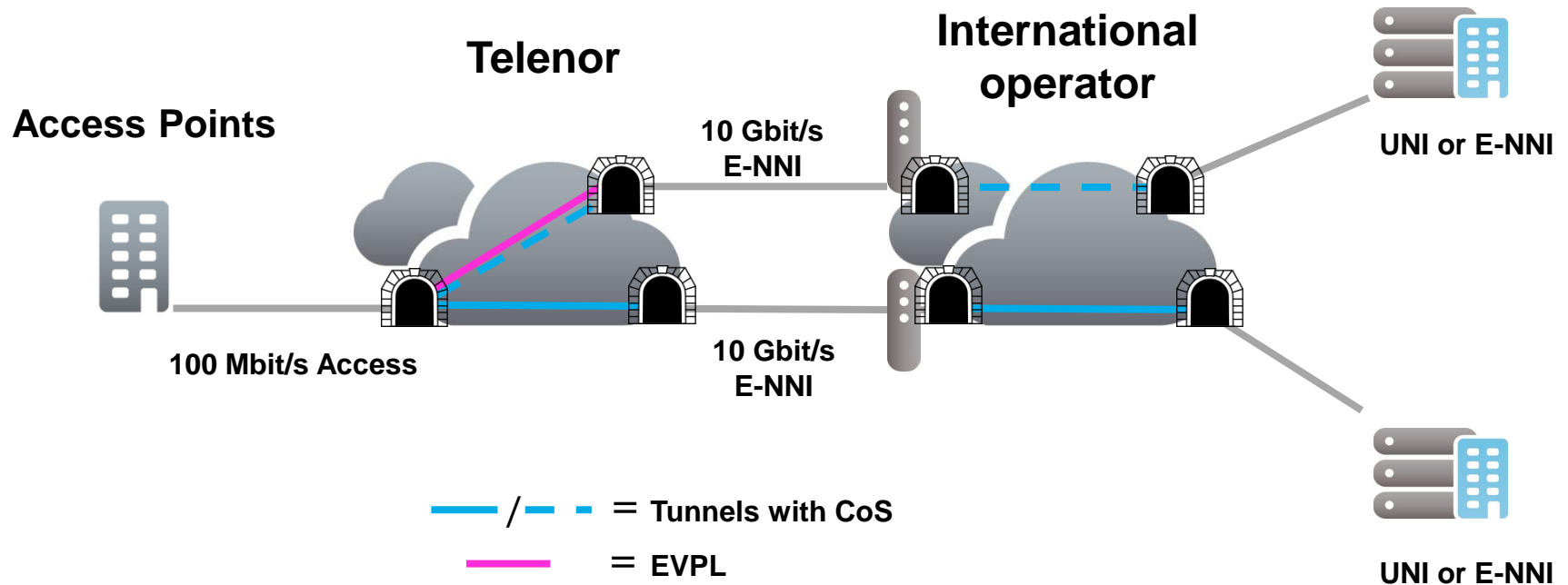


# VLAN-mapping





## Use case 5: An International operator connecting a customer site in Norway



# VLAN-mapping

