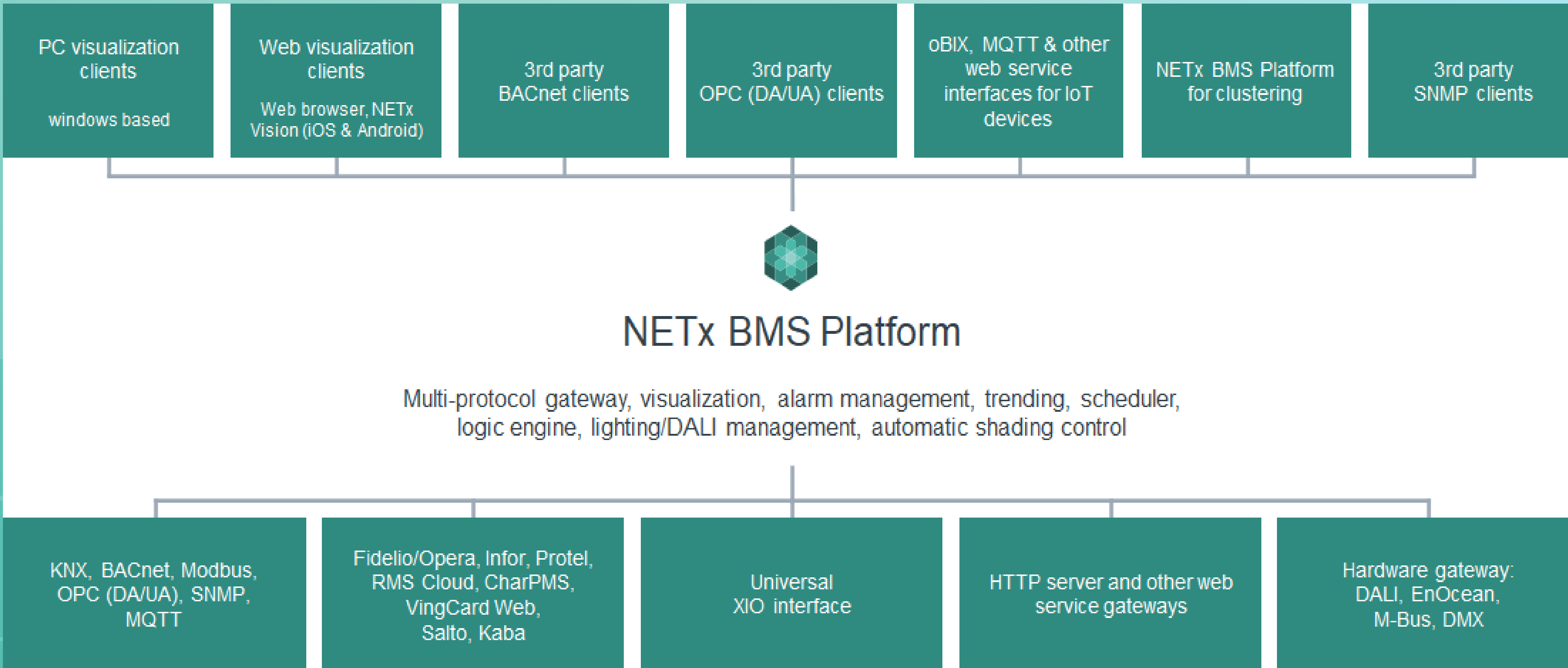


# Building management software

NETxAutomation Online Training - Session 1/6 - KNX Integration



# Part 1: five scenarios in KNX integration

#1

TP classic  
configuration  
(TP coupling)

#2

IP classic  
configuration  
(IP routing  
multicast)

#3

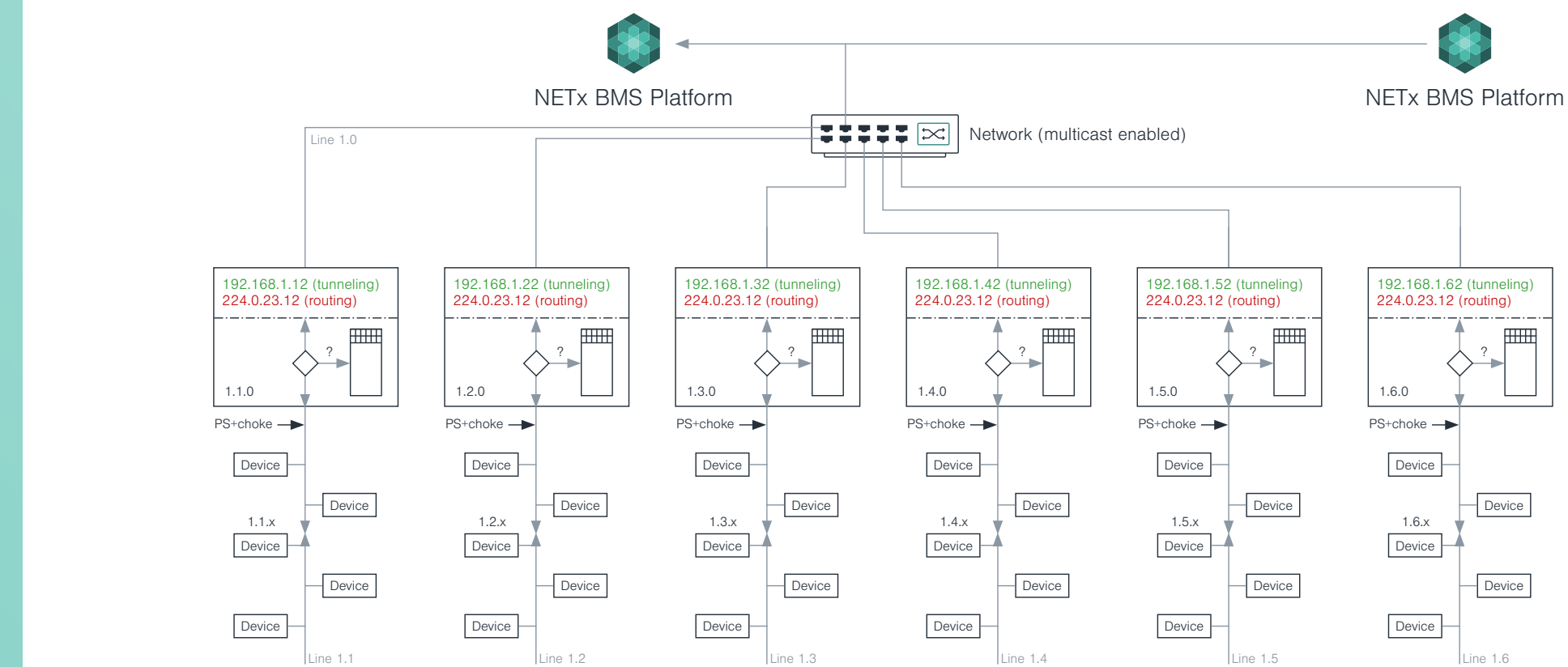
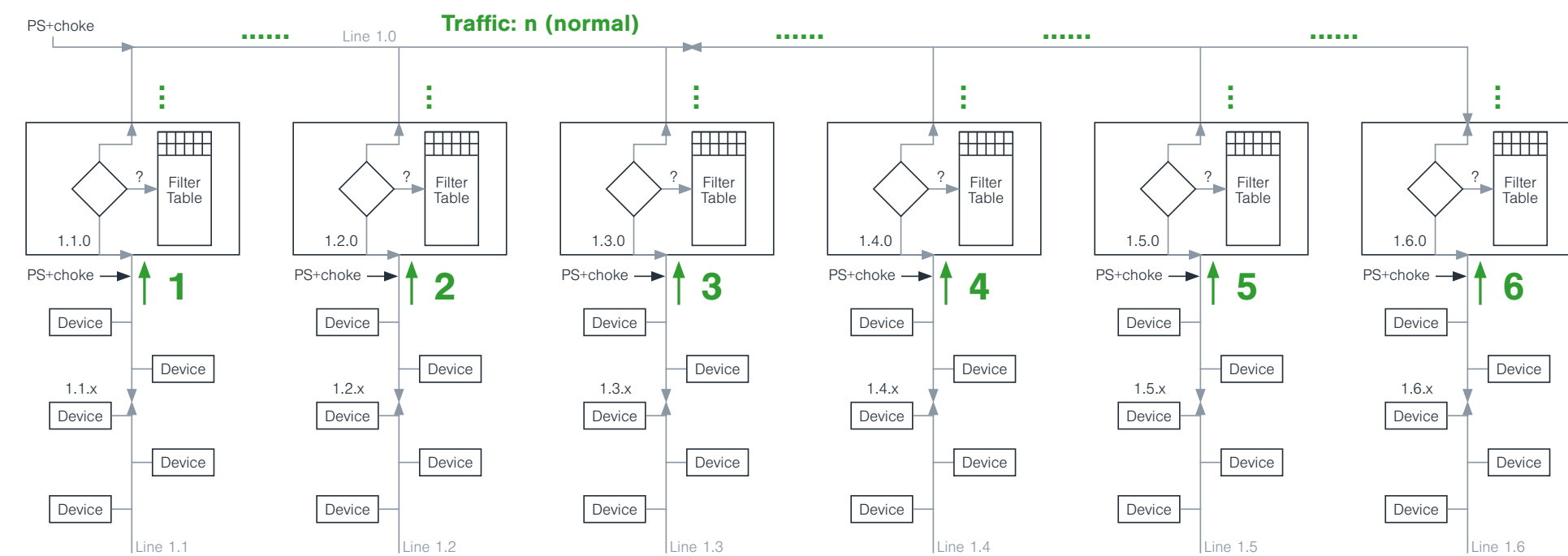
IP configuration  
including  
NETx Platform  
(IP routers)

#4

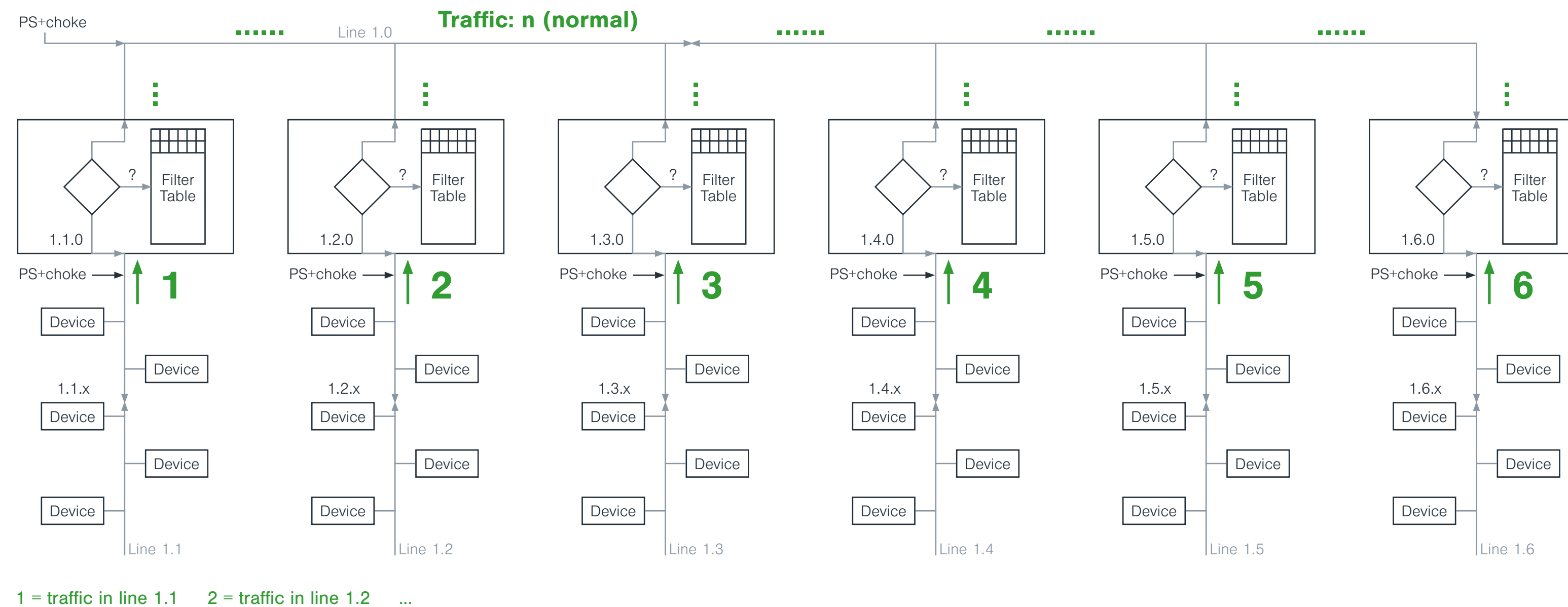
IP configuration  
including  
NETx Platform  
(IP interfaces)

#5

How to solve  
scenario #1 with  
NETx Platform

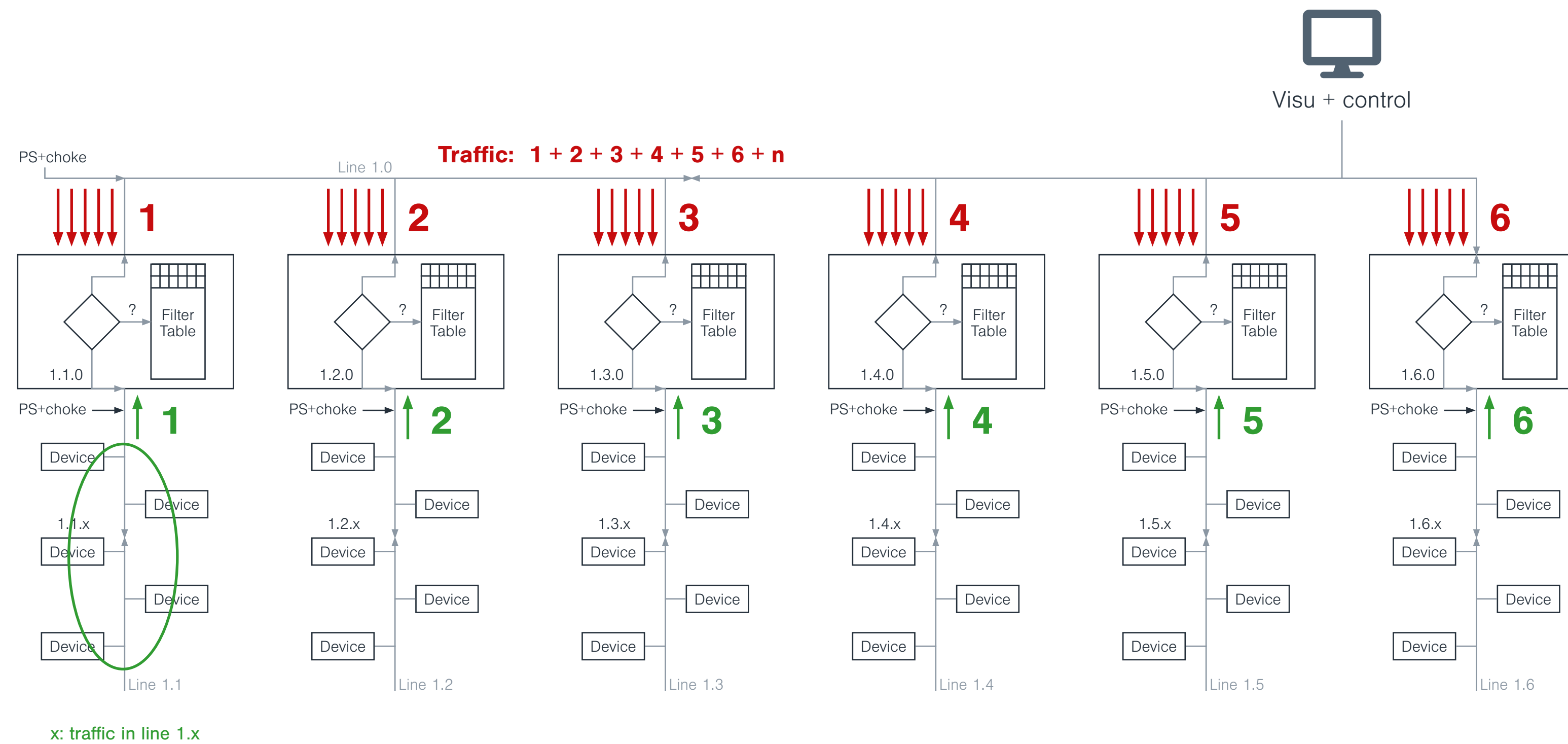


# Scenario #1: TP classical configuration (TP coupling)



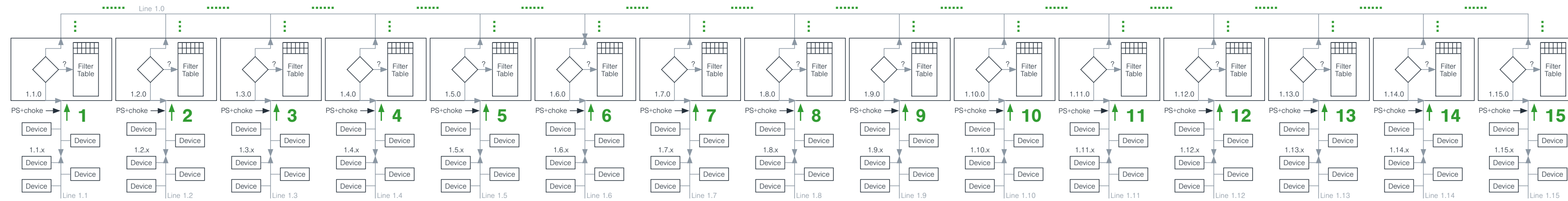
# Scenario #1: TP classical configuration (TP coupling)

Two problems: bandwidth issues + coupler bottleneck

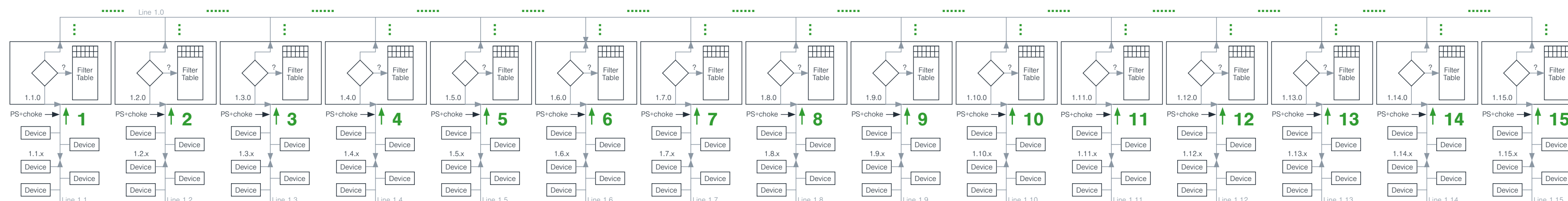
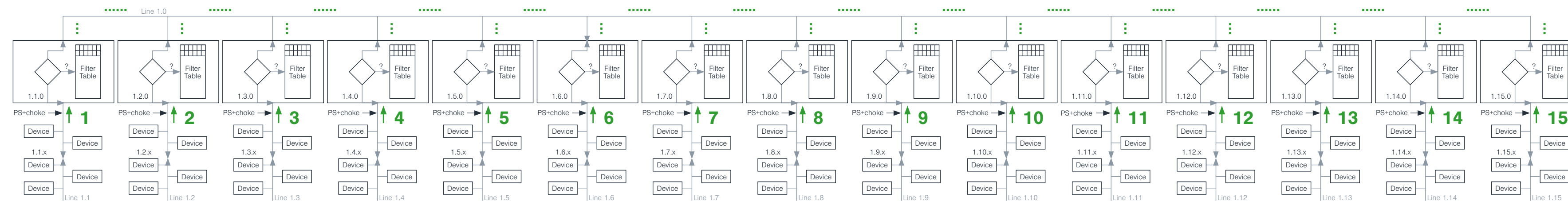




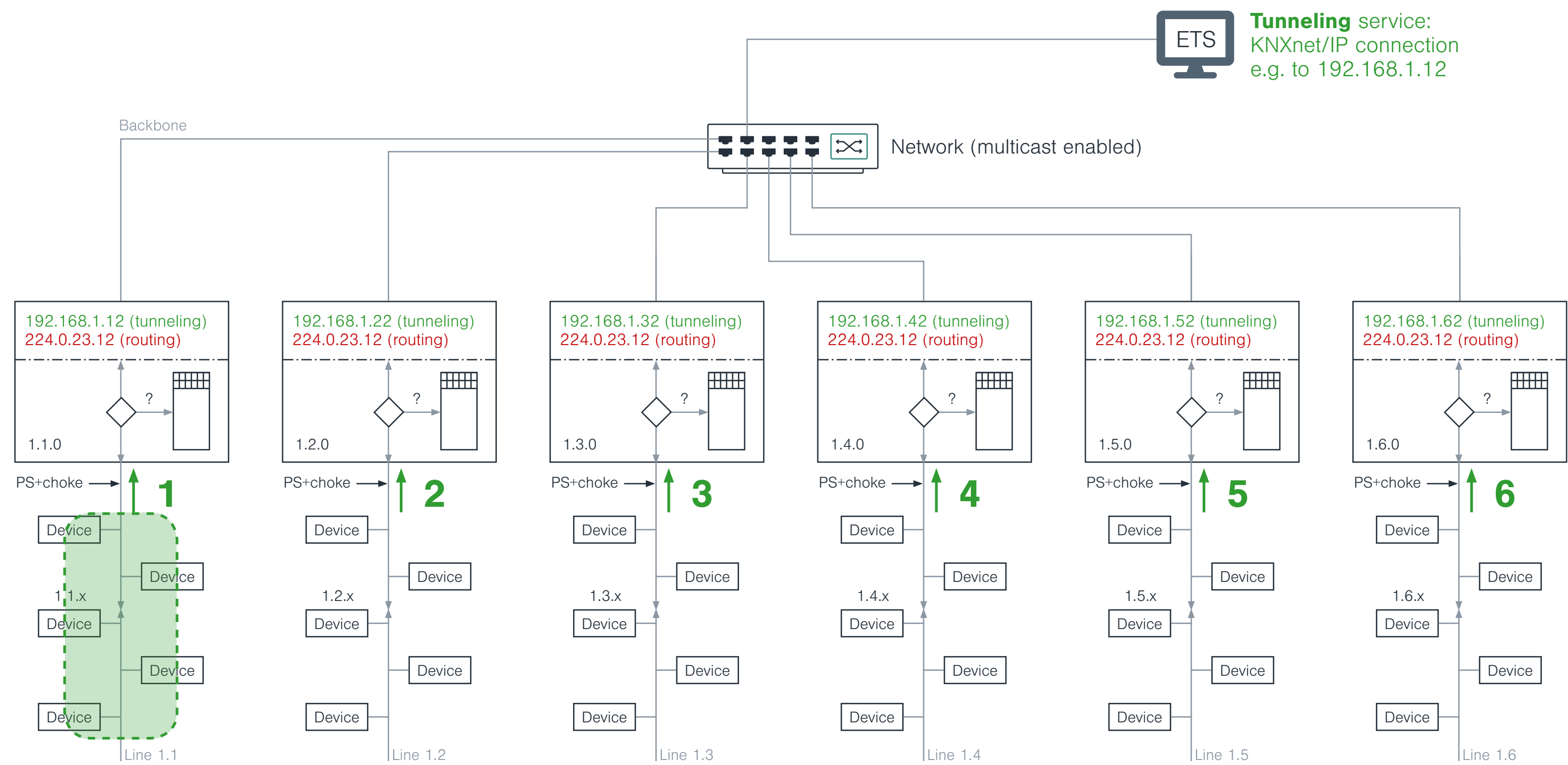
# Scenario #1: TP classical configuration



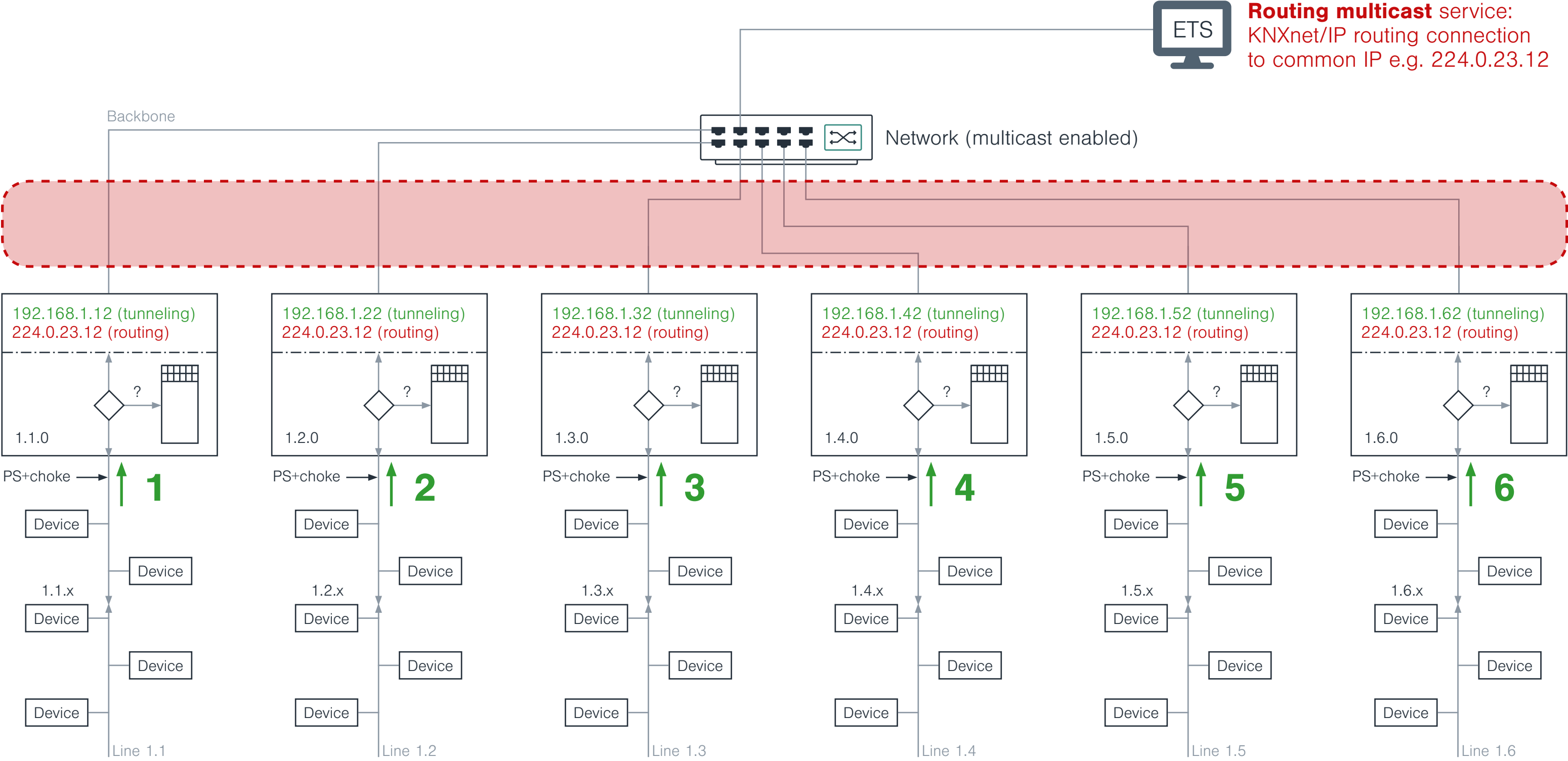
Up to 15 areas with 15 lines...



# Scenario #2: IP classic configuration (IP routing multicast)



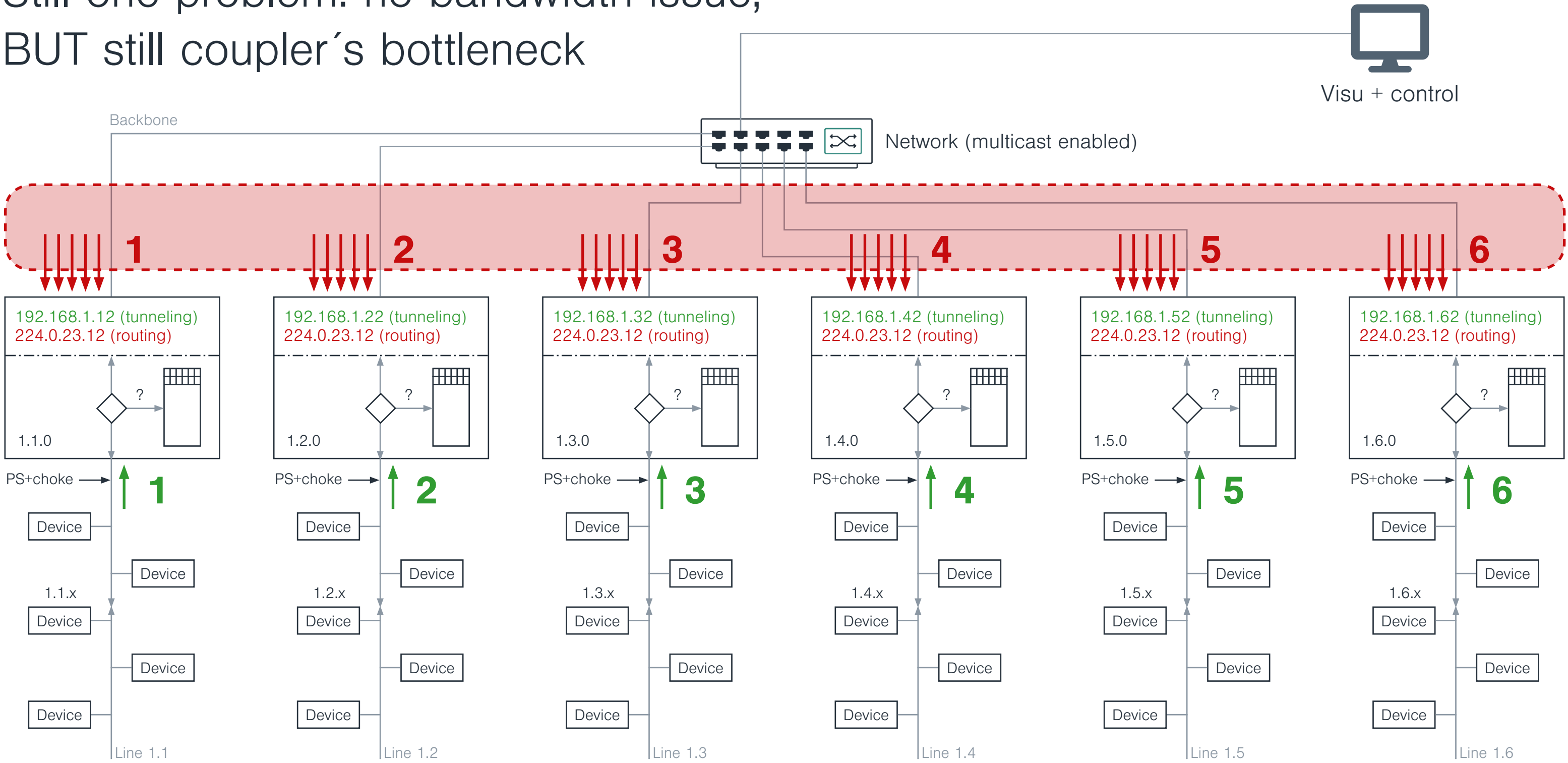
# Scenario #2: IP classic configuration (IP routing multicast)





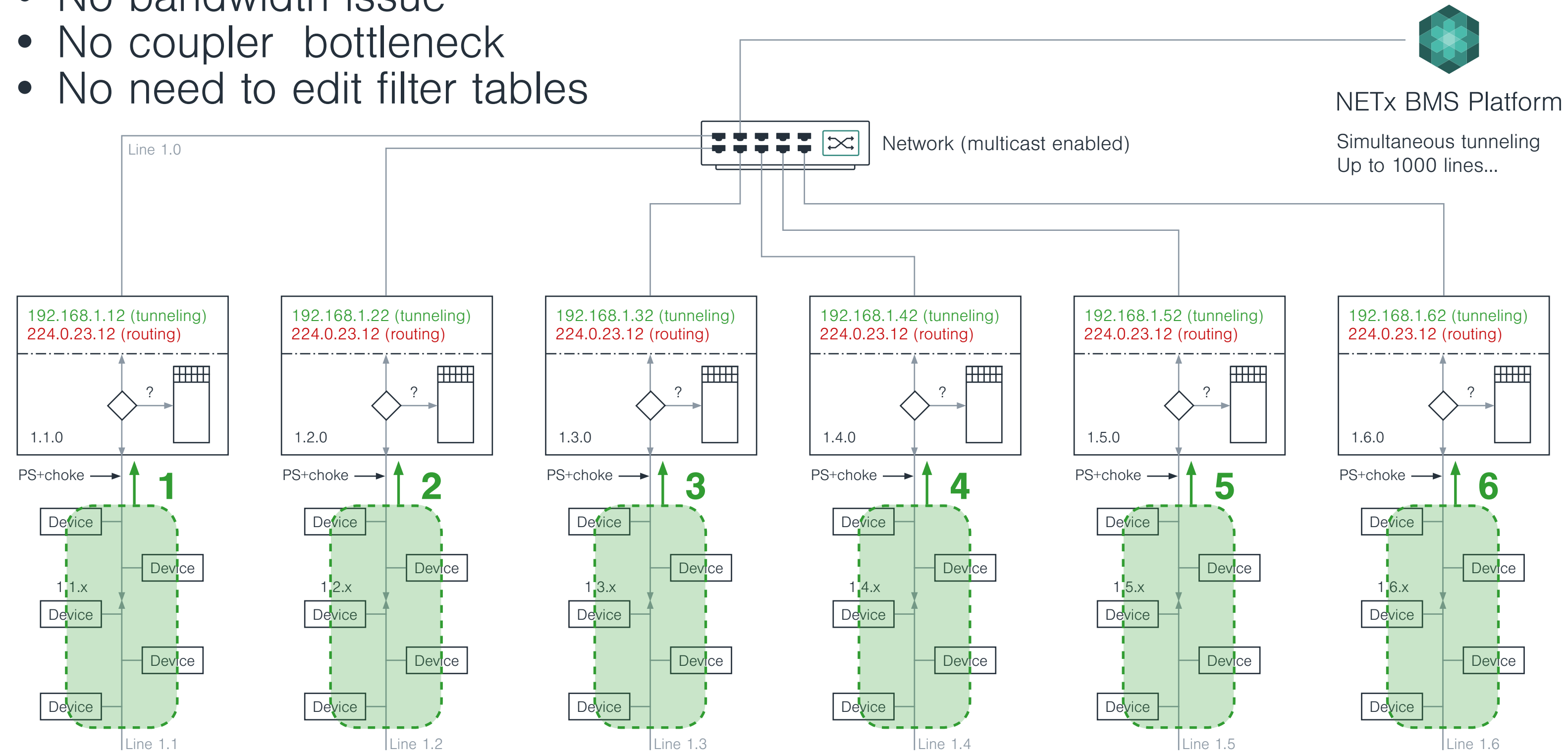
# Scenario #2: IP classic configuration (IP routing multicast)

Still one problem: no bandwidth issue,  
BUT still coupler's bottleneck

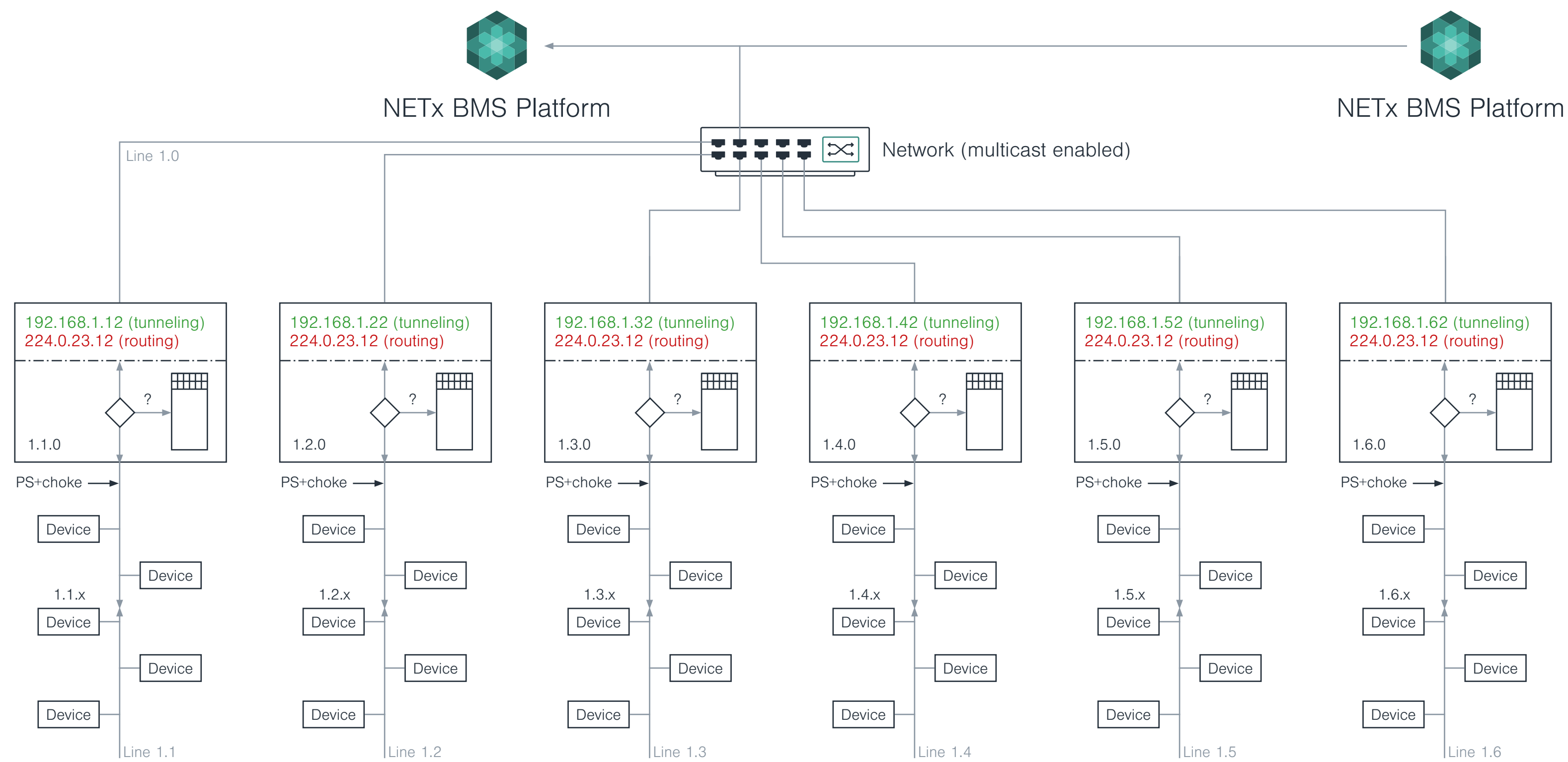


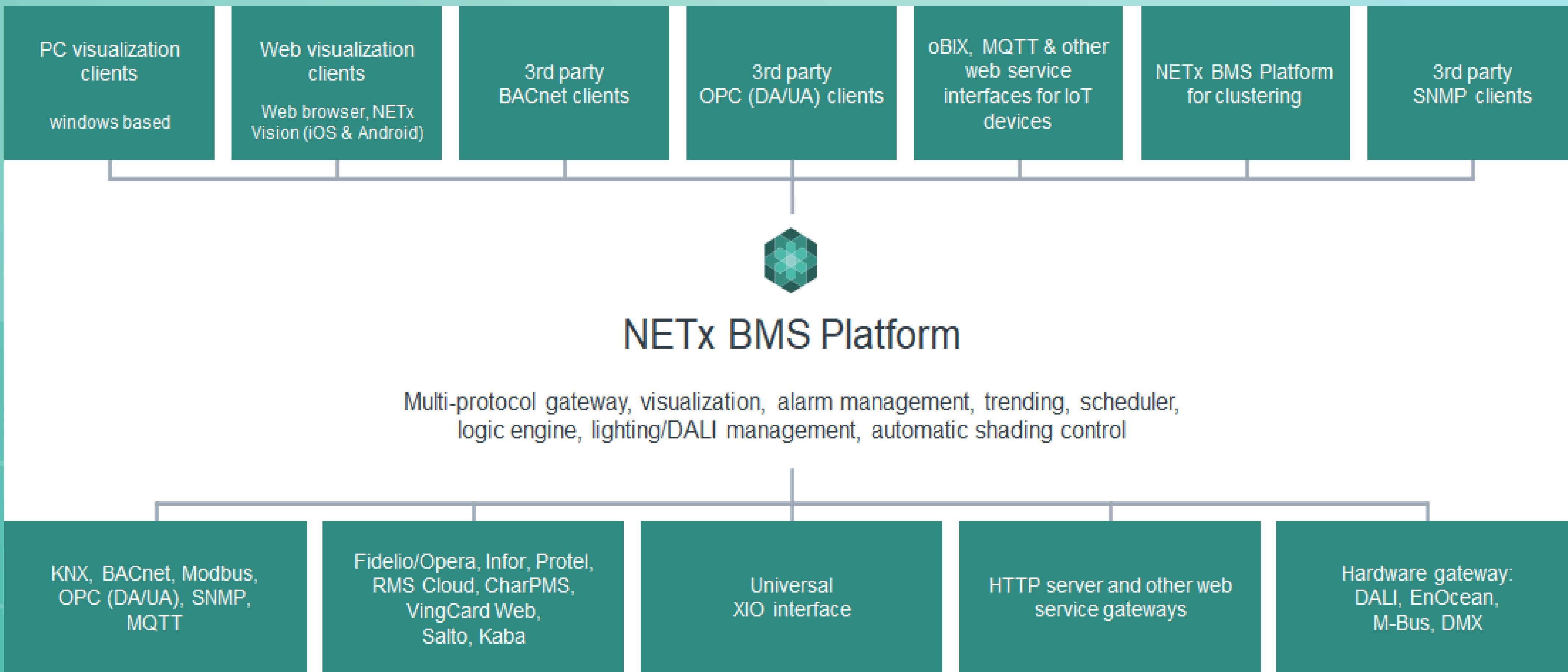
# Scenario #3: IP configuration including NETx Platform (IP routers)

- No bandwidth issue
- No coupler bottleneck
- No need to edit filter tables



# Redundancy: main/backup server





# Scenario #3: IP configuration including NETx BMS Platform (IP routers)



## NETx BMS Platform

Item Tree		
Item	Description	Value
Today		
VAR		
VIRTUAL		
XCOMMAND		
XCON		
XIO		
BACnet		
KNX		
BROADCAST	IP: BROADCAST, DESC: NETxK...	
Demo Case Small Room 101 Router	IP: 172.16.3.1, DESC: NETx KN...	
GATEWAY		True
Status	KNX Gateway status number	0
05 - Floor1		
0 - Lighting		
000	Room101 Dimming - Switch	True
001	Room101 Dimming - Switch -...	True
002	Room101 Dimming - Rel Dim...	???
002 - SEND	Trigger to send the KNX telegr	False
002.Control	Room101 Dimming - Rel Dim...	???
002.StepCode	Room101 Dimming - Rel Dim...	???
003	Room101 Dimming - Abs Di...	???
004	Room101 Dimming - Brightn...	100
1 - HVAC		
2 - Shading		
Devices		
Demo Case Small Room 102 Router	IP: 172.16.3.2, DESC: NETx KN...	
Demo Case Small Room 103 Router	IP: 172.16.3.3, DESC: NETx KN...	
Demo Case Small Room 104 Router	IP: 172.16.3.4, DESC: NETx KN...	
Demo Case Small Room 105 Router	IP: 172.16.3.5, DESC: NETx KN...	
Demo Case Small Room 106 Router	IP: 172.16.3.6, DESC: NETx KN...	
Demo Case Small Room 107 Router	IP: 172.16.3.7, DESC: NETx KN...	
Demo Case Small Room 108 Router	IP: 172.16.3.8, DESC: NETx KN...	
Demo Case Small Room 109 Router	IP: 172.16.3.9, DESC: NETx KN...	
Demo Case Small Room 110 Router	IP: 172.16.3.10, DESC: NETx KN...	

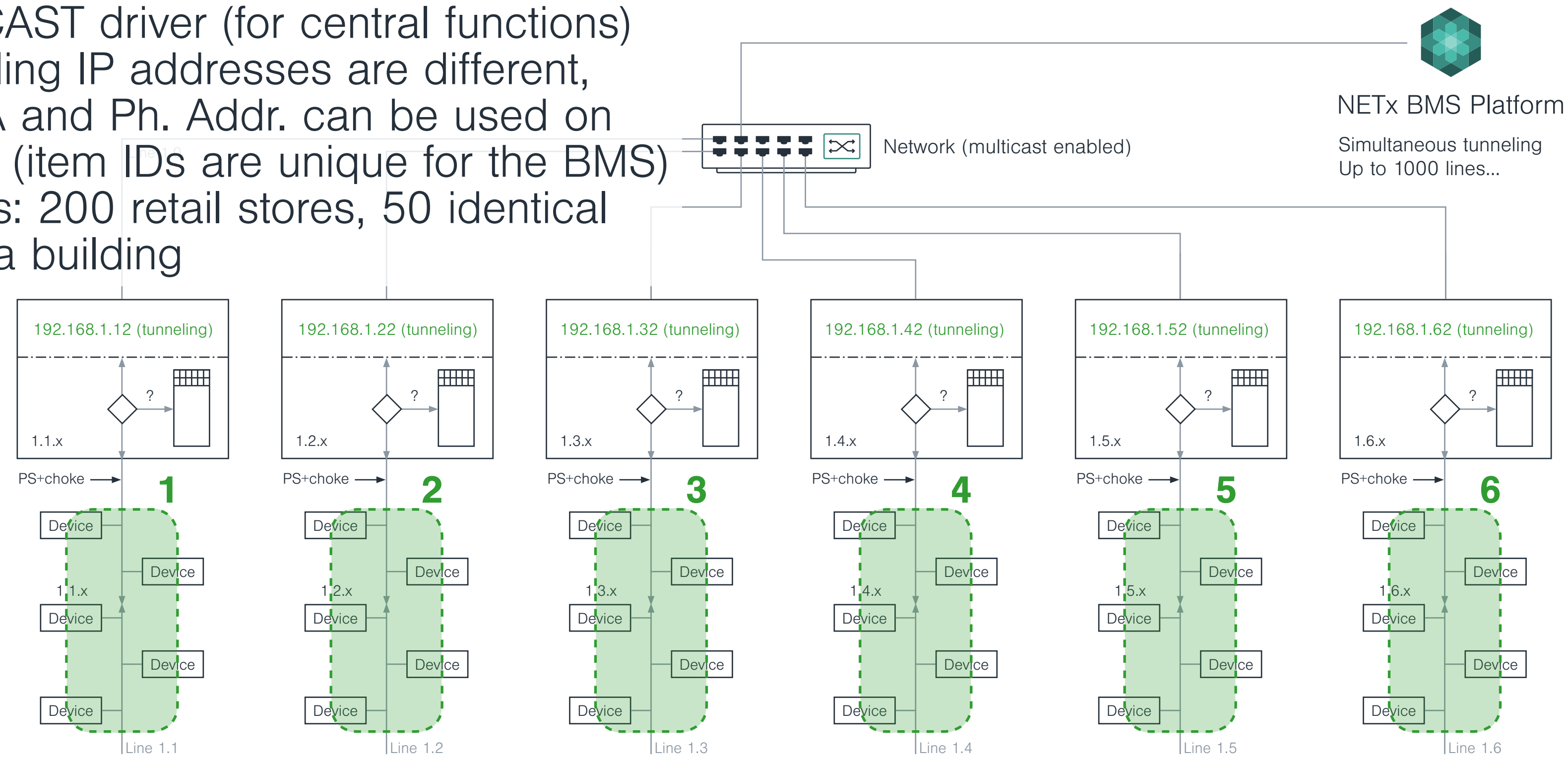
### Item tree:

- The NETx BMS Platform need to know - for every KNX GA or Ph.Addr. - which IP tunneling router or interface has to be used (address mapping)
- Export from ETS -> Import into NETx BMS Platform
- Examples of item IDs:  
For a KNX GA:  
NETx/XIO/KNX/Router1/1/1/1  
For a KNX Ph.Addr.:  
NETx/XIO/KNX/Router1/1.1.1



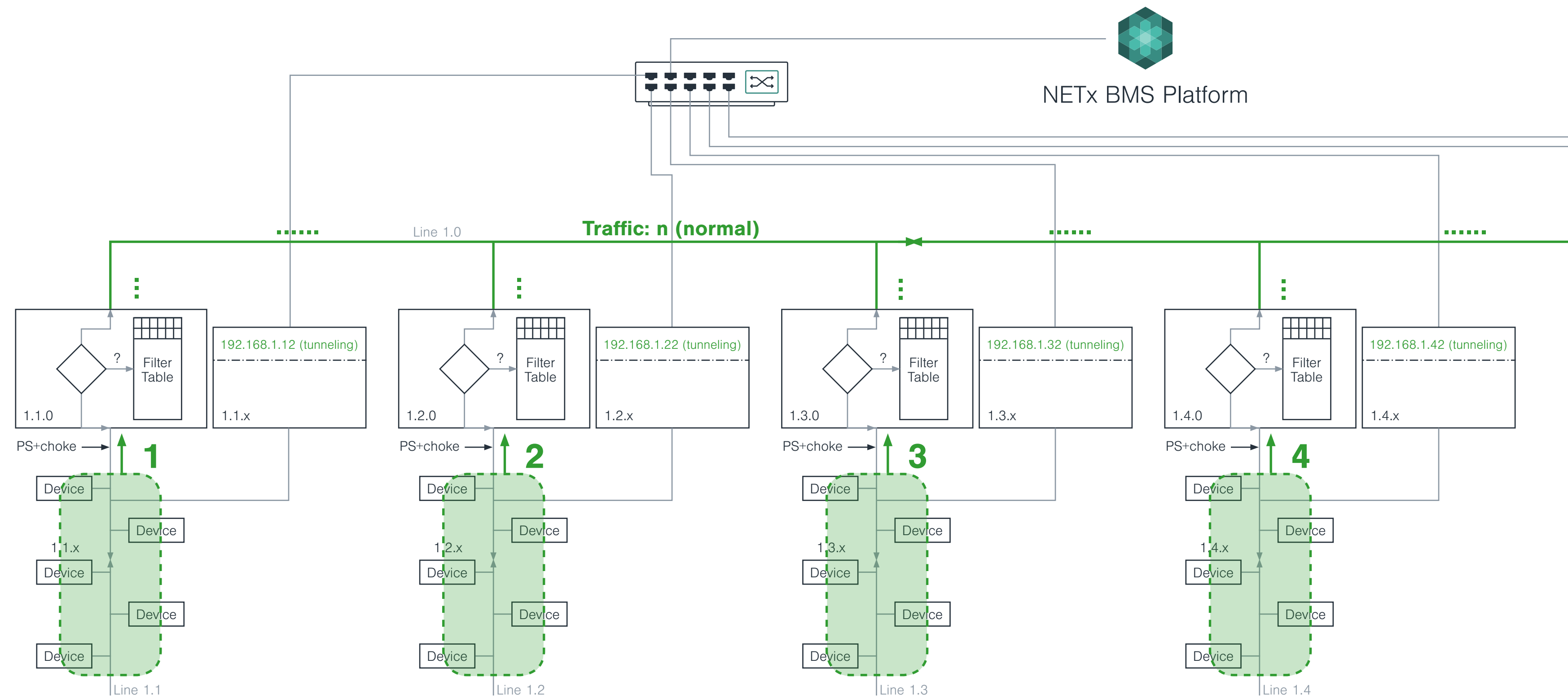
# Scenario #4: IP configuration including NETx BMS Platform (IP interfaces)

- BROADCAST driver (for central functions)
- As tunneling IP addresses are different, same GA and Ph. Addr. can be used on each line (item IDs are unique for the BMS)
- Examples: 200 retail stores, 50 identical floors in a building





# Scenario #5 = scenario #1 + scenario #4





KNX practical boards (each “floor”)  
with:

- ON/OFF lights (L1 + L2)
- Dimming light (L3D)
- RGB lights (L11D + L12D + L13D)
- Shutters/blinds (S1 + S2)
- RTR (temperature)
- Lux level
- AQS (CO2 + humidity + temperature)
- BACnet controller (includes Modbus + SNMP)





# Classroom layout for online training

Line 1.1 - IP 192.168.1.12

Line 1.2 - IP 192.168.1.22

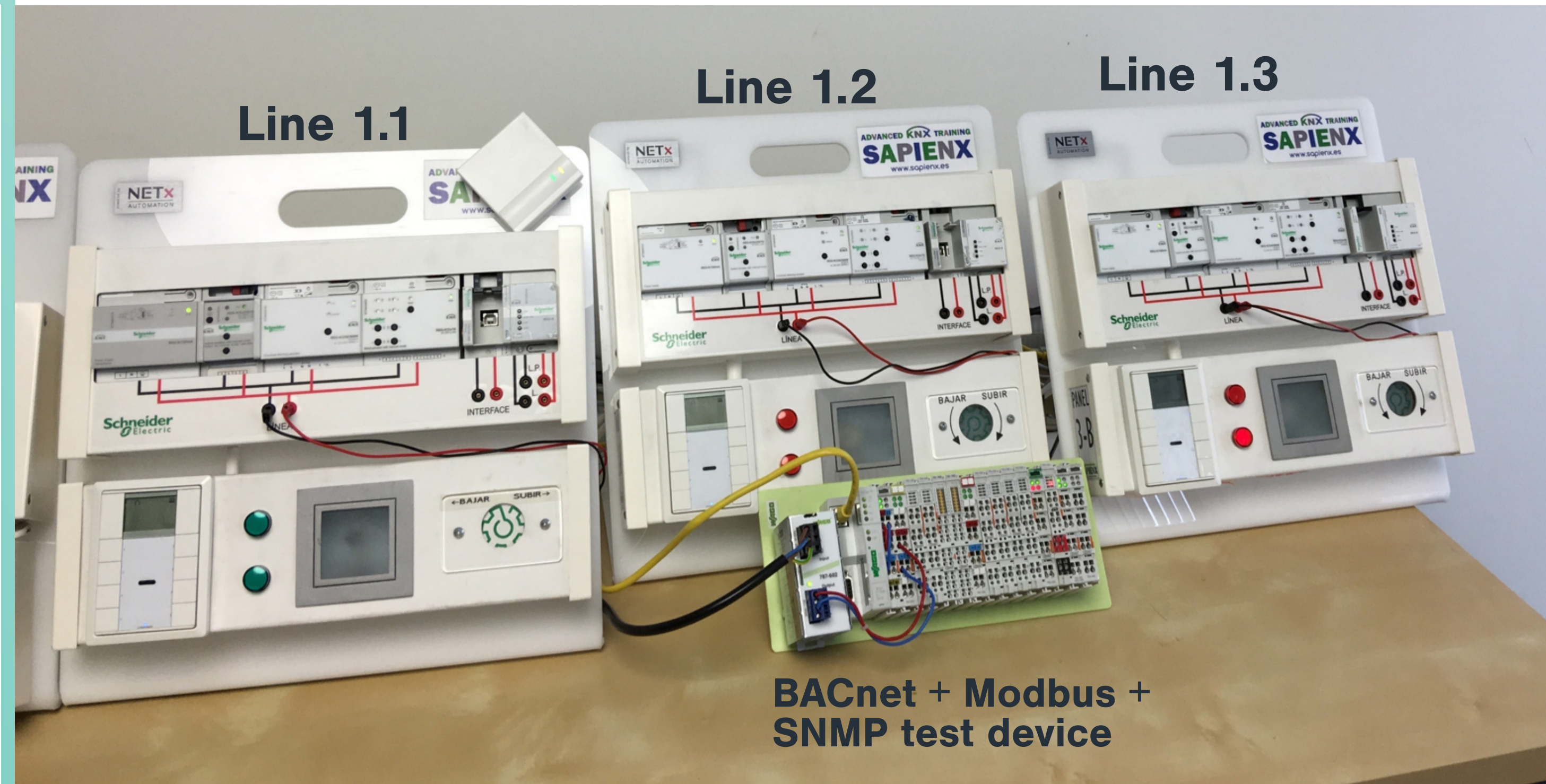
Line 1.3 - IP 192.168.1.32

Line 1.4 - IP 192.168.1.42

Line 1.5 - IP 192.168.1.52

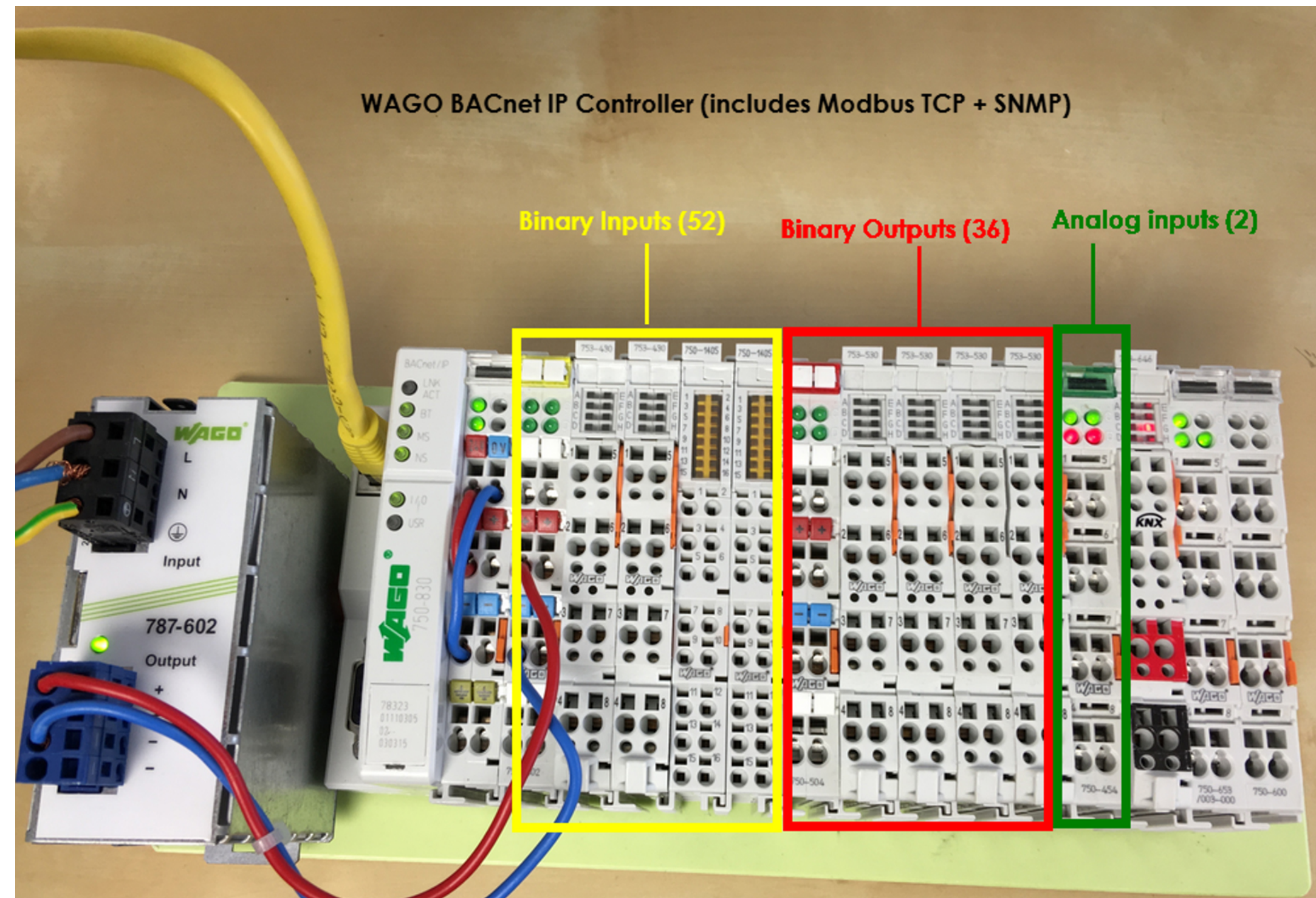
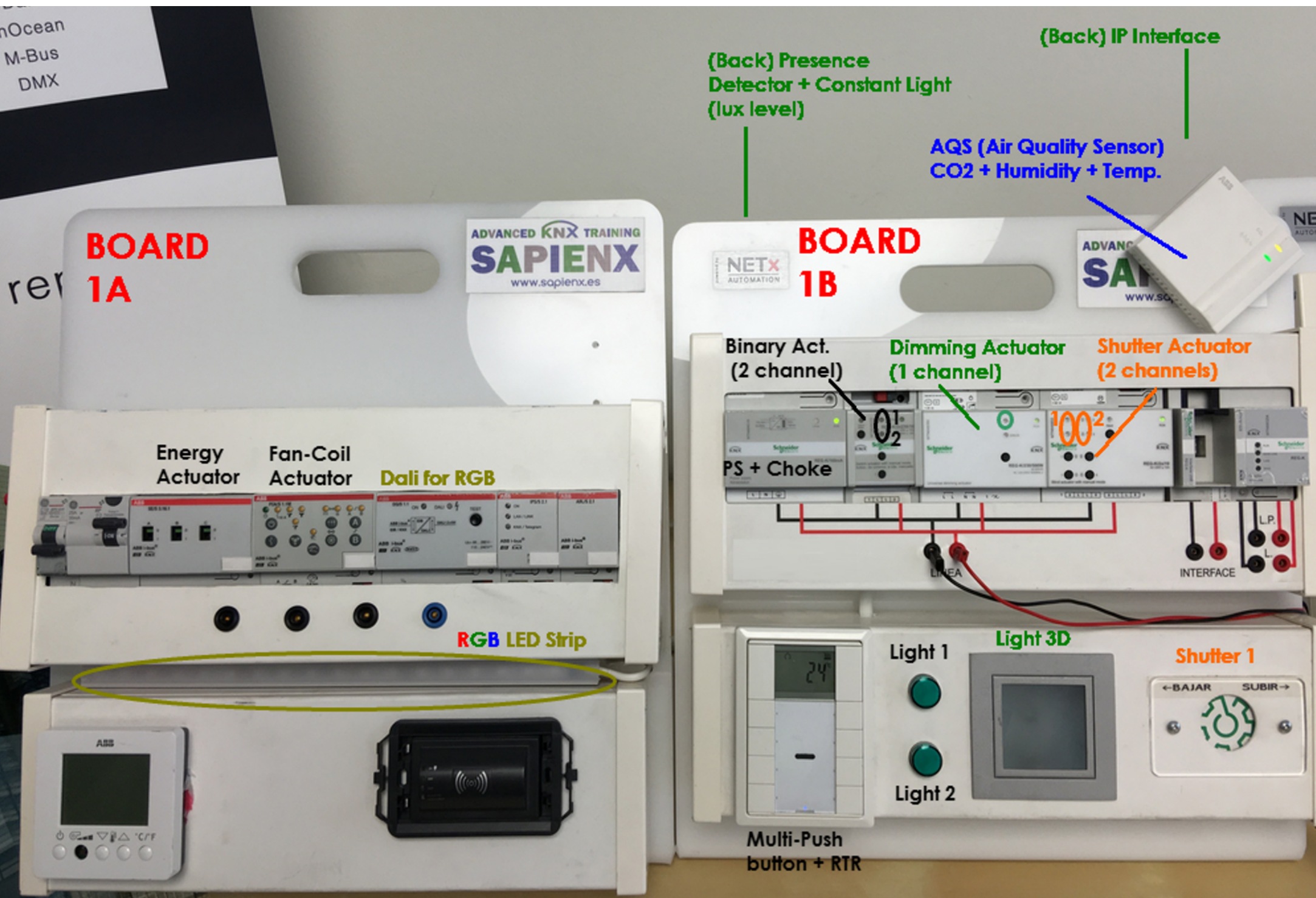
Line 1.6 - IP 192.168.1.62

BACnet + Modbus + SNMP test device  
IP 192.168.1.7





# Classroom layout for online training





Questions?