



## A SZAKÉRTŐ IT MEGOLDÁSSZÁLLÍTÓ

-  HIBRID IT FELHŐ
-  VÁLLALATI MOBILITÁS
-  ÜZLETI MEGOLDÁSOK
-  IT BIZTONSÁG
-  HÁLÓZATOK
-  CAD / CAM / PLM
-  7 X 24 / 365

RUGALMASSÁG



STABILITÁS



KORREKTSÉG



SZAKÉRTELEM



MEGBÍZHATÓSÁG



# Újdonságok Nexus platformon

Balla Attila

# Áttekintés



Tapasztalatok Nexus switch-ekkel

Nexus portfólió

- Nexus 5k
- Nexus 7k
- Nexus 9k
- Nexus 2k

Jövőkép

# N5k I.



Nexus 5672UP, 5672UP-16G: fix kiépítésű

Nexus 56128P: 48x SFP+, 4x QSFP+

ToR, EoR

1-2RU magas

UNI: 10GE SFP+, FC portok

NNI: QSFP+

Line Rate – L2/L3

IPv4 32k

VRF 4k

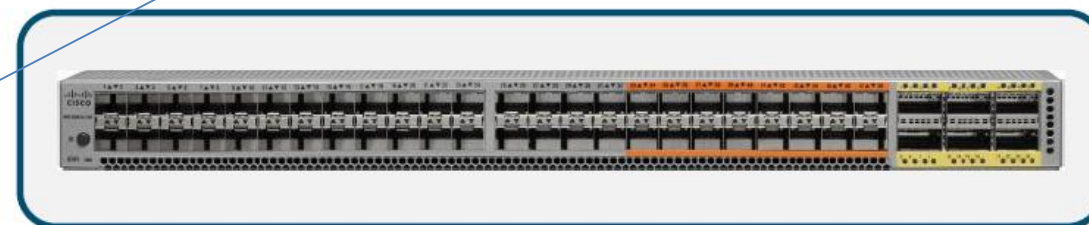
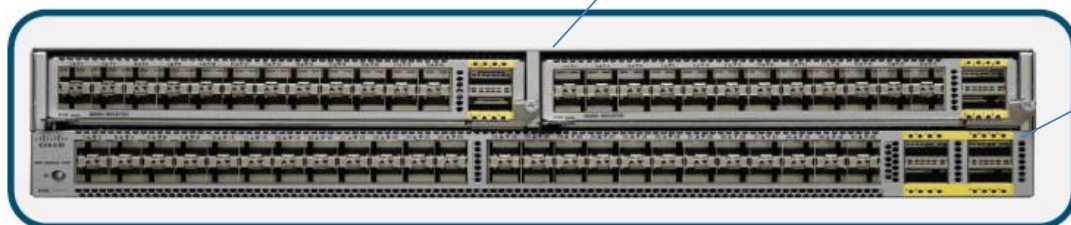
VxLAN képes

Dual-homed FEX bekötés, evPC támogatás

56128P bővítő modul

- 24x SFP+ universal port

- 2x 40GE-QSFP+



## N5k II.

Top-of-the-Rack, End-of-the-Row  
1-2RU

Nincs FC port, csak FCoE támogatás

Nexus 5624Q: 12 port + 1 modul

Nexus 5648Q: 24 port + 2 modul

QSFP+ port, natív 4x10GE támogatás

- SR4/LR4/ER4 transceiver esetén

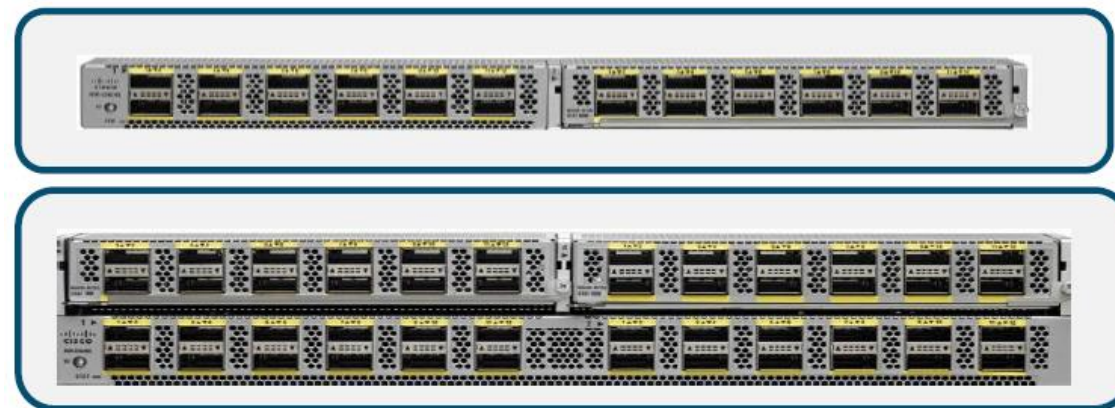
Line Rate – L2/L3

IPv4 32k

VRF 4k

VxLAN képes

Dual-homed FEX bekötés, evPC támogatás



# N5k III.

End-of-the-Row

4RU

Nexus 5696Q moduláris

- 8 slot
- 12x 40GE-QSFP+
- 20x SFP/FC/SFP+
- 4x CXP

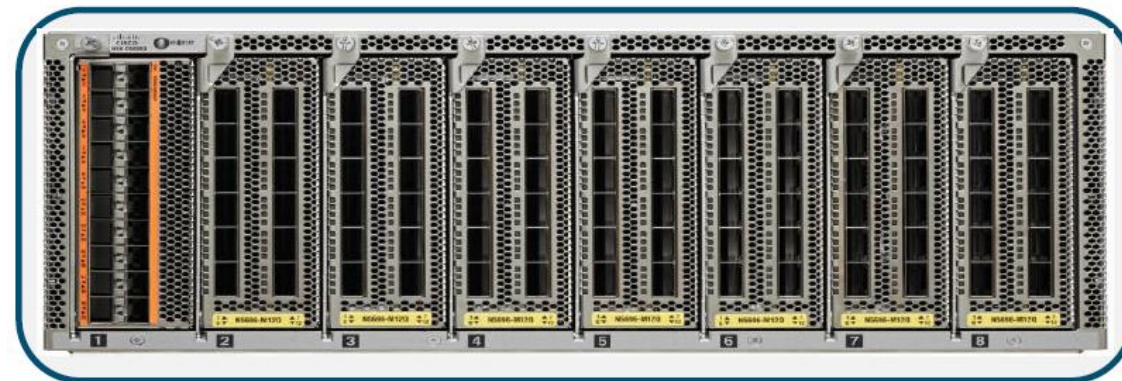
Line Rate – L2/L3

IPv4 32k

VRF 4k

VxLAN képes

Dual-homed FEX bekötés, evPC támogatás



# N5k összefoglaló



## High Performance

- Line rate L2 and L3 at all frame sizes
- 1-microsecond port-to-port latency
- True 40-Gbps flow
- 40-Gbps FCoE
- Cut-through switching for 40 and 10 GE
- 25-MB buffer per port ASIC

## High Scalability

- Up to 224,000 MAC (Flexible Carving)
- Up to 128,000 ARP (Flexible Carving)
- 32,000 LPM
- 16,000 bridge domains

## Feature-Rich

- Classic L2 and L3 features
- vPC and FabricPath
- FC and FCoE
- FabricPath with segment ID (DFA)
- VxLAN Bridging and Routing (5600 only)

## Visibility and Analytics

- Line-rate SPAN, SPAN on drop, SPAN on Latency
- Sampled NetFlow
- Micro-burst and buffer monitoring
- Latency monitoring

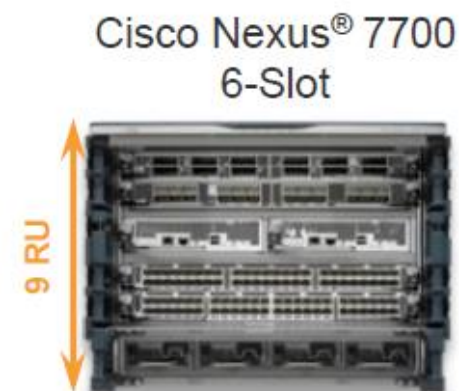
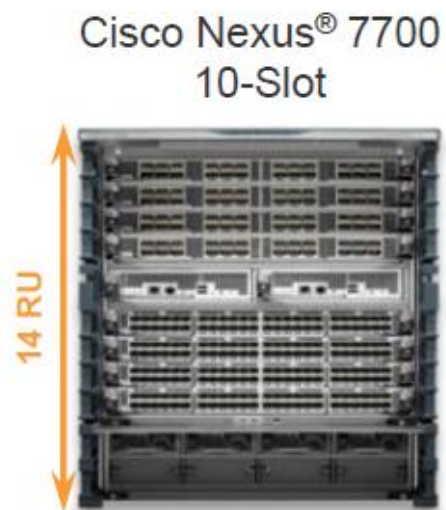
# Nexus 7700 család



Klasszik L2/L3  
OTV, LISP, VxLAN  
MPLS  
FCoE – F kártyán

- F3 I/O  
48-port SFP+  
24-port QSFP+  
12-port CPAK  
64k IPv4/32k IPv4

- M3 I/O  
48-port SFP+  
24-port QSFP+  
12-port QSFP28  
2M IPv4/1M IPv6



# Nexus 9000 család

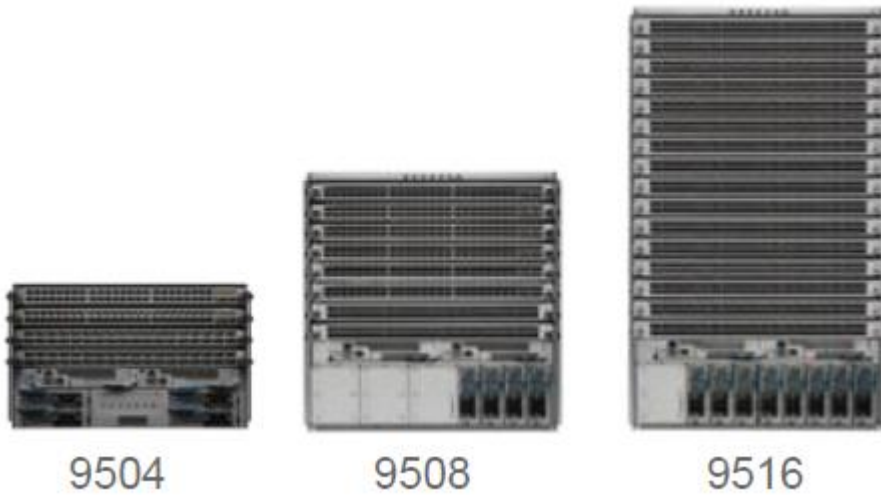


Nexus 92xx – Fix kiépítésű, nem ACI képes

Nexus 93xx – Fix kiépítésű, ACI képes

Nexus 9500 – Moduláris, I/O modultól függ az ACI

## 9500 Series





# Nexus 9500 modulok

- 2x Supervisor
- 2x System Controller
- 3x FAN
- 6x Fabric Modul
  - 320Gbps/slot/FM
  - 800Gbps/slot/FM-E
  - 900Gbps/slot/FM-R

4-8-10 PS  
Nincs midplane



16nm Technology

X9700-EX (NX-OS and ACI)



- Analytics Ready
- Smart Buffer
- FX Support for MACSEC & Cloud-SEC



Cisco ASIC



Fabric Module

- Back-ward compatible w/ existing Nexus 9300 ACI Leafs (40G uplinks) in ACI mode

X9400-S (NX-OS)



- BCOM Trident and Tomahawk



Merchant ASIC



Fabric Module

- Back-ward compatible w/ existing Broadcom T2 based line cards

28 and 40nm Technology

X9600-R (NX-OS)



- Off Chip Buffer
- BCOM Jericho



Merchant ASIC



Fabric Module

- Back-ward compatible w/ existing Broadcom T2 based line cards

28nm Technology

## 2. Generációs Nexus 92xx és 93xx



### Nexus 9300-EX



**48p 10/25G SFP + 6p 40/100G QSFP**

Nexus 93180YC-EX



**48p 1/10GT + 6p 40/100G QSFP**

Nexus 93108TC-EX

Dual personality – **ACI and NX-OS mode**

Industry's first native 25G VXLAN capable switch

Flexible port configurations – 1/10/25/40/50/100G

Up to 40 MB shared buffer

Native Netflow

### Nexus 9200



**36p 40/100G QSFP**

Nexus 9236C



**56p 40G + 8p 40/100G QSFP**

Nexus 92304QC



**72p 40G QSFP**

Nexus 9272Q



**48p 10/25G SFP + 4p 100G/  
6p 40G QSFP**

Nexus 92160YC-X

NX-OS switches

Industry's first 36p 100G 1RU switch

Industry's first native 25G VXLAN capable switch

Up to 30 MB shared buffer

High density compact 40/100G aggregation

# Nexus 2k – FEX



## Base-T FEX



**N2K-C2348TQ / TQ-E**  
(40G Uplink, Enhanced Buffers)



**N2K-C2332TQ-1/10/40GE**  
(40G Uplink, Enhanced Buffers)



**N2K-C2232TM-E-10GE**



**N2K-C2248TP-E-1GE**  
(Enhanced Buffers)



**N2K-C2232PP-10GE**



**B22 HP FEX**  
1/10G FEX for  
HP Blade servers

## SFP/SFP+ FEX



**N2K-C2348UPQ-1/10GE**  
(40GE Uplink, Enhanced Buffers)



**N2K-C2248PQ – 10GE**  
(QSFP Uplink)

## Blade FEX

**B22 IBM**  
1/10G FEX for  
IBM Blade servers



**B22 FTS FEX**  
1/10G FEX for  
Fujitsu Blade servers



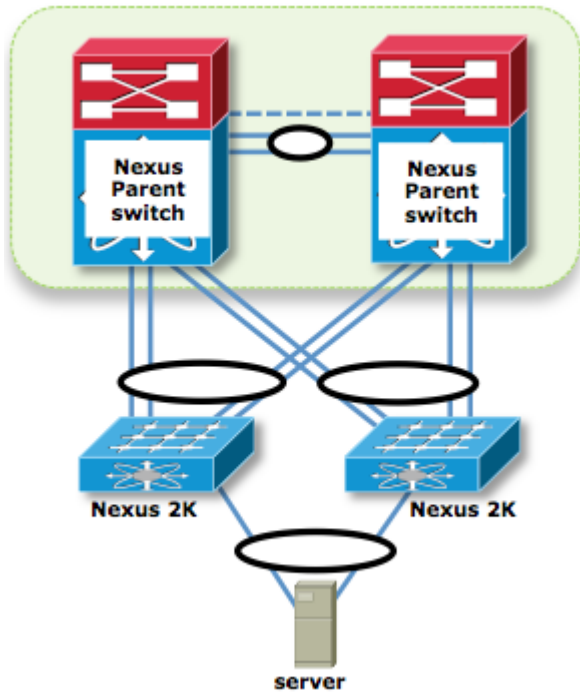
**B22 Dell FEX**  
1/10G FEX for  
Dell Blade servers



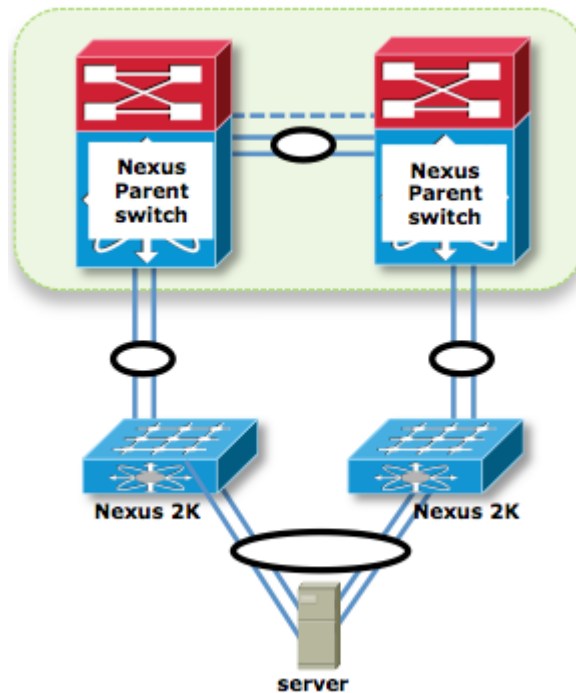
# FEX topológiák



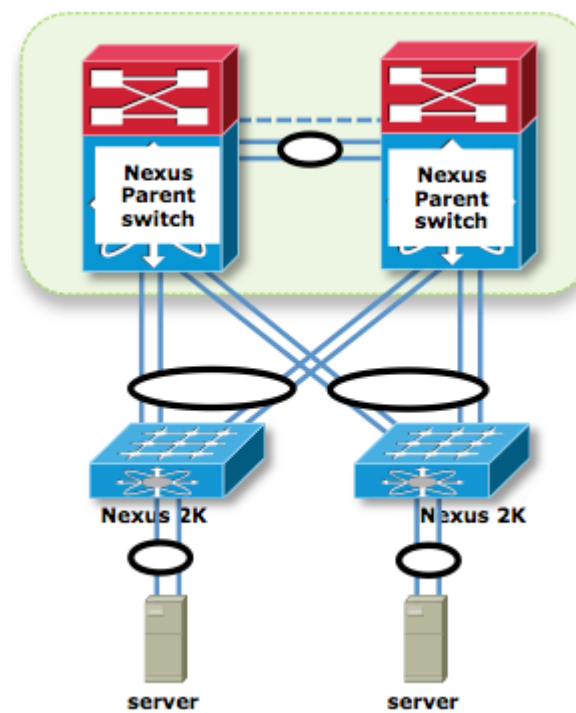
14 esetből a négy legfontosabb



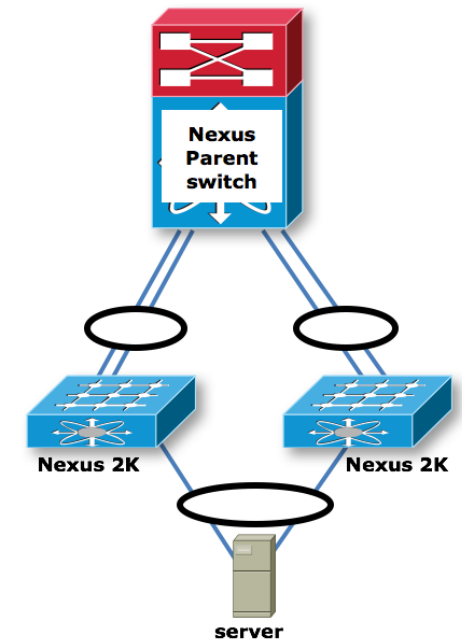
evPC – csak N5k-n



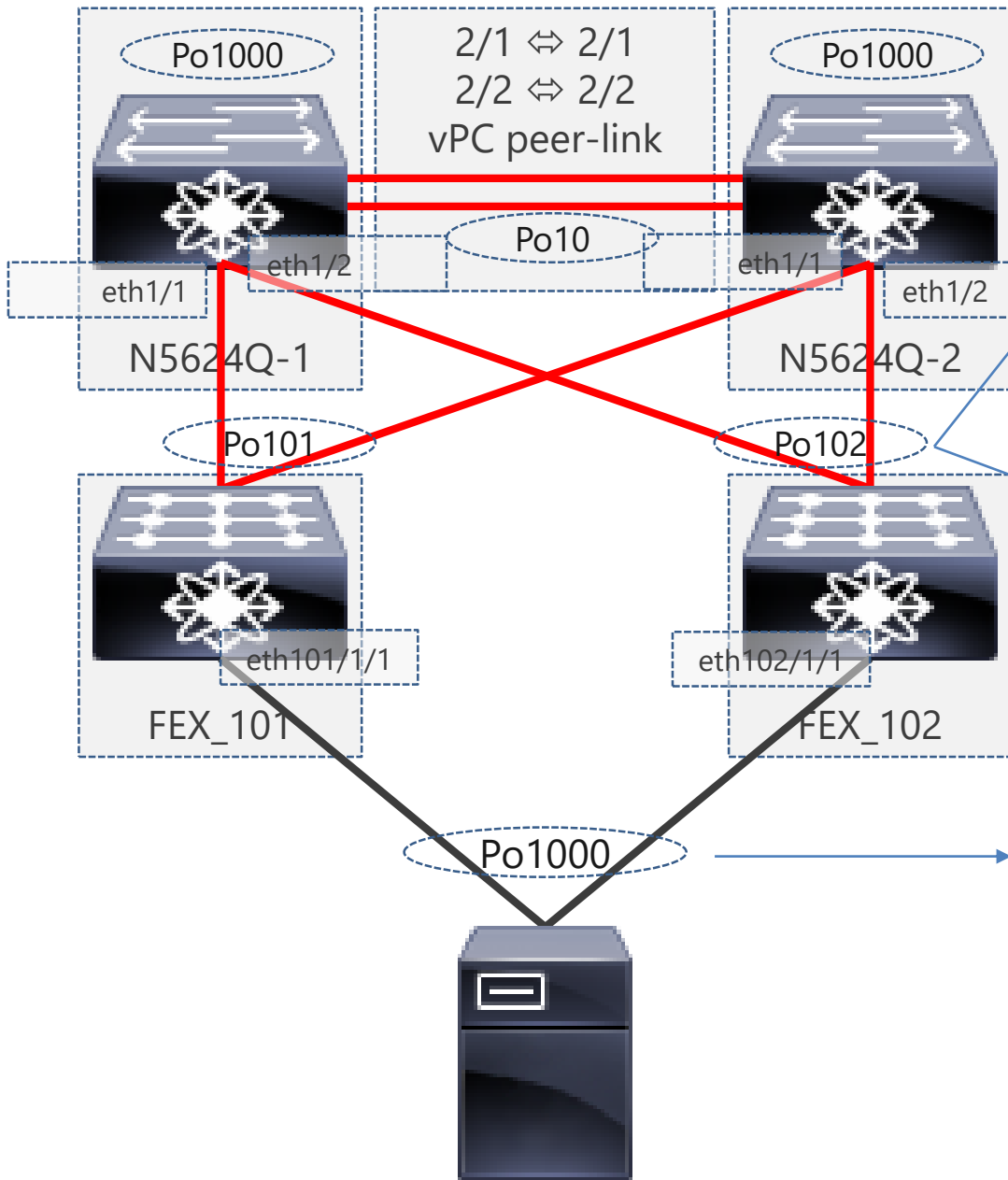
Minden Nexuson



Megkötésekkel



Nem támogatott!



```

interface ethernet1/1
  channel-group 101
  !
interface ethernet1/2
  channel-group 102
  !
interface port-channel 101
  vpc 101
  switchport mode fex-fabric
  fex associate 101
  !
interface port-channel 102
  vpc 102
  switchport mode fex-fabric
  fex associate 102
  !
interface ethernet101/1/1
  channel-group 1000 mode active
  !
interface ethernet102/1/1
  channel-group 1000 mode active
  !
interface port-channel1000
  switchport
  switchport mode trunk
  spanning-tree port type edge network
  !

```

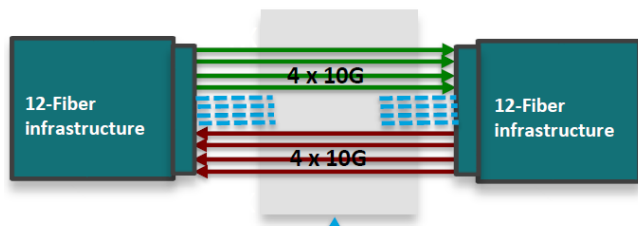


# QSFP+

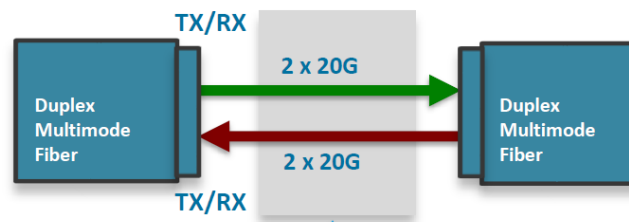


QSFP 40GE SR4 MPO-12 csatlakozó  
QSFP 40GE BiDi LC csatlakozó

natív 4x10GE  
jelenlegi kábeleket lehet használni

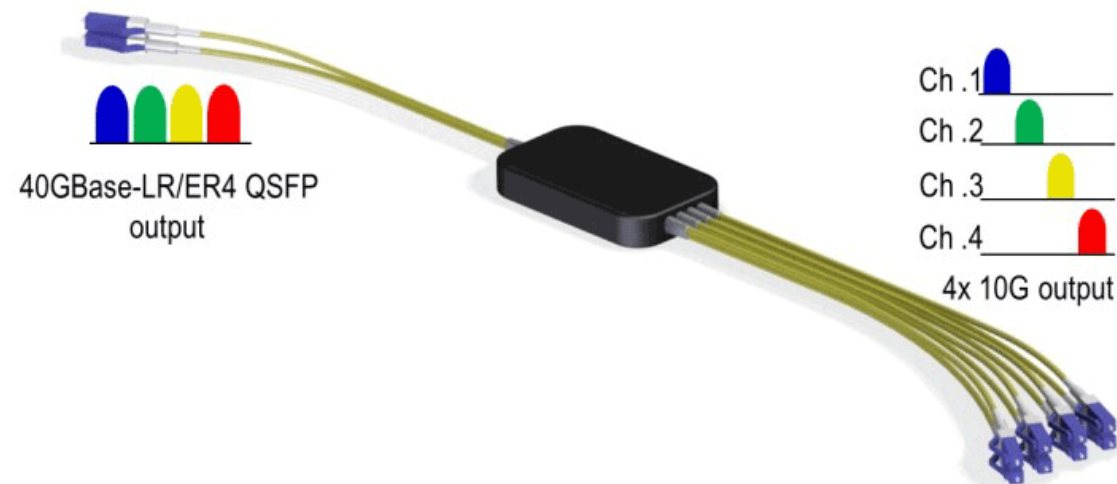


12-Fiber ribbon cable with MPO connectors at both ends



Duplex multimode fiber with Duplex LC connectors at both ends

LR4, ER4 is felhasználható 4x10GE-ként  
1271nm, 1291nm, 1311nm, 1331nm



# Jövőkép



Minden az SDN irányba mutat

- Programozhatóság, automatizálás
- NX-API
- Python
- XML
- Open Agent Container
- Chef Client
- Puppet Agent

Érdekesség

- SD Access – DNA                      Nexus7k
- ACI    Nexus93xx, Nexus9500

Mi lesz az N5k sorsa? Nexus93xx-**FX**