



Data Center Network Services

SPAN & ERSPAN

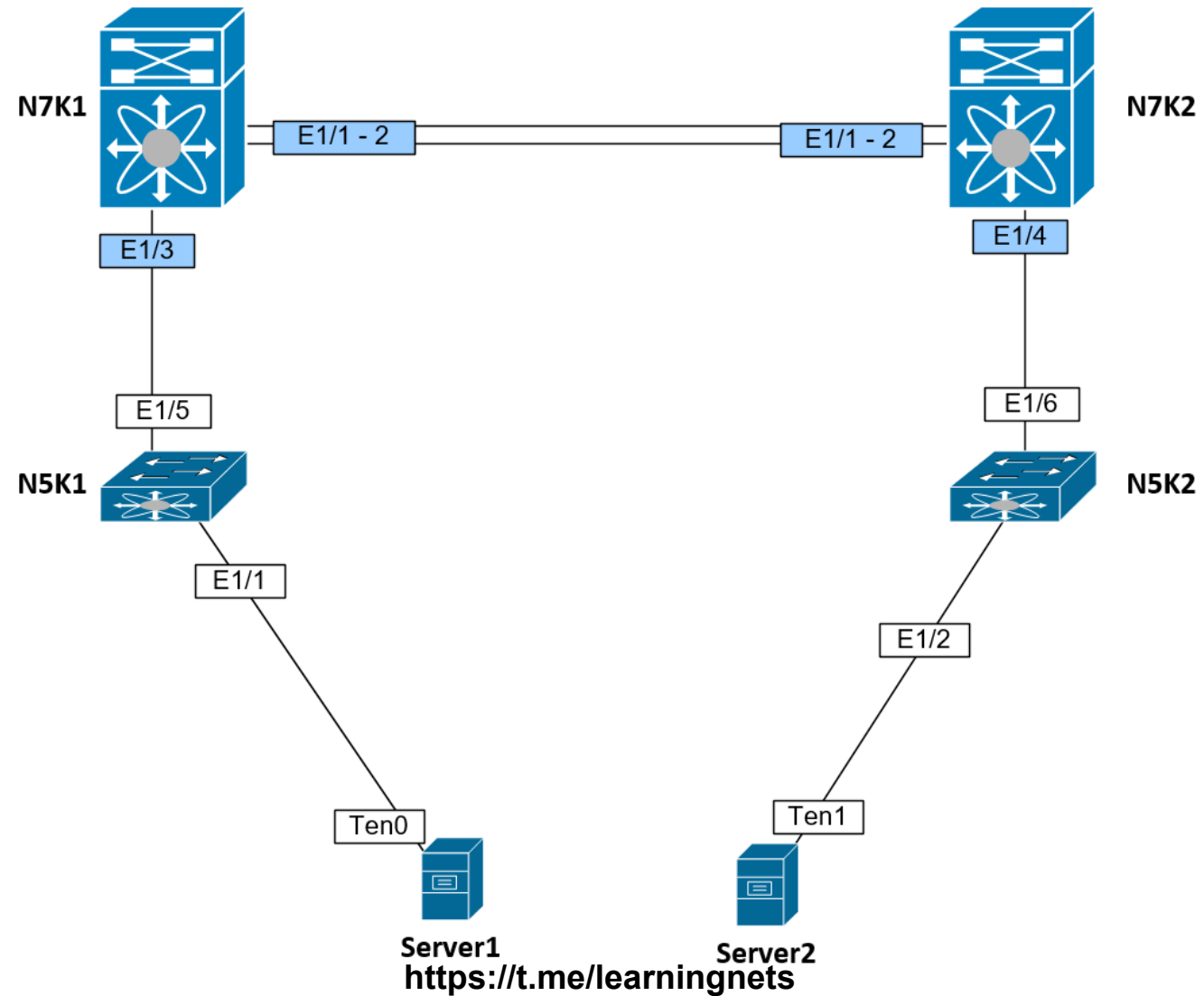
What is SPAN?

- + Switchport Analyzer (SPAN)
- + Used to monitor and redirect traffic to a capture destination
 - + E.g. Wireshark
- + Supports ingress and egress capture
- + Local source & local destination
 - + Destination is **switchport monitor** mode

What is ERSPAN?

- + Encapsulated Remote SPAN
- + Local source and remote destination
- + Traffic is encapsulated inside GRE tunnel
- + Does not require layer 2 connectivity end-to-end like RSPAN
- + IP reachability required between ERSPAN source & destination

SPAN/ERSPAN Example





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Syslog on NX-OS

What is Syslog?

- + System Logging (Syslog)
- + Based on RFC 3164 - [The BSD syslog Protocol](#)
- + Documented under NX-OS System Management
- + Syslog caveats for NX-OS
 - + Console and monitor logs at severity 2
 - + Log file logs at severity 5
 - + Timestamps are in seconds



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SNMP on NX-OS

What is SNMP?

- + Simple Network Management Protocol (SNMP)
- + Documented under NX-OS System Management
- + Three versions of SNMP
 - + v1 & v2c – authentication based on community string, no encryption
 - + v3 – supports authentication and encryption per user
- + SNMP caveats for NX-OS
 - + SNMPv3 user created when local user created
 - + SNMP can be disabled with **no snmp-server protocol enable**



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NTP & PTP NX-OS

What is NTP?

- + Network Time Protocol (NTP)
- + Based on RFC 5905 -
[Network Time Protocol Version 4: Protocol and Algorithms Specification](#)
- + Documented under NX-OS System Management



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Data Center Network Services

Policy Based Routing (PBR)

What is Policy Based Routing?

- + Routing using a route-map instead of the routing table
- + Packets that enter a port with PBR enable check the route-map before the routing table
 - + Uses match and set criteria
 - + Route-map is processed top down
 - + No match (or deny) means check the normal routing table
- + Used to redirect packets based on a user defined policy
 - + E.g. redirect web packets to a proxy
- + Documented under NX-OS Unicast Routing



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