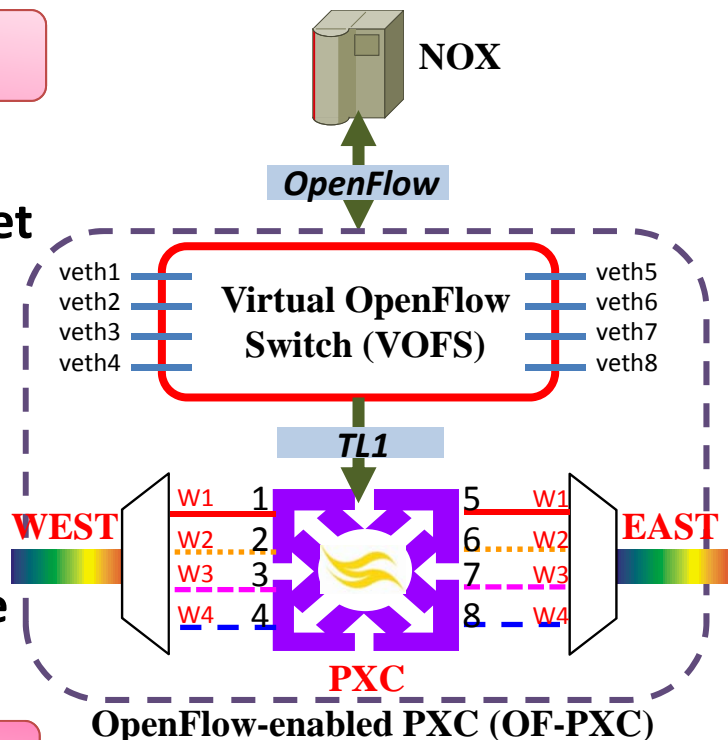# *OpenFlow-based IP/WDM Unified Control Plane(UCP)*

Technical Overview

- A virtual OpenFlow switch (VOFS) with virtual Ethernet interfaces (veths) is introduced.
- VOFS obtains a virtualized view of the physical structure of the PXC.
- OF-PXC is controlled by the NOX through OpenFlow.

NOX

OpenFlow

veth1 veth2 veth3 veth4 **Virtual OpenFlow Switch (VOFS)** veth5 veth6 veth7 veth8

TL1

WEST W1 1 5 W1 EAST
W2 2 6 W2
W3 3 7 W3
W4 4 8 W4

PXC

OpenFlow-enabled PXC (OF-PXC)

Use Case

- Dynamic end-to-end path provisioning in IP/WDM multi-layer networks

Operator NOX OpenFlow-enabled IP Router (OF-R)

1 2 3 4 5

OF-R1 OF-OXC1 Lightpath OF-OXC2 OF-R2

IP Network Optical Network IP Network

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