Legacy 3-Tier Architecture

Circa – Late 90’s - 2017 ???

Cisco SRND
Cat 6500
Brocade MLX/XMR
Juniper 8200

How many networks are still running architectures like this?
Typical Campus Network

Redundancy
Spanning Tree
Flood and Learn

Users
Layer 2 Adjacency
Segmentation
Redundancy – Spanning Tree
Spanning Layer 2 – Still Flood and Learn - Loops
Layer 2 Adjacency
Segmentation
Typical Campus Network

Redundancy
Spanning Tree
Flood and Learn

Users
Layer 2 Adjacency
Segmentation
DataCenters, Campuses & Fabrics

The Future is here.

Build More Than a Network
EVPN

Datacenter

Spine

Leaf

Compute

Campus

Core / Distribution

Access

Users, Compute, IOT

Full Fabric

EVPN / VXLAN
Spine Only

EVPN / VXLAN

L2 Only
EVPN/VXLAN in the Campus

Standards Based
Large Industry Adoption
Minimized Fault Domain
Easy to Scale

EVPN - Control/Forwarding
Brown Field
Operational Advantages

Core / Distribution
EVPN / VXLAN

ESI-LAG

Access
L2 Only
ECC – Evolved Campus Core
ECC (Evolved Campus Core) – Five Key Concepts

1) Underlay
2) Overlay - EVPN/VXLAN
3) VRF Segmentation
4) ESI-LAG
5) Anycast Gateway
Underlay
Overlay – EVPN/VXLAN
VRF Segmentation

WEB/APP/DB

Dev
Test
Prod
ESI-LAG (EVPN Multihoming A/A)

ESI-LAG (EVPN Multihoming A/A)
Anycast Gateway
NXT Steps - How Do I move to an ECC Architecture
Physical

Core

Distribution

Access
Hardware & Software

EVPN + L2/L3 VXLAN Gateway

Any Vendor – LAG/LACP/VLANS
ECC Configuration

1) Underlay
2) Overlay - EVPN/VXLAN
3) VRF Segmentation
4) ESI-LAG
5) Anycast Gateway
Day 0 Considerations - Day N Options

- **Spine Only**
- **EVPN / VXLAN**
- **L3 IP Only**
- **L2 Only**
- **Full Fabric**
- **EVPN / VXLAN**
- **Lean Spine**
- **L3 IP Only**
- **EVPN / VXLAN**
ECC (Evolved Campus Core) - Takeaways

- Why ECC
  - Redundancy – eliminate spanning tree
  - Users – L2 adjacency / segmentation

- ECC Concepts
  - Underlay
  - Overlay - EVPN/VXLAN
  - VRF Segmentation
  - ESI-LAG
  - Anycast Gateway

- Migration
  - Physical
  - EVPN/VXLAN Core HW/SW
  - Enable ECC
Thank you

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