

Essential EVPN

A 2 day training course



Description

Ethernet VPN (E-VPN) and Provider Backbone Bridging E-VPN (PBB-EVPN) are emerging technologies providing Ethernet services over MPLS. This course studies the technologies in E-VPN/PBB-EVPN providing multi-homing, multi pathing, auto discovery, multicast, forwarding and fast convergence.



Key outcomes

By the end of the course delegates will be able to:

- ✓ Differentiate between E-VPN and PBB-EVPN.
- ✓ Explain how E-VPN operates.
- ✓ Explain how PBB-EVPN operates.
- ✓ Explain how E-VPN provides:
 - Multi homing
 - Multi pathing
 - Auto discovery.



Training approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning.



Details

Who will benefit?

Network engineers. Staff working for carriers.

Prerequisites

Definitive Ethernet switching for engineers.
Concise MPLS for engineers.

Duration: 2 days

Customer rating: New course

Generic training



Generic training compliments product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"Friendly environment with expert teaching that teaches the why before the how."
G.C. Fasthosts

Small class sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."
M.B. IBM

Hands On training



The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."
J.W. Vodafone

Our courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Comprehensive materials that made the course easy to follow and will be used as a reference point."
V.B. Rockwell Collins

Customise your course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."
S.R. Qinetiq

Essential EVPN

Course content

Introduction to EVPN

Network virtualization

What is network virtualization? types of virtual networks, network tunnelling, the consequences of tunnelling, packet load balancing, network interface card behaviour, maximum transmission unit, lack of visibility, VXLAN, protocols to implement the control plane, support for network virtualization technologies, merchant silicon Software, standards.

The building blocks of Ethernet VPN

A brief history of EVPN, architecture and protocols for traditional EVPN deployment, EVPN in the data center BGP constructs for Virtual networks, address family indicator/subsequent address family indicator, route distinguisher, route target, RD, RT, and BGP processing, route types, modifications to support EVPN over eBGP, keeping the NEXT HOP unmodified, retaining route targets, FRR support for EVPN, automatic propagation of NEXT HOP, RT/RD derivation, what is not supported in FRR.

Bridging with Ethernet VPN

An overview of traditional bridging, overview of bridging with EVPN, what ifs, why does NVE L3 get an advertisement for MACA? handling BUM packets, handling MAC moves, support for dual-attached hosts, the host-switch Interconnect, VXLAN model for dual-attached hosts, switch peering solutions, handling Link failures, duplicate multi-destination frames, ARP/ND suppression.

Routing with Ethernet VPN

The case for routing in EVPN, routing use cases in the data center, routing models, where is the routing performed? centralized routing, distributed routing, how routing works in EVPN, asymmetric routing, symmetric routing, VRFs in EVPN routing, summarized route announcements, BGP support for EVPN routing, comparing asymmetric and symmetric models, vendor support for EVPN routing.

Configuring and administering Ethernet VPN

The sample topology, configuration cases, configuring the MTU, the end first: complete FRR configurations, the Invariants: configuration for the spines, firewall, and servers, centralized routing, asymmetric distributed routing, symmetric routing, dissecting the configuration, configuring the underlay, configuring the overlay: FRR configuring the overlay: interfaces, examining an EVPN network, show running configuration, show BGP summary, show EVPN VNIs and VTEPs, identify which VTEP advertised a MAC address, comparing FRR and Cisco EVPN configurations, considerations for deploying EVPN in large networks.

What our customers say

"Absolutely brilliant, very knowledgeable and helpful trainer would recommend to teach anyone. Kept me interested 100% of the time which is very impressive as this does not happen often, if at all!"

O. B. Network Rail

"The best technical course I've been on!"

L. W. Fujitsu Telecoms Europe

"Very well thought out and structured course. Would recommend 100%. Lots of equipment, good quality."

A.R. Unipart

"Course content is interesting. Relevant to current systems and presented well."

S.S-T. Arqiva

