**Cel szkolenia:**

This course introduces the deployment of Layer 2 and Layer 3 features in a VDX switch Ethernet fabric. It is designed to help an administrator configure and manage the layer 3 capabilities of an Ethernet fabric-based network.

Upon successful completion of this course, the student should be able to:

- Install and configure a VCS Fabric
- Configure the VCS parameters to create a VCS Fabric
- Configure features such as VLANs, Spanning Tree, vLAGs, breakout ports
- Configure other features such as SNMP, NTP, sFLOW, AAA, 802.1x and syslog
- Explain VCS Fabric features such as TRILL, DCB, ETS, PFC and FSPF
- Explain traffic flow through a VCS Fabric
- Explain the steps to upgrade firmware
- Explain the Layer 3 processing and forwarding of traffic within a VCS fabric
- Describe and configure Automatic Migration of Port Profiles (AMPP) in a VCS fabric
- Describe the Layer 3 protocols supported in NOS and the various VDX switches
- Describe and configure Layer 3 protocols in a VCS fabric using VDX switches
- Discuss and deploy Layer 3 security and traffic control features in a VCS fabric
- Discuss and deploy Layer 3 redundancy and dynamic routing protocols in a VCS fabric
- Describe additional Layer 3 features including multitenancy and flow control
- Explain and configure fault detection protocols in a VCS fabric
- Identify the concepts and protocols used to deploy an IP Fabric on VDX switches

### FORMA SZKOLENIA

<table>
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<tr>
<th>FORMA SZKOLENIA</th>
<th>MATERIAŁY SZKOLENIOWE</th>
<th>CENA</th>
<th>CZAS TRWANIA</th>
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* (+VAT zgodnie z obowiązującą stawką w dniu wystawienia faktury)

### LOKALIZACJE

Kraków - ul. Tatarska 5, II piętro, godz. 9:00 - 16:00
Warszawa - ul. Bielska 17, godz. 9:00 - 16:00
Discuss best practices when deploying a Layer 3 solution in a VCS fabric

Hands on labs to reinforce lecture material

Target Audience

This course is designed for network administrators, system administrators, network architects, systems engineers, and technical support engineers involved with installation, configuration, maintenance, and basic troubleshooting of VDX products.

Plan szkolenia:

- Course Introduction
- Introduction to VCS Fabric
  - Ethernet Fabrics
  - Distributed Intelligence
  - Logical Chassis
- VDX Hardware
  - VDX Switch Models
  - License Options
- VCS Fabric Technology
  - TRILL
  - TRILL Implementation in VCS Fabric
  - VCS Fabric Formation
- Firmware Upgrade
  - Software Versions
  - Upgrade and Downgrade procedures
- Configuring VCS Fabrics
  - VCS Fabric Modes
  - VCS Fabric Configuration
  - ISLs and Trunks
  - Principal Switch
  - Multicast Root
  - QSFP Breakout
- Layer 2 Forwarding
  - FSPF
  - ECMP
  - Prioritisation
  - eNS
- DCB
- ETS
- PFC
- Multicast traffic in VCS

- VLAN and Edge Port Configurations
  - Configuring VLANS
  - Configuration of edge ports

- Spanning Tree
  - STP on VCS Fabric Edge Ports
  - RSTP, MSTP, PVST+, RPVST+ Support
  - Edge Loop Detection
  - BPDU Drop

- Virtual Link Aggregation Groups (vLAGs)
  - vLAG configuration
  - Port Speed Settings
  - vLAG scalability

- Monitoring, Logging, and Authentication
  - Configuring sFLOW
  - SNMP
  - Syslog
  - Radius, TACACS+, LDAP/AD
  - 802.1X
  - NTP

- VDX – VCS Architecture
  - ASICS
  - Packet Flow

- AMPP
  - VM Mobility Challenges
  - Port Profiles
  - Port Profile states and Migration
  - AMPP Provisioning steps
  - vCentre Integration

- Security and Traffic Control
  - Standard and Extended ACLS
  - L2 and L3 ACLs
  - PBR
- DAI

- Layer 3 Forwarding
  - IP Forwarding in VCS
  - L3 traffic flow in vcs Fabric

- Layer 3 Addressing
  - IPV4 and IPv6 support
  - Configuring L3 interfaces
  - Port channel configuration
  - Configuring Static Routes
  - Configuring DHCP Helper

- Gateway Redundancy
  - VRRP vs VRRPe
  - Shortest Path Forwarding
  - Configuring VRRP and VRRPe
  - Configuring Fabric virtual Gateway

- OSPF
  - Configuring OSPF
  - Configuring advanced features of OSPF
  - Monitoring commands

- BGP
  - Configuring BGP
  - Configuring advanced BGP Features
  - Implementing BGP Policy Changes
  - BGP Attributes

- Bidirectional Forwarding Detection
  - BFD Support for OSPF
  - BFD Support for BGP
  - BFD Support for Static Routes
  - Configuring BFD

- Multitenancy
  - VxLAN
  - Virtual Fabric and FGL
  - VRF configuration
  - Routing Protocol configuration in VRF Instance
  - Route leaking configuration in VRFs
  - Route Distinguisher
○ Route Target

○ QoS
  ○ QoS Remarking
  ○ DSCP to COS Mapping
  ○ Flow Based QoS Configuration

○ IP Fabric
  ○ Datacentre trends
  ○ Creating IP Fabric
  ○ ARP/ND Management
  ○ VCS vs IP Fabrics

○ Multicasting
  ○ IGMP Configuration
  ○ PIM Configuration
  ○ Snooping Configuration

○ Troubleshooting
  ○ Troubleshooting concepts
  ○ Data gathering

Wymagania:

Before taking this course, students should have working knowledge of:

○ VDX products
○ Networking Foundations or equivalent knowledge
○ Acquired 80% or more knowledge self-assessment on Networking Foundations Course
○ Working knowledge of Layer 2 and Layer 3 protocols

Poziom trudności


Certyfikaty:

The participants will obtain certificates signed by Extreme Networks.

This course prepares also for the Extreme Certified Specialist (ECS) – Data Center VDX – VCS Fabric Configuration and Implementation certification exam provides networking professionals with methods to properly configure, deploy, manage and troubleshoot their VDX/VCS Extreme Networks environments.
More information about Extreme Networks certification program and available certification levels you can find on the [http://www.extremenetworks.com/education/certifications/](http://www.extremenetworks.com/education/certifications/)

Prowadzący:

Authorized Extreme Networks Trainer.