# DELLTechnologies

# Enterprise SONiC Distribution By Dell Technologies Deploy

Course Description

### Course Duration
40 Hours

## Overview

This course introduces the participant to Enterprise SONiC Distribution by Dell Technologies through a series of video lectures and hands-on labs. The participant learns the necessary skills to configure and verify Enterprise SONiC installations on a data center leaf spine topology using the Management Framework-CLI (MF-CLI). The hands-on labs cover installing Enterprise SONiC, administration commands, Virtual Router Redundancy Protocol (VRRP), Multi-Chassis Link Aggregation (MC-LAG), Open Shortest Path First (OSPF), Boarder Gateway Protocol (BGP), Virtual eXtensible Local-Area Networks (VXLANs), Q-in-Q and VLAN translation, QoS and performance, and IPv6 neighbor discovery. Participants are each assigned a lab environment running Enterprise SONiC on virtual Dell PowerSwitches running in GNS3, to complete self-guided labs.

## Audience

This course is intended for professionals who will implement Enterprise SONiC on Dell Data Center Networking products.

## Prerequisite Knowledge/Skills

We recommend the participant complete the following course or have equivalent understanding:

- ESNETD03880 Dell Networking Concepts and Features

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1 Dell Way
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Participants should have a basic understanding of the following topics:

- Multi-protocol network switches
- IPv4 and IPv6 addressing
- Network OS CLI Commands
- VLANs, LLDP, LAG, STP, VXLANs, and ACLs

## Course Objectives

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

- Understand how Enterprise SONiC Distribution by Dell Technologies compares with other SONiC distributions and list Use cases.
- Install Enterprise SONiC.
- Use MF-CLI commands to configure and verify basic network features.
- Configure and verify a VRRP implementation.

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- Configure and verify an MC-LAG implementation.
- Configure and verify static and OSPF routing.
- Configure and verify a BGP routing implementation.
- Configure and verify L2 VXLAN BGP EVPN with Asymmetric IRB.
- Configure and verify L3 VXLAN BGP EVPN with Symmetric IRB.
- Configure and verify Q-in-Q and VLAN translation.
- Configure and verify QoS and performance features.
- Configure and verify IPv6 neighbor discovery.

### Course Outline

The content of this course is designed to support the course objectives.

- Concepts
  - SONiC Bundles
  - Use Cases
  - Hardware Platforms
  - Architecture
- Installation
  - Compare Installation and Upgrade Methods
  - Installing SONIC Using ONIE
  - Installing Using ZTP
  - Upgrade SONiC Using MF-CLI
- Administration
  - Introduction and Management Interfaces
  - Management Models
  - Interface Naming
  - Interface Configuration Commands
  - Show Interface Commands
  - Verify Interfaces and Configure VLANs
  - Interface Switchport Commands for Access and Trunk Modes
  - Manage IP Addresses for Interfaces
- Virtual Router Redundancy Protocol (VRRP)
  - VRRP Introduction
  - VRRP Concepts
  - VRRP Configuration
  - VRRP Static Routes
  - VRRP Next Hop Tracking
  - VRRP Next Hop Table Enhancements

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- MC-LAG
  - MC-LAG Overview
  - MC-LAG Features
  - MC-LAG Operations
  - MC-LAG Configuration
- Configure Routing Protocols
  - OSPF Overview
  - OSPF Operations
  - OSPF Configuration and Verification
  - Policy Based Routing (PBR)
  - Policy Based Forwarding (PBF)
- Boarder Gateway Protocol (BGP)
  - BGP Introduction
  - BGP Equal Cost Multi Path (ECMP)
  - BGP Unnumbered
  - BGP Route Reflector
  - BGP Routing Policy Filters
  - BGP Redistribution
- L2 VXLAN BGP EVPN with Asymmetric IRB
  - Introduction to L2 VXLAN BGP EVPN with Asymmetric IRB
  - Asymmetric IRB Configuration and Verification
- L3 VXLAN BGP EVPN with Symmetric IRB
  - Symmetric IRB Concepts
  - EVPN Route Leak
  - EVPN with MC-LAG
  - VXLAN EVPN with Multisite DCI
- Q-in-Q and VLAN Translation
  - Q-in-Q VLAN Tunneling and VLAN Translation Concepts
  - Configuring VLAN Stacking (Tunneling)
  - Configuring VLAN Translation
  - Verification Commands
- Quality of Service (QoS) and Performance
  - SONiC QoS Performance Features
  - ACLs
  - QoS Maps
- IPv6 Neighbor Discovery
  - IPv6 Neighbor Discovery Compared to ARP

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- – IPv6 Router Solicitation and Advertisements
- – IPv6 Router Advertisement Configuration and Show Commands

In addition to lecture and demonstrations, this course includes labs designed to allow practical experience for the participant.

## Course Delivery Modes and Product Version Information

Refer to the **Product Version Description** document for a list of Delivery Modes and product versions covered by this course.