



Arista Cloud Engineer

DANZ Monitoring Fabric (DMF) Specialist Outline



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Description

The 3-day DANZ Monitoring Fabric (DMF) Specialist course will establish sound understanding and technical proficiency required to deploy and operate DMF, a next-generation network packet broker (NPB). The course demonstrates why telemetry, monitoring, and visibility are crucial for your networks. Using extensive practical labs, this course explores how DMF enables pervasive network observability by providing real-time and historical insights into your physical, virtual, and container environments.

Topics

Arista Monitoring Solutions

- Network Monitoring
 - Needs and Challenges
- LANZ - Latency Analyzer
 - Operation, Congestion, Latency, Packet Drops
 - LANZ Reporting from CLI and CloudVision
- Mirroring and TapAgg
- DMF Overview
 - Single Point of Management
 - Zero Touch Fabric
 - Dynamic Monitoring of VM Workloads
 - Application Identification
 - Built-in Packet Capture
- OOB Topologies
 - Single Switch, Two-tier, Multi-tier Fabric
 - Fabric of Switch Clusters
 - Multi-site Fabric
- Use-case
 - Pervasive Network Monitoring
 - Multi-site Monitoring

DMF Access and Configuration

- Access Modes - GUI, CLI, REST
- Configuration Management
- System Configuration - AAA, SNMP, NTP, Others
- Troubleshooting

DMF Deployment

- Fabric Components
 - Controllers
 - Switches
 - DMF Nodes - Service, Recorder, Analytics
 - Management Network
- Interface Connections
- Fabric Design Considerations
 - Platform option - Network Appliance or VM
 - HA configuration - Standalone or Cluster
- Bringing-up Fabric Sequence
 - Management Network, Controller, Switches, Nodes
 - Configuration

DMF Policy Configurations

- Interface - Roles and Configuration
- Policies - Match Rules, Actions, Examples
- Service Nodes - Managed Services, Building Policy
- Recorder Node - Building Policy, Query, Replay
- Policy Configuration



DMF Advanced Configurations

- Modes - Packet Matching and VLAN Tagging
- Interface Types and Options - Rate Limiting
- Packet Capture - Configuration, PCAP Files
- Tunnels - Requirements, Configuration
- Monitoring vCenter VMs
- Deep Packet Matching Capabilities
- Managed Services - Netflow, UDP Replication, Config
- Monitoring as a Service (MaaS)
- Delivering to VM based Tools

DMF Operations

- Upgrades
 - DMF Fabric, Controllers, Switches, Nodes
 - Upgrade Procedure and Rollback
- Zero-touch
 - Automatic upgrade by Controller
 - Switches/SNIRN
- High Availability
 - Service Node Failure
- RMA Procedure
 - Controller Switchover
 - Remove/Add New Controller
- Change Management
 - Snapshot Configurations
- Maintenance

DMF Analytics Nodes

- DMF Analytics
 - Production Network Visibility
 - Analytics as a Flow Collector
- Deployment
 - Single Node Cluster
 - Nodes Cluster
- Internal Stack Overview
 - ELK - ElasticSearch Logstash Kibana
 - Analytics Node Integrated ELK Stack
- Dashboards
 - sFlow, Netflow, TCP, ARP, DHCP, DNS
 - Customize Dashboards

- Machine Learning
 - Steps for creating ML Job
 - ML Job Types and Data Visualizer
 - ML Single Metric, ML Multi-metric job
 - ML Anomaly Explorer
- Application Dependency Maps (ADM)
 - Impact Analysis
 - Steps to Create ADM
- Alerting - Watchers
 - Threshold Alert, Advanced Alerts, Email Alert
 - Watcher - Webhook and Stack Integration
- Customization
 - Infoblox IPAM Integration
- ELK Basics, Elasticsearch Statistics
- Analytics Clustering
- Troubleshooting

DMF Recorder Node

- Hardware, Deployment, Capabilities
- Scale-out
 - Adding RNs
 - Leveraging External Storage via NFS Mount

- Operations - Configuration, Troubleshooting, Upgrade
- Performance
- RBAC, Roles Based Access Control
- Using Recorder Node
- REST API

DMF Troubleshooting

- Fabric Status - Controller, Switch, Policies
- Forwarding - Model, Modes, Pipeline
- Flow Chart

Contacting Support

- Opening a Support Case

Appendix: Multi Cloud Director (MCD)

- Dashboards
- DMF Health Planning and Operations

Labs

The DMF Specialist course includes diverse practical labs. The labs are accessible for three weeks. One week during the instructor-led course, and two additional weeks to work on labs independently with every student given their own dedicated environment. Students can connect to these cloud-based labs from anywhere at any time.

Lab Activities

- Hands-on DMF environment
- Configuring Controllers and Switches
- Perform shutdown and bring-up operations
- Validate traffic at delivery tools
- Troubleshooting DMF
- Usage of fabric counters and logs for troubleshooting
- Configure DMF using CLI and GUI
- Determine status of fabric, controller, and switches
- Configuring DMF Policies
- Use trackers to get visibility of production network traffic
- Monitor traffic utilization within the fabric

Target Audience

This course is suitable for engineers with at least mid-level networking experience and are comfortable with basic networking technologies and configurations. The course is best suited for students who are in network monitoring positions, or are looking to progress into these positions.

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