



## **Certified Inter-Networking Engineer (MTCINE)**

Training outline

<b>Duration:</b>	2 days
<b>Outcomes:</b>	By the end of this training session, the student will be able to set up and manage organization wide networks
<b>Target audience:</b>	Network engineers and technicians wanting to deploy and support networks using BGP (internal and external), MPLS, VPLS protocols
<b>Course prerequisites:</b>	MTCNA and MTCRE certificates

Title	Objective
<p><b>Module 1</b> BGP</p>	<ul style="list-style-type: none"> <li>• What is Autonomous System (AS)</li> <li>• What is Border Gateway Protocol (BGP)?</li> <li>• Path Vector algorithm</li> <li>• BGP Transport and packet types</li> <li>• iBGP and eBGP</li> <li>• Stub network scenarios and private AS removal</li> <li>• Non-stub scenarios</li> <li>• iBGP and eBGP multi-hop and loopback usage</li> <li>• Route distribution and routing filters</li> <li>• BGP best path selection algorithm</li> <li>• BGP prefix attributes and their usage</li> <li>• BGP route reflectors and confederations</li> <li>• <b>Module 1 laboratory</b></li> </ul>
<p><b>Module 2</b> MPLS</p>	<ul style="list-style-type: none"> <li>• MPLS basics</li> <li>• Static label mapping</li> <li>• Label Distribution Protocol (LDP)</li> <li>• Penultimate-hop-popping</li> <li>• MPLS traceroute differences</li> <li>• LDP based VPLS tunnels</li> <li>• Bridge split horizon</li> <li>• VPLS control word (CW) usage</li> <li>• L2MTU importance and MPLS fragmentation</li> <li>• BGP based VPLS</li> <li>• VRF and route leaking</li> <li>• BGP based layer3 tunnels (L3VPN)</li> <li>• OSPF as CE-PE protocol</li> <li>• <b>Module 2 laboratory</b></li> </ul>
<p><b>Module 3</b> Traffic Engineering</p>	<ul style="list-style-type: none"> <li>• What is traffic engineering and how it works</li> <li>• RSVP, static path, dynamic path (CSPF)</li> <li>• Bandwidth allocation and bandwidth limitation differences and settings</li> <li>• <b>Module 3 laboratory</b></li> </ul>