



Turn It On

Power Up

Turn on all these features to leverage the full value of Cisco routers and switches.

- Protective QoS Features
 - Control Plane Policing (CoPP)
 - Network-Based Application Recognition (NBAR)
- VRF-Lite/Multi-VRF CE
- **Advanced VPN Services:**
 - **Dynamic Multipoint VPN (DMVPN)**
 - **Group Encrypted Transport (GET VPN)**
- Catalyst Integrated Security Features (CISF)
- Spanning-Tree Protocol (STP) Toolkit
- Encapsulated Remote Switched Port Analyzer (ERSPAN)
- Dynamic Intelligent Routing Solutions
 - IP Service-Level Agreement (IPSLA)
 - Optimized Edge Routing (OER)
 - Embedded Event Manager (EEM)

To help you get the most functionality, value and ROI from your Cisco routers and switches, we want to ensure you're aware of the many powerful features residing within. Our [Turn it On](#) program is designed to empower Federal agencies like yours to take full advantage of Cisco's powerful core networking solutions to maximize your productivity, efficiency and technology investment.

Advanced VPN Services: DMVPN, GET VPN

Today's advanced networked applications such as voice and video accelerate the need for instantaneous, branch-interconnected, quality of service (QoS)-enabled WANs. Further, the distributed nature of these applications results in increased demands for scalability and reliability. But, historically, enterprise WAN technologies have forced businesses to make a tradeoff between QoS-enabled branch interconnectivity and transport security.

Cisco's Dynamic Multipoint Virtual Private Network (DMVPN) and Group Encrypted Transport VPN (GET VPN) deliver rich functionality, eliminating the need to compromise between network intelligence and data privacy. And these powerful features already reside on your Cisco routers and switches—all you have to do is turn them on.

DMVPN

Cisco's DMVPN enables zero-touch deployment of IPsec networks and its spoke-to-spoke functionality enables the secure exchange of data between two branch offices without traversing the head office. This improves network performance by reducing latency and jitter, while optimizing head-office bandwidth utilization.

Additionally, DMVPN delivers a suite of functionality that benefits the entire network.

- Employs Multi-Point Generic Routing Encapsulation (mGRE) interface.
- Spokes maintain a permanent GRE tunnel to the hub, but not to the other spokes.
- Spoke sites can initiate a dynamic GRE tunnel to another spoke site based on user traffic.
- Spoke-to-spoke tunnel is built over the mGRE interface.
- Spokes only maintain RP adjacencies with Hub(s).

Powerful advantages

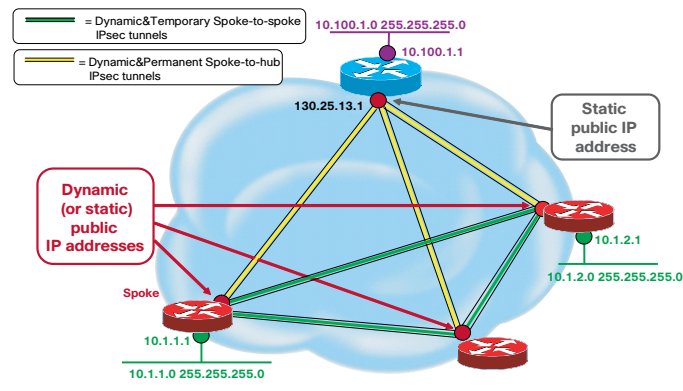
DMVPN provides several smart advantages that empower you to achieve comprehensive, secure network intelligence.

- Dynamic full mesh based on spoke-to-spoke traffic.
- Better control plane scalability than full mesh design.
- Simplified configuration and management.
- Easy provisioning of spokes.
- Works with IPsec or GRE (for use with IP KGs).

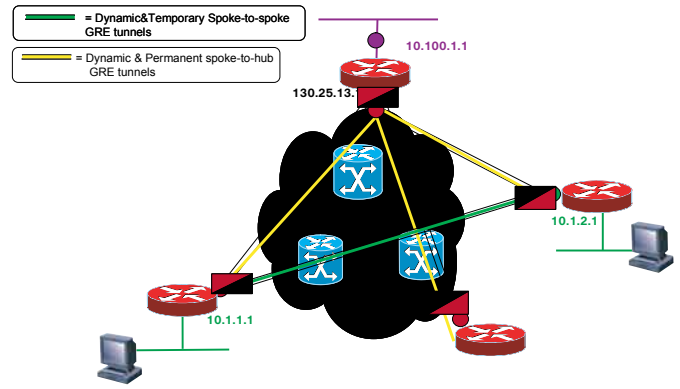
Contact your Cisco Systems Engineer for more information and assistance in turning on the full functionality of your Cisco routers and switches.

To learn about enabling additional Cisco features, visit www.cisco.com/go/turniton.

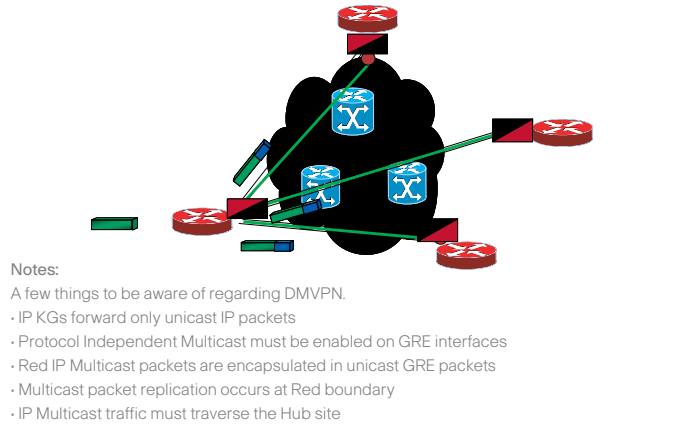
Dynamic Multipoint VPN – with IPsec



Dynamic Multipoint VPN – with IP KGs



DMVPN Multicast Caveat

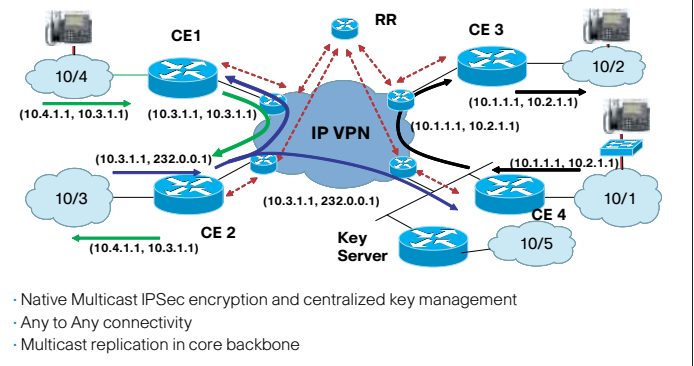


Group Encrypted Transport VPN

Cisco's GET VPN delivers a new category of VPN that eliminates the need for tunnels. Now distributed branch networks are able to scale higher while maintaining network-intelligence features critical to voice and video quality—such as QoS, routing and multicast.

This powerful solution also delivers robust security. GET VPN's advanced security protocols enable highly scalable, manageable and cost-effective networks that meet regulatory-mandated encryption requirements. And the solution's flexibility empowers enterprises to manage their own network security over a service provider WAN service or to offload encryption services to their providers.

Group Encrypted Transport



Key Features

Built on standards-based technologies, GET VPN easily integrates routing and security in the network fabric, delivering a rich functionality set.

- **Group Domain of Interpretation** – The key management protocol that establishes security associations among authorized group member routers.
- **IP Header Preservation** – Preserves the original IP header inside the IPsec packet.
- **Centralized Key and Policy Management** – Responsible for pushing keys and re-key messages as well as security policies to authorized group member routers.
- **Key Server High Availability** – Synchronizes keys and the policy database with a secondary key server.
- **Support for Anti-Replay** – Protects against “man-in-the-middle” attacks.
- **Encryption Support** – Data Encryption Standard (DES), Triple DES (3DES), and Advanced Encryption Standard (AES).

Impressive benefits

GET VPNs can be used in a variety of WAN environments, including IP and Multiprotocol Label Switching (MPLS), delivering powerful advantages, including:

- Seamlessly integrates the group key technology within the framework of existing DMVPN for Internet-based enterprise networks.
- Provides data security and transport authentication, helping to meet security compliance and internal regulation by encrypting all WAN traffic.
- Enables high-scale network meshes and eliminates complex peer-to-peer key management with group encryption keys.
- Maintains the network intelligence such as full-mesh connectivity, natural routing path and QoS for MPLS networks.
- Grants easy membership control with a centralized key server.
- Helps ensure low latency and jitter by enabling full-time, direct communications between sites, without requiring transport through a central hub.
- Overcomes IP multicast limitations of DMVPN.
- Efficiently supports high-volume IP Multicast replication in the SP space with IPsec encryption.
- Native Multicast IPsec encryption and centralized key management.
- Any-to-any connectivity.
- Multicast replication in core backbone.

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