DMVPN Deep Dive

Understanding DMVPN without IPsec

DMVPN Problem Statement

- R5 is the DMVPN Hub, and R1 – R4 are the DMVPN Spokes. Build the network without IPsec so that there is a full mesh of connectivity between these five nodes over the DMVPN.

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DMVPN Deep Dive

Understanding DMVPN with IPsec

DMVPN Problem Statement

- R5 is the DMVPN Hub, and R1 – R4 are the DMVPN Spokes. Build the network with IPsec so that there is a full mesh of encrypted connectivity between these five nodes over the DMVPN. Use the following IPsec parameters:
  - Phase 1
    - Authentication: Pre-Shared Key
    - Encryption: AES
    - DH Group: 5
    - Hash: MD5
  - Phase 2
    - Encryption: AES
    - Authentication: SHA

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 1

DMVPN Problem Statement

- R1 is unable to reach routes behind the DMVPN hub, R5. Find the problem and modify the network so that R1 has reachability to the DMVPN hub and other spokes.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 2

DMVPN Problem Statement

- R2 is unable to reach routes behind the DMVPN hub, R5. Find the problem and modify the network so that R2 has reachability to the DMVPN hub and other spokes.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 3

DMVPN Problem Statement

- R3 is unable to form direct spoke to spoke tunnels to the other routers on the DMVPN. Find the problem and modify the network so that R3 has reachability to the DMVPN hub, and to the other spokes directly without going through the hub.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 4

DMVPN Problem Statement

- R4 is unable to reach destinations on the DMVPN network. Find the problem and modify the network so that R4 has reachability to the DMVPN hub and to the other spokes.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 5

DMVPN Problem Statement

- R1 is unable to reach destinations on the DMVPN network. Find the problem and modify the network so that R1 has reachability to the DMVPN hub and to the other spokes.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 6

DMVPN Problem Statement

- R2 is unable to reach destinations on the DMVPN network. Find the problem and modify the network so that R2 has reachability to the DMVPN hub and to the other spokes routes.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 7

DMVPN Problem Statement

- R1 is unable to reach the other DMVPN spokes without first transiting through the hub. Find the problem and modify the network so that R1 can form direct spoke-to-spoke tunnels and bypass the hub in the data plane.

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DMVPN Deep Dive

Troubleshooting DMVPN – Part 8

DMVPN Problem Statement

- R1 is unable to reach the other DMVPN spokes without first transiting through the hub. Find the problem and modify the network so that R1 can form direct spoke-to-spoke tunnels and bypass the hub in the data plane.

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DMVPN Deep Dive

Understanding DMVPN Dual Hubs

DMVPN Problem Statement

- R5 is currently a single point of failure as the only DMVPN hub. Modify R4 so that it acts as a dual DMVPN hub for the existing network. Once complete, new spoke to spoke tunnels should be able to be formed even if R5 is down.

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