



MDS Case Study

Network Design Services



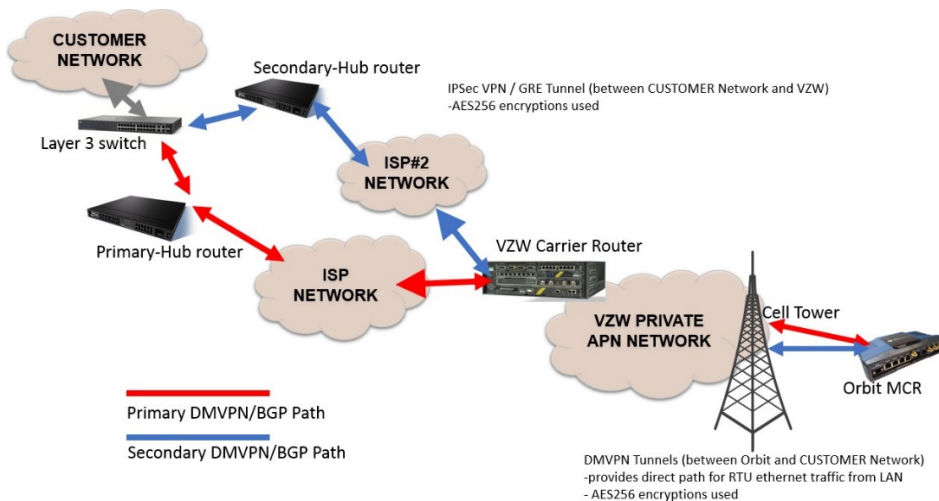
High Availability Cellular Network with Failover

Florida Keys Electric Cooperative (FKEC) came to GE MDS for help integrating their SCADA system into a new cellular communications network. Their previous network provided an average of only 60% availability. Working with MDS Professional Services certified network engineers a new architecture was designed and deployed now providing an average of 99.9% availability at every remote site.

As cellular deployments have become more common such as the FKEC example we will cover below, there has been an increased desire for design services to assist customers in standing up their new high availability networks. MDS Professional Services provides a turn key solution. Our experienced and Cisco certified network engineers will audit the design, configure it, and support your deployment.

The FKEC Solution

MDS network engineering designed a Dynamic Multi-point VPN (DMVPN) architecture with standardized RFC BGP dynamic routing to provide failover for near 100% connectivity. Enterprise Network Appliances were configured to discover all available routes to and from the equipment deployed in the field. Primary and secondary HUB routers provide dual access points to fail over network traffic. The HUB routers establish site-to-site IPsec VPN connectivity with the cellular carrier/operator router over different ISPs to enable a redundant private network (PN) where the cellular carrier assigned a Private APN to the customer's account and provides a unique private IP address for each SIM card. Furthermore, each Orbit MCR/ECR cellular router establishes a DMVPN tunnel with both HUB routers and advertises local device LAN network connectivity to the HUB routers using BGP. The HUB routers in turn advertise remote device network towards upstream layer 3 switch connected to the customer network. The routing setup ensures that the customer traffic is sent over the primary tunnel when both tunnels are up and fails over to the secondary tunnel in the event of failure along any segment of the primary path. Automatic failback to the primary tunnel occurs once connectivity is restored along the primary path



Industrial Expertise

- Extensive experience in industrial environments
- Deep domain expertise in networking and communications systems
- Experienced Cisco certified network engineers

Key Benefits

- Dynamic failover with near 100% connectivity
- One-time HUB setup (addition of new remote sites does not require reconfiguration)
- Private APN or Public Internet applicable
- Access every remote site seamlessly
- Supports up to 1,000 Orbit routers per Hub
- Supports any type of Serial and Ethernet traffic
- Supports addition of the secondary Internet service provider for further redundancy
- Combined cellular and private radio options for redundant wireless uplinks resulting in higher network availability

This design is specific for small to medium size networks supporting up to 1,000 routers per Hub. MDS Professional Services also offers larger scale network design services. Contact us to ask how we can help with your network design needs.

For more information in North America, call **1-585-241-5510** or email GEMDS.TechSupport@ge.com.