



Federal High Level Project Management/Network Design Project Summary

The challenge

Chesapeake NetCraftsmen consultants have successfully worked with this large government entity on various engagements over many years. Because of these successes, we were asked to provide consulting services on a “High Level Project Management/Network Design” project.

The Chesapeake NetCraftsmen solution

In response to the needs of this unique client, Chesapeake NetCraftsmen developed a design for an entirely re-engineered network, making it highly available and scalable. We also assisted with configuring and testing of Cisco Catalyst 6500 aggregation and distribution switches for the multiple office buildings on the network. As part of the project, we also:

- Assisted with the customization of the CiscoWorks NMS agents and property files for the Cat 6500 switches, data collection using the NAM cards, the ART MIB and report generation
- Produced sample device configurations and configuration checklists for the 400 new Cisco 2950 office switches
- Assisted in re-engineering their Internet access to eliminate any single point of failure. Designed new architecture to be redundant from several perspectives. Designed architecture to support the use of four firewalls and content networking switches on either side of the firewalls to support load balancing, firewall connection synchronization, and fail-over. Assisted with the design, documentation and configuration for two external border routers running BGPv4 to dynamically route (and fail-over) between the two ISPs
- Assisted in the process of re-engineering their Frame Relay from a point-to-multipoint network to a point-to-point topology utilizing sub-interfaces. This new environment is based on five 12Mbps Multi-Meg IMUX NxT1 aggregation circuits terminating approximately 700 offices. We assisted with the design, documentation, and configuration for aggregation as well as remote end equipment
- Assisted in the process of analyzing alternatives to improve reliability across their Frame Relay environment. One PVC will be mapped from each remote office to one of five aggregation routers in the home city of this network. We assisted with the design, documentation and configuration for adding a redundancy at the PVC level for each connection; analyzed the use of Frame Relay traffic management and sub-routing for better network performance and redundancy

The results

Having completed this project within the allotted time, the client and Chesapeake NetCraftsmen are more than satisfied with the network upgrade and redesign. The client’s network now has greater redundancy, provides greater and more accurate and error-free throughput, is more secure, is capable of providing a greater range of support for current

and future services and applications, is simpler to use and much easier to troubleshoot and upgrade.