Case Study: Air Force Satellite Control Network (AFSCN) Secure Voice and Data Solutions

Mission Critical **The Air Force Space Command's Air Force Satellite Control Network (AFSCN) is responsible for command and control of operational Department of Defense (DoD) satellites. These satellites serve a variety of functions, including Navigation, Communications and Surveillance, which are vital to the federal government and the military. Maintaining constant secure and reliable communications capabilities between its operational control modes and remote tracking stations located around the world is imperative to the success of the AFSCN's mission.**

Upgrading an At Risk Satellite Control Network

A critical mission of the 50th Space Wing located at Schriever AFB, the AFSCN employs a network of locations around the globe–including two operational control nodes, eight remote tracking stations and two remote ground facilities–to control the nation's satellites in space.

Maintaining reliable communication paths with different ground stations had become a monumental challenge for the AFSCN, This impacted operational activities for the AFSCN's command and control mission. Reliability and security of these mission critical communications could no longer be adequately assured.

Serco's Solution

Based on a proven track record and demonstrated skills in providing quality, timely and cost effective communications engineering solutions worldwide, *Serco* was selected to develop & implement a state-of-the-art communications solution that would deliver high reliability communications among the AFSCN ground stations. This major upgrade program included moving to an IP-based solution using ATM technology and a wide area network (WAN) built to incorporate the latest information security. Among the objectives of Serco's task was to: **1)** provide reliable data transmission among the various ground stations that could be verified and audited, **2)** enhance the secure voice (DSRN) capability among AFSCN ground stations, and **3)** increase data transmission rates to enhance the visibility and control of the DoD satellites.

Case Study: Air Force Satellite Control Network (AFSCN) Secure Voice and Data Solutions *(continued)*

Building a State-of-the-Practice Data Communications Network

To create a state-of-the-practice data communications network required Serco to engineer different solutions for each of the AFSCN's unique locations. Each ground station around the world had to be surveyed in order to develop detailed installation plans, project support agreements and testing plans. Furthermore, to assure communications reliability between the ground station and the operational control nodes, Serco also had to conduct a complete circuit testing exercise.

After completing the survey, Serco's team continued with their due diligence, for developing and implementing a state-of-the-practice solution, by conducting circuit, system verification and integration, installation and checkout testing for each of the ground stations, including those located at Diego Garcia, in British Indian Ocean Territory, the Royal Air Force Base in Oakhanger, England and the Anderson AFB, in Guam

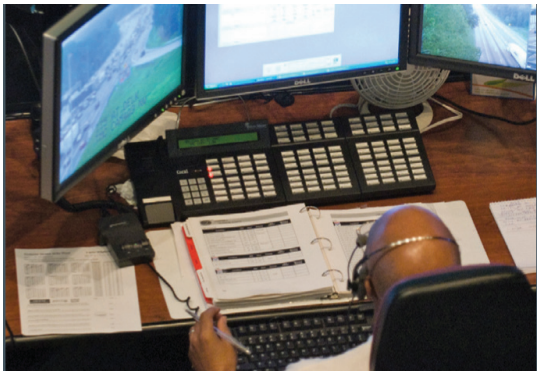
In developing this enhanced voice and data communications network, Serco's team engineered and implemented an ATM backbone and secure voice system for each of the AFSCN ground stations. The installed network was based on a Wide Area Network (WAN) architecture utilizing IP based network capabilities and proprietary secure communication technologies such as KG-75s, KG-84S and KIV-7s. In addition, Serco ensured Defense Red Switch Network connectivity and operations throughout the AFSCN

"Serco supported the AFSPC Communications Support Squadron in partnering with military and government contractors to supervise an Air Force Satellite Control Network test effort at Oakhanger, United Kingdom. Their innovative test procedures and creative solutions provided a viable implementation plan designed to improve communications capability… The team's outstanding support will bring new capabilities and enhanced services to our critical warfighting mission."

–Maj Gen Dale W. Meyerrose, Air Force Space Command
Director of Communications and Information

Mission Accomplished

The new communications network developed by Serco provided a state-of-the-practice secure communications environment for the AFSCN, ensuring enhanced and secure voice and data communications between the AFSCN ground control nodes and provided remote tracking capabilities for each station. This program has significantly increased the quality of service for the AFSCN, a direct result in the AFSCN's ability to provide secure and reliable telemetry, tracking and commanding, control, and secure voice communications support for DoD satellite operations.



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