Design & Installation of VSAT Networks

The design and installation of VSAT networks can be daunting. In many cases organizations understand their needs very well, but lack the resources to convert the needs analysis into an executable requirements specification. Knight Sky is fully prepared to implement the business plans and strategies it develops with its customers.

Link Budget & Traffic Analysis

Site Survey

Network Architecture & Design

Installation, Testing and Commissioning

Proof of Concept Architecture

Test, Evaluation & Certification

We can provide turnkey infrastructure project management starting with a comprehensive engineering design through installation, testing and commissioning. We can help you meet your performance, schedule and budget constraints. Our team will manage and coordinate all vendors, subcontracts and agencies for our clients, from inception to completion. We can also navigate through the complex area of domestic and international transmission regulations as well as military and government accreditation processes.

Link Budget and Traffic Analysis

The first step in architecting a satellite network is to understand the traffic flow requirements of the underlying applications and service requirements. These results will have a direct effect on determining the hub earth station and remote terminals EIRP and G/T requirements. Knight Sky has the expertise and experience to perform essential satellite and network engineering analyses such as link budgets, traffic modeling and network analysis to ensure that your network meets the desired performance goals.

Site Survey

Prior to committing valuable resources to installing a satellite earth station, a thorough review of the installation site is invaluable. Several factors must be taken into consideration since even minor factors could become major obstacles, if not identified early in the program. Such factors would include but are not limited to: access to the satellite orbital arc; spectral survey; construction and civil consideration; access to AC power and backhaul infrastructure.

Network Architecture & Design

Comprehensive network architecture design is critical to a successful program execution. Knight Sky’s staff will engineer a network that best meets your requirement, while complying with all applicable specifications and regulatory policies. We will always utilize the best commercially available products and practices. A complete system design package includes all the necessary engineering drawings, parts lists, and documentation required to install, test, and commission your network. A successful project requires regular interaction with the customer’s project team and attention to detail. Only after careful review and approval of the engineering design package at the Preliminary (PDR), Interim (IDR) and Critical Design Review (CDR), will the project proceed to smooth installation.

Installation and Test

Knight Sky provides system engineering and project management for installation of turnkey earth station and network deployments. Knight Sky has extensive experience in the construction and installation of satellite communications earth stations. Knight Sky will then develop a test plan for your program, specifically addressing the unique requirements of the project. Mutually agreeable test plans and procedures are developed during the design phase of the project and a copy of the plan provided to the customer as part of the Design Review Package. On-site test plan and procedures are provided to the customer two weeks prior to on-site testing.

Project Management & Logistics

Network architectures and configurations can be tested in a “Proof of Concept” environment, either simulated or over the air, to ensure that all components are performing as planned and that your network will meet its operational needs. We can prepare detailed test reports and presentations, including recommendations tailored to your precise business requirements.

Licensing & Commissioning

Prior to the commissioning of a satellite network certain licensing requirements must be met. Dependant upon the overall earth station and network plans there may be a need to coordinate with local officials and apply for building permits or other authorizations. Government and Military agencies are prohibited by law to register for and hold a transmission license. Knight Sky has experience navigating complicated licensing issues on behalf of government agencies and can guide your organizations through the process. Knight Sky also holds FCC transmit licenses on behalf of government agencies.