

SECTION VIII HIGH TECH INFRASTRUCTURE

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INTRODUCTION

Camden County and Naval Submarine Base Kings Bay have a robust and constantly evolving Information Technology (IT) environment. That environment includes a state of the art communications backbone complemented by a cadre of skilled personnel already in the workforce, as well as an expanding military and civilian retiree group. In addition, there are ample educational opportunities for all citizens.

The bulk of the communications infrastructure (telephone and data-related) is provided by TDS Telecom. An assortment of cellular phone providers and cable companies provide regular services and are expanding into areas once the sole domain of telephone companies. TDS has installed an extensive fiber optic and copper-based network for the cities and SUBASE Kings Bay as well as the unincorporated areas of the county. Exhibit 1 (attached) is the simplified block diagram of the local grid that is in place. When appropriate, the CCCAG & TDS may discuss any proprietary information considered essential in the BRAC and post-BRAC environments.

Background

The telecommunications needs of Camden County Citizens are primarily served by TDS Telecom, dba Camden Telephone and Telegraph Company, Inc. The customer base includes:

- Citizens
- Public safety organizations
- Businesses
- Homeland security installations
- Educational institutions
- Naval Submarine Base, Kings Bay

TDS is a wholly owned subsidiary of Telephone & Data Systems, Inc. a diversified telecommunications corporation and a FORTUNE 500 company. For the year ending December 31, 2003, TDS had operating revenues of \$3.42 billion, employed approximately 10,900 people and served approximately 5.5 million customers/units in 36 states.

TDS Telecom is the nations seventh largest local exchange carrier and differentiates itself by maintaining a local presence in the markets they serve. This local presence consists of a General Manager, technical support staff, sales and customer care personnel.

COMMUNITY RESOURCES

Camden County is rich in technical talent and the educational resources to keep pace with the changing demands for IT skills. The County school system has a broad based program to teach the fundamental skills at all grade levels. At the high school level there are specialized programs for those students who have a keen interest in IT, be it for system maintenance or programming and development. In addition, the various college degree and certificate programs provide additional opportunities for the IT professional as well as ensuring that the future Camden County workforce has adequate computer literacy for non-technical jobs. The community has three colleges providing a full array of degree programs for fulltime, evening, weekend and online students. In addition to the formal programs the community has become a magnet for military and civilian retirees, many of whom have extensive IT backgrounds. This is providing a new source of technically-oriented talent to NSBKB as well as the growing numbers of private and public companies.

BACKBONE OVERVIEW

TDS Telecom operates a secured network operations center located at their corporate offices in Madison, Wisconsin. The network operations center operates on a 7 X 24 365 days a year basis, staffed by highly trained technical personnel. The center employs state of the art network surveillance technology to monitor each circuit, network element and facility in order to provide rapid response to fault locations. The synergistic efforts of the network operations center and the local technical expertise have led to an impressive reliability factor of 99.896% for the data network throughout Camden County. Additionally, the center provides the same level of services to various customers throughout the country under negotiated contracts.

WIRELINER VOICE AND DATA INFRASTRUCTURE

TDS Telecom maintains two application specific switches to serve the needs of Camden County. The Company owns and maintains a Nortel DMS-100 voice switch located in St. Marys. The DMS-100 is capable of scaling to more than 100,000 customer lines while providing a full range of customer features. The data switch, a Marconi ATM switch, is located in Kingsland, physically separate from the voice switch. The data switch is capable of scaling to 10 billion bits per second of switching capacity to serve 128,000 virtual connections.

Although the voice and data switches are physically separated, they are interconnected with multiple fiber optic routes. Each switch is from a domestic supplier and operates under the latest software release. Additionally, the Company maintains current vendor maintenance contracts with U.S. based technical assistance centers in support of the switches.

The voice switch utilizes digital interfaces for the majority of customer and inter-switching connections. The data switch provides high speed internet connectivity, aggregates dial-up data services and provides Wide Area Network access for Camden County. The data switch is interconnected to the TDS Telecom Wide Area Network with 155 million bits per second (OC 3) fiber optic system.

The county is interconnected to the voice and data switches through a series of major and minor nodes. All minor network nodes are interconnected with high-speed digital facilities with a majority on fiber facilities. All major network nodes and the interconnection to the public switched network are interconnected with self-healing fiber optic rings. Critical network systems are redundant. TDS has installed synchronization clocks to assure reliable data transmission and interoperability among various digital systems within its network.

NAVAL SUBMARINE BASE, KINGS BAY, TDS PROVIDES THE FOLLOWING:

- a remote switching center for voice traffic interconnected to the St. Marys voice switch with multiple digital facilities over fiber optic cables
- a digital subscriber line module for high speed Internet connections interconnected with a 45 million bits per second digital facility over fiber optic cables
- a Lucent 2.5 billion bits per second fiber optic node fed with a self-healing fiber ring for direct interconnection to the public switched network
- a Cisco multi-services platform operating at 2.5 billion bits per second, capable of expansion to multiple 10 billion bits per second and multiple optical wavelengths on a self-healing fiber ring for local interconnections

EXPANSION CAPABILITIES

One of the strengths of the current IT backbone is its expansion potential. Should the county or base growth demand a higher level of service, the system can accommodate. Given the population growth of approximately 1.5% each year, it will be necessary to upgrade many of the systems. Some of those being considered now include:

- Network infrastructure ability to double usage and physical interconnections for local and long distance service
- Primary Rate ISDN
- Meriden Digital Business Sets off Nortel voice switching system
- Centrex
- Internet via direct connection, ADSL and dial-up digital facilities to 12 schools in the County—as well as more sophisticated solutions

EXHIBIT 1 - NETWORK DIAGRAM

(Available upon request)