

# Serving the public through government Collaboration

## Building “Bridges” to benefit our communities

First and most importantly the submission of this application is to acknowledge the hard work and dedication to public service by the people of the following institutions: Santa Fe College and the Board of Trustees, University of Florida Administration, University of Florida Athletic Association, Florida LambdaRail and the Bradford Board of County Commissioners.

---

Bradford County has always had one remarkable problem with information technology service delivery: Connectivity to the rest of the world. As that may sound somewhat dated and unconvincing the problem has and continues to be very real. Bradford County is situated almost equidistant to Interstate 75, Interstate 10 and Interstate 95. All three of these corridors have substantial data communications infrastructure located near them. Although U.S Highway 301 bisects Bradford County the closest POP's are located in Ocala which is 45 miles away, Gainesville and Jacksonville which are about the same. In the past when terrestrial copper telecom circuits were the norm we also suffered by being divided by two LATA. The original T1 circuit to provide Internet connectivity in 1998 cost the county over one thousand dollars a month. PRI for our phone system was not available until 2005. Currently the cost for a dedicated 10mbps Internet connection with an SLA is \$1,200.00 a month. Bradford BOCC services one and the Bradford County Sheriff services another for a total cost of just under 30k a year.

*Bradford County suffered from a glut of “non-connectivity”.*



There were numerous well-coordinated efforts by both the private sector as well as government agencies to address the problems. The fact was that these deficiencies were more dominant and pervasive than even the most enthusiastic supporters of such efforts foresaw. It was paramount to convince competing telecoms, local service providers and tier one providers all to cooperate to benefit

the public. The established telecoms were not going to allow that to happen. Understanding the volatile history of the telecommunications industry and the competition that industry itself was engaged in was a bridge simply too far.

*Competing telecoms had no interest in providing or even “allowing” high speed and inexpensive Internet connectivity in our, excuse me, their area.*



Bradford County however was not the only government agency to suffer from this highly complex problem in our area. Santa Fe College which has campuses located throughout a four county region had the same problems in Bradford County. Santa Fe College has four separate buildings in and around Starke. The Keystone Heights Watson Center was properly served by a 250mbps connection provided by AT&T. Unfortunately the three Starke locations utilized a mixture of T1's and other unreliable and certainly unpredictable connections. In an age where students use and are expected to use the Internet for every facet of their education experience, this was both unacceptable and embarrassing for the college. The college's information technology personnel did an exceptional job in providing the absolute best service they could.



The second large institution with a presence in Starke having unacceptable service was the University of Florida. UF has two agencies: the agricultural extension office and the UF Lightning Research center. For years Bradford County government has provided connectivity for the extension office although they are on the UF network. The lighting center recently has used the local telecom to provide a highly unreliable DSL circuit. The reliability is so bad that the personnel at the facility must use cellular cards for connectivity. The needs of the Lightning Center was at least 50mbps and upwards of 100mbps.

## Service delivery. Concept through conception.

**Santa Fe College.** Bradford County was contacted by the telecommunications department at Santa Fe College. They had continuing problems: Connections the private sector provided were either totally inadequate or they were too costly. Usually both. Students need expanded bandwidth for online courses and that required a guaranteed level of service.

Santa Fe provided Bradford a location at their Watson Campus in Keystone Heights for a 100ft. tower. This tower supplies connectivity for a service center at the Watson facility for the Bradford Tax Collector and Clerk of the Court. The college was utilizing a 250mps AT&T circuit at the Watson campus. They inquired about possible use of Bradford's tower to carry the circuit forward to Starke. This would facilitate one of the three sites there.

After initial conversations the idea was presented to Santa Fe that a microwave bridge be installed between the Watson Center in Keystone Heights and the main Bradford tower in Starke. Since there was no fiber to push this connection out, multi-point wireless would be installed on the Bradford tower and connectivity would be provided to all three campus locations in Starke.

Bradford County had no secondary Internet path. After establishing these connections Santa Fe provided (via their AT&T circuit) Bradford with a redundant Internet connection. Conversely Bradford has agreed to provide Santa Fe with the same via our FLR circuit. The benefits of this engagement has become enormously beneficial to both institutions.

**University of Florida.** Our office floated the idea of a microwave circuit from our main tower site in Starke to an undisclosed location in Gainesville. This would enable Bradford to connect to carriers at one of the major POP's located there. We also contacted Florida LambdaRail to see if there were any connection opportunities there. Florida LambdaRail is the state university and education network. This is the description from their website:

*FLR is an independent statewide fiber optical network owned and operated on behalf of partner institutions and affiliates dedicated to producing knowledge and prosperity within the state of Florida through education and research activities that drive our partner institutions' and affiliates' 21st century economy initiatives. Utilizing next generation network technologies, protocols and services, FLR facilitates collaboration and academic, scientific, educational, and clinical application development through high-speed communications.*



There was immediate interest from both parties. After several initial discussions with Dave Pokorney Chief Technical Officer and Lance Taylor Deputy Chief Operations Officer with FLR the concept began to move forward.

Mr. Pokorney arranged a meeting with FLR networking staff located at the University of Florida. After explaining Bradford needs for vertical real estate in Gainesville, Matt Grover Senior Network Engineer for both UF and FLR mentioned the possibility of placing our equipment on top of Ben Hill Griffin Stadium. From a technical perspective this offered an ideal solution but one with numerous bureaucratic hoops to jump through.

All parties agreed to pursue the concept and the decision was made to move ahead with a draft design to present to each institutions administration.

Over the course of the next 8 months and many pages of draft documents including cost estimates, contracts and Interlocal agreements the project was initiated.

The final solution was to have a redundant 320mbps 4.8gh microwave link installed between Bradford County tower site in Starke and Ben Hill Griffin Stadium in Gainesville. UF would provide access to FLR via the stadium site. FLR would provide connectivity to both the Internet and Internet 2.0. The link would also provide UF with a 100mbps connection back to Starke. The Lightning Center would install additional microwave equipment at Bradford's Starke site to push the link out to their remote facility 5 miles from the city limits. This connection would further service the UF Agricultural Extension Office also in Starke removing the need for the DSL service.

While this engagement is enormously beneficial to Bradford County it also further serves the needs of the University of Florida with its locations in Bradford County and the surrounding areas.

The two projects jointly will not only save all three institutions large sums of money it will provide an immediate benefit to its service community. Bradford County alone will recover the cost of its investment within three to four years. The final benefit is that there is ample capacity available for additional local and state agencies to be brought on to the circuit with minimal effort.