

**JCOTS Meeting**  
**910 Capital Street**  
**Richmond, Virginia**

Warren Manuel  
President and CEO  
October 31, 2006

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## Corporate Information

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*VABB corporate  
headquarters and  
network operations  
center on Lovers'  
Lane, Culpeper*

- Organized in 2003, Culpeper, VA as a closely held Virginia LLC
  - Formed in 2004 to deliver telecommunication services to rural Virginia across 25 counties
  - Presently has 26 employees and 9 full time contractors
  - Opened first field office in August 2005, Warsaw, VA
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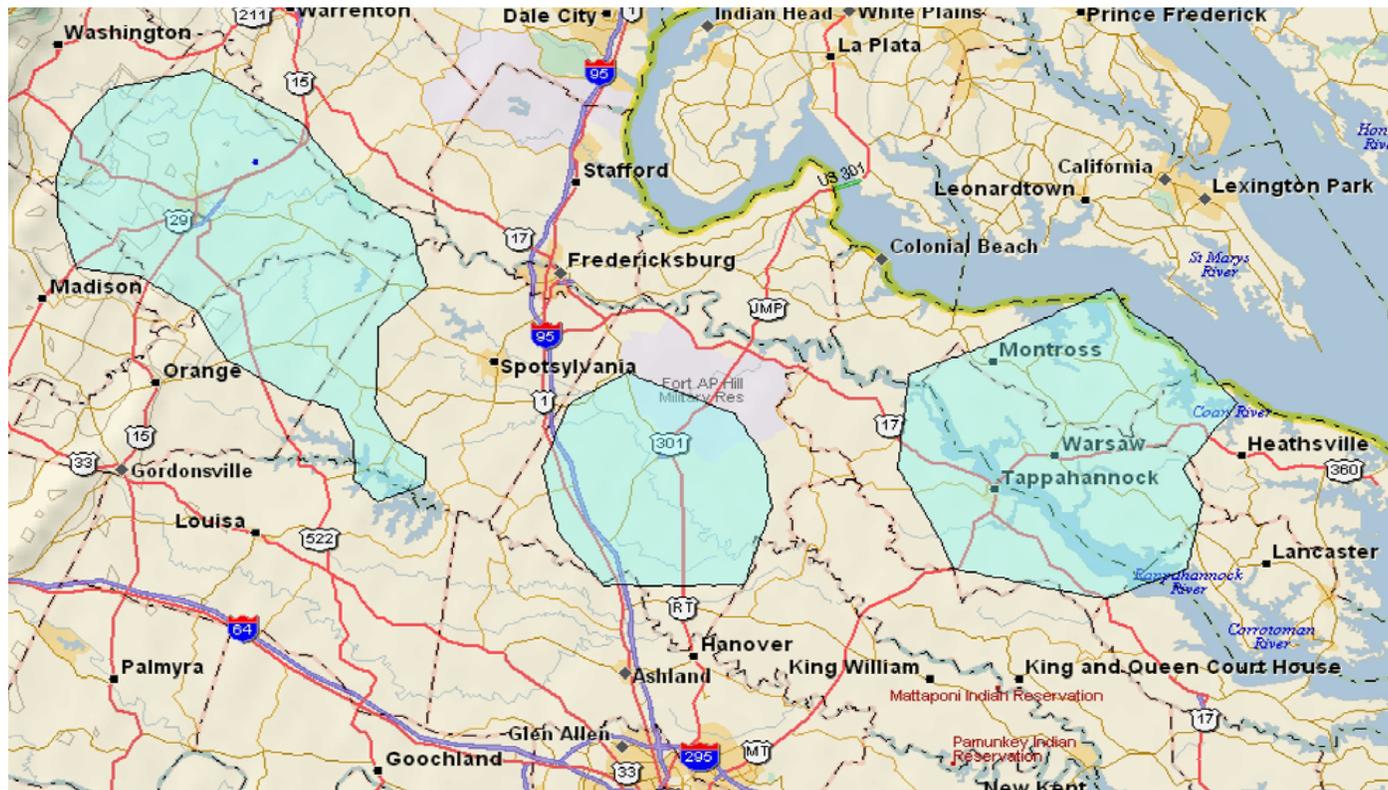
# Offerings

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- **Wireless data services**
    - Line of sight (LOS) up to full DS-3 and T1 replacement
    - Non-line of sight (NLOS)
    - Carrier class equipment from Alvarion
  - **Voice Services (VoIP)**
    - Trunk line replacement/integration
    - Complete calling system replacements
    - On or Off Network
    - Full Featured suite of services
  - **Telework Center**
    - In our Culpeper Center
  - **Network design and deployment services**
    - Highly experienced engineering staff
    - Engaging and training local entrepreneurial individuals and companies.
    - Public and private sector expertise
  - **eVA Statewide technology services registered vendor**
  - **Intelligent Database built in-house to run all offerings**
  - **Franchise / Value added reseller model** *(coming soon)*
  - **Complete back office services provided**
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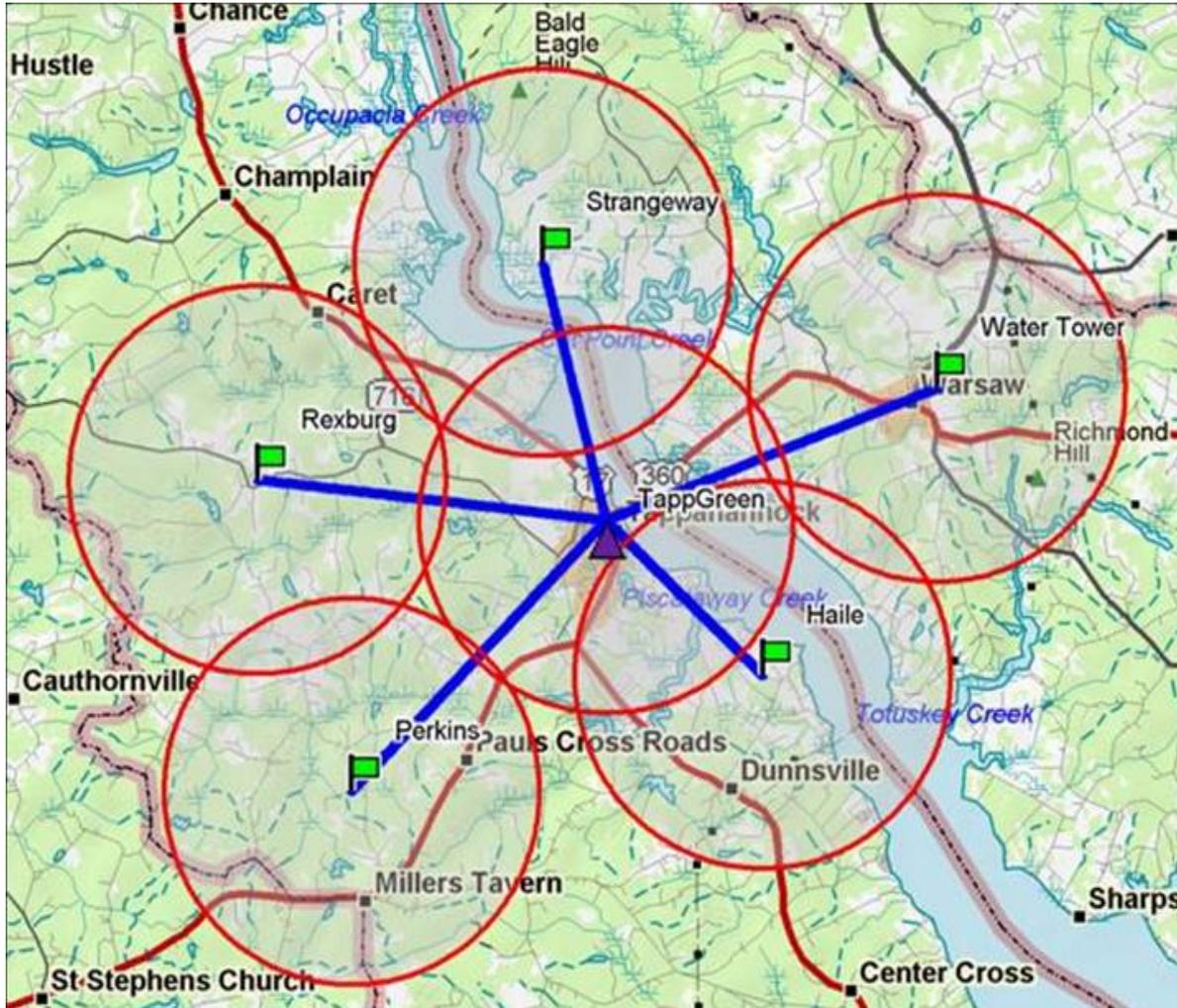
## Footprint and Accomplishments

- 73 individual access units (broadcasters)
- 3 POP's (network points of presence that form the junction between wireless backbone and wireline backbones)



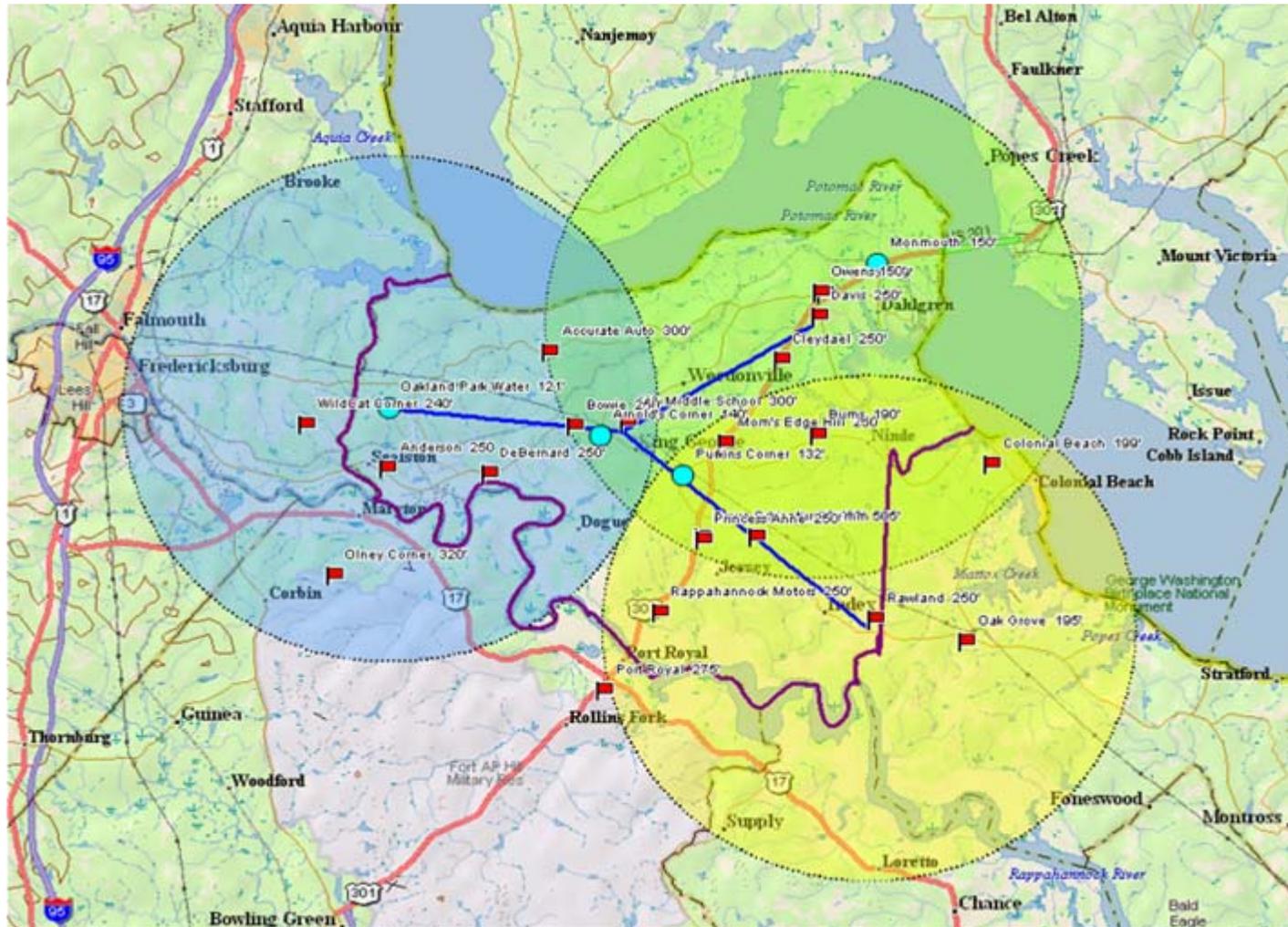
- 1260 customer accounts
- Voice system averages 4,500 calls per day (10,200 calls on busiest day)
- Customers in 14 counties

# Hub and Spoke Deployment



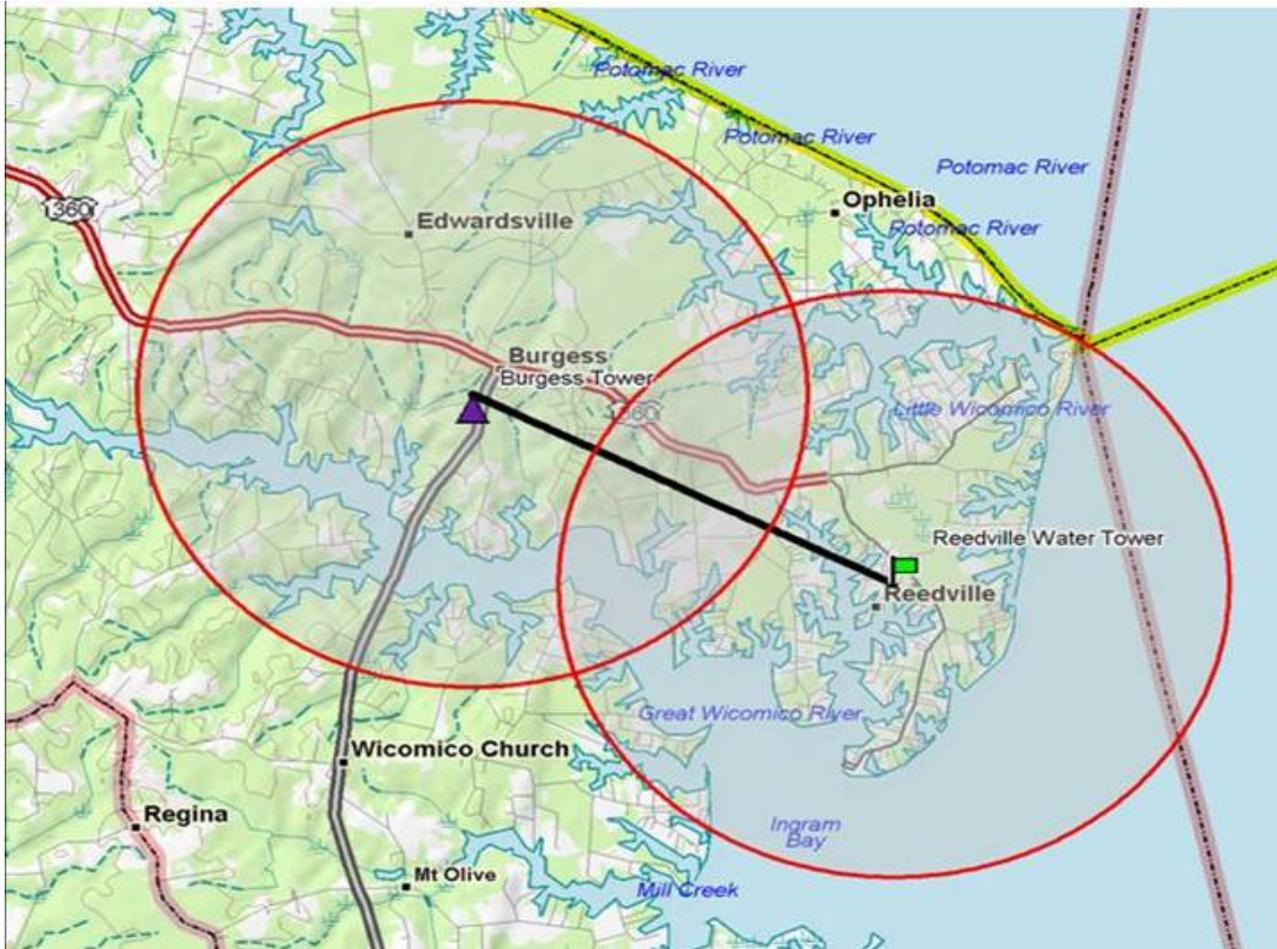
- Multiple T-1 service to a single tower (Hub site).
- Several point-to-multipoint access units at the hub site.
- Scalable: Add cell extenders to increase footprint. Add T-1's to increase bandwidth.

# Hub and Spoke Variant



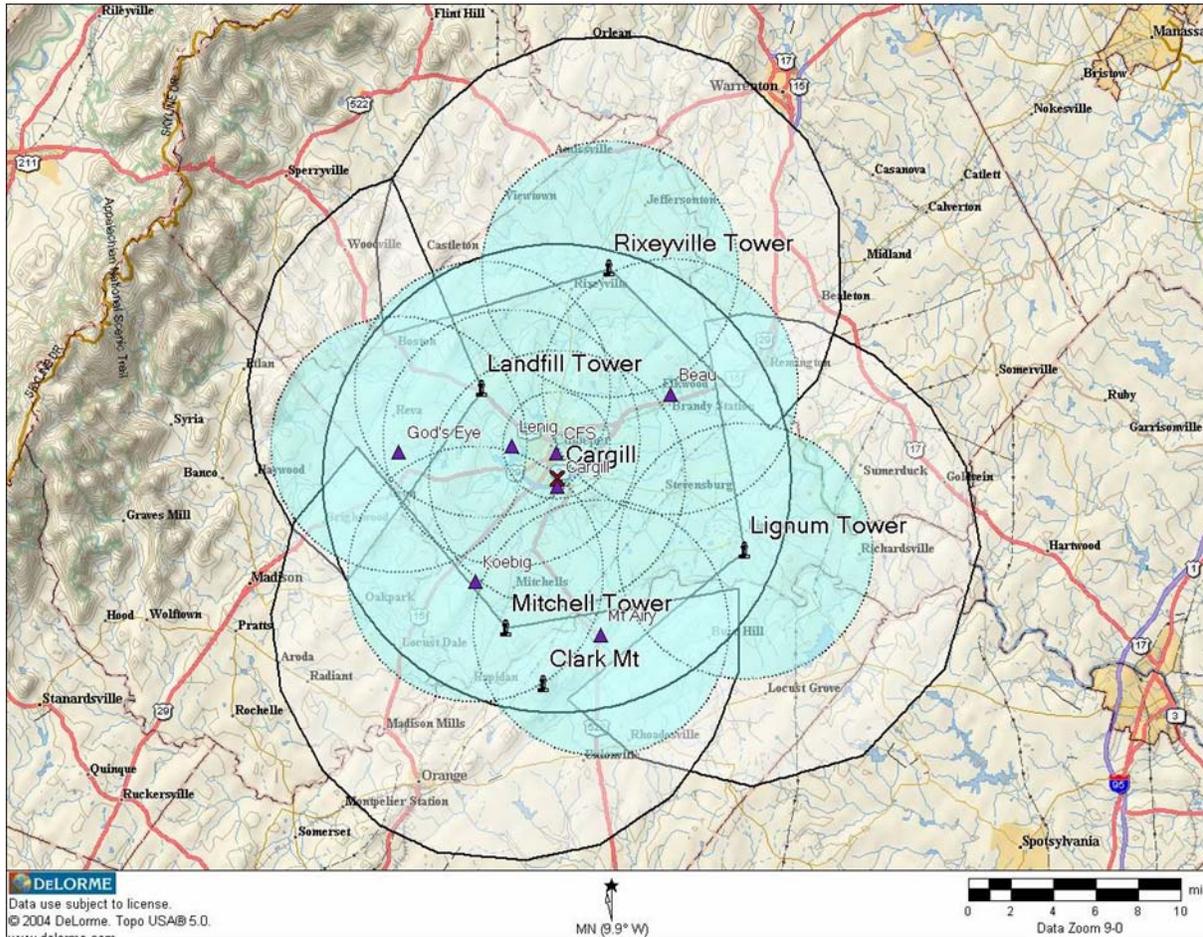
- T-1 service to a single tower
- A point-to-point bridge is used to share bandwidth with a remote site
- Deployment: Quick and inexpensive. Pinpoints lucrative markets opportunities.
- Expansion: Difficult to grow & more complicated to manage.

# WiPOP Topography



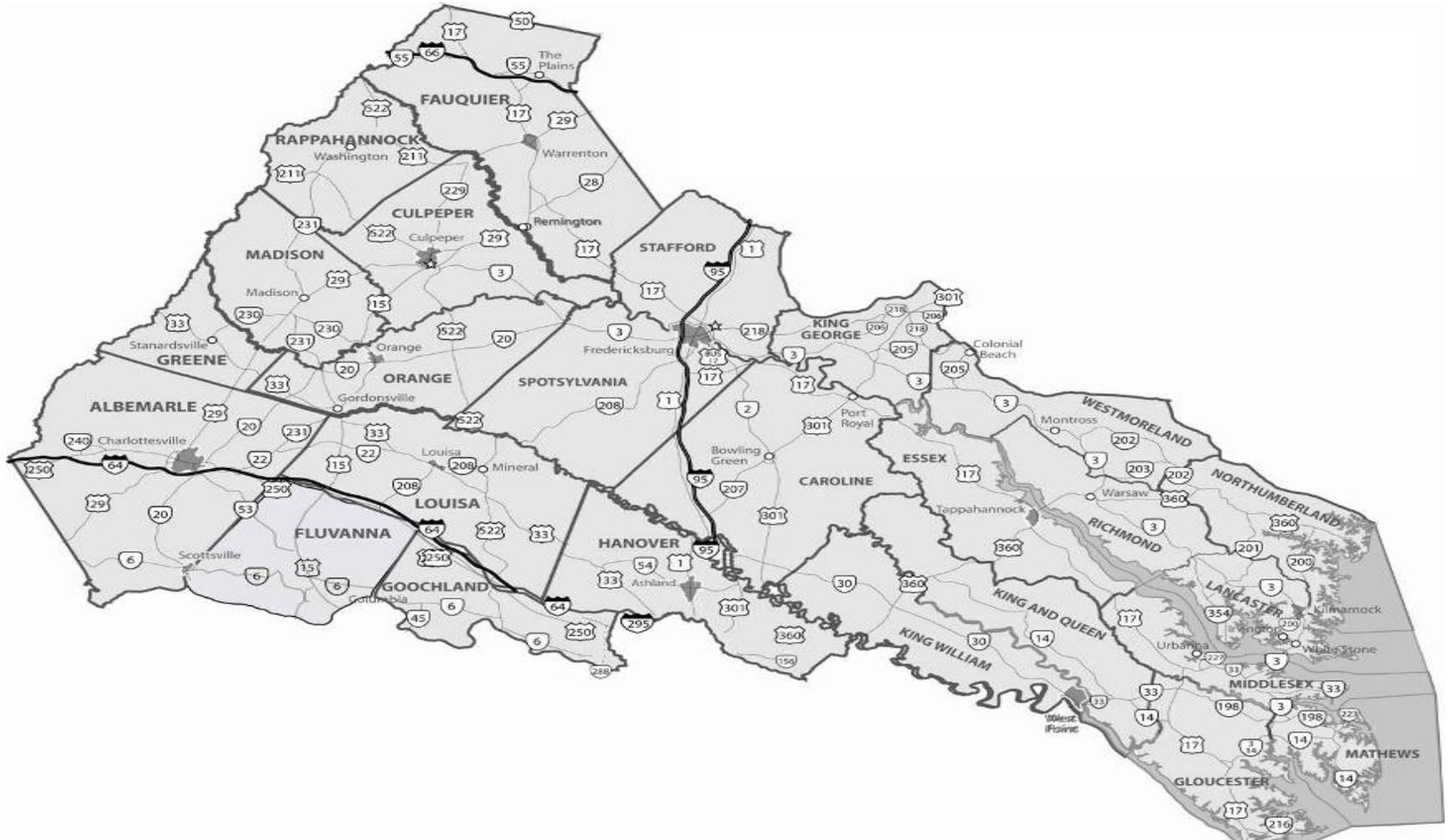
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# Hub & Spoke Topography



- Multiple T-1 service to a single tower (Hub site).(Cargill)
- Several point-to-multipoint access units at the hub site.(Clear Circles)
- Scalable: Add cell extenders (green circles) to increase footprint. Add T-1's to increase bandwidth.

# Rappahannock Region



## Partnering for Expansion

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- Strategic partnerships with two electric cooperatives in the Commonwealth.
  - Active discussions with two electric cooperatives
  - Public-Private Partnerships (PPPs) that involve exchange of services or reciprocal purchasing
    - Three county governments with three more in progress
    - Three incorporated town governments
    - Agreements signed for use of nine water towers and seven county-owned cellular towers
    - Ten Emergency Service Facilities
    - Several Schools systems
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## Developing a Public-Private Partnership

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- **Aligning Objectives**
  - A rural broadband operator is providing a service that is otherwise unavailable and has any number of target service areas
  - Rural government / small municipalities want to generate revenue from towers.
- **Understand the Capabilities (fixed wireless versus cellular)**
  - Signal propagation: licensed versus unlicensed
  - Fixed wireless versus cellular: volume and revenue
- **Make the Math Work**
  - Margins are low in fixed wireless due to significant capital costs and monthly recurring connectivity expenses.
  - Prime versus subprime tower lease space
  - Each tower deployment is evaluated as an independent economic proposition. If the tower cannot cash-flow within 12 months, the wireless operator is likely to pass.

In a PPP, these three objectives have to match for a self-funded wireless operator to engage in a new capital project

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- **Our Culpeper Telework Center Serves Three Functions**
    - **Telecommuters from the Greater Washington Market**
      - 70+% of our workers commute North
    - **Workers not yet under our Network**
      - Hourly, Daily, Weekly, or Monthly clients
    - **Temporary Office Space for non-local businesses**
      - Three or more workers as advance team workers
  
  - **Studying Feasibility for a Center in our Warsaw office**
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Warren Manuel – President and CEO

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Mr. Manuel has been an entrepreneur and pioneer in the dairy industry since the mid-1950's. After a tour of duty with the United States Marine Corp, he started an artificial insemination (AI) business in 1959 and founded Manco Genetics. Over the years, Mr. Manuel aggressively grew Manco to become the largest privately owned company of its kind, pioneering the cattle herd mating and on-farm insemination industry. In 1985, Mr. Manuel developed the Mating for Genetic Improvement (MGI) program and the Manco Sire Sort; the first computer mating program capable of sorting all mating sires using dairymen's sort criteria. With the advent of the Internet, Mr. Manuel partnered with Edge Technologies in 1997 to build WebMGI, the first suite of Internet based Genetic Management applications for the world dairy industry using the Manco models. WebMGI was recognized by the "World Business Review" with Casper Wineberger as being one of the first applications of server based interactive software programs on the Internet.

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