

# Rural Telecommunications

Canamex Corridor Coalition

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# Definition of Problem

- Many rural communities lack telecom infrastructure necessary to compete, prosper, or survive in New Economy
- Needed by businesses, residents, education, government, health care institutions, etc.

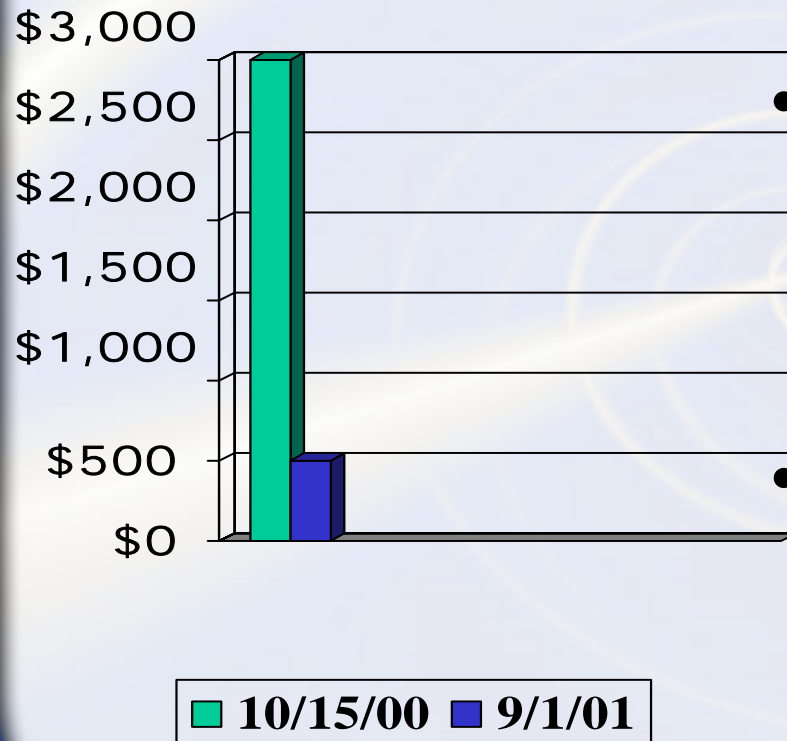


# Arizona's direction

- GITA asked by Governor Hull to lead broadband development efforts
  - Leverage government purchasing
  - Aggregate demand
  - Work with Arizona Department of Commerce to develop Community Telecom Assessment program
  - Track our progress and map infrastructure / service areas



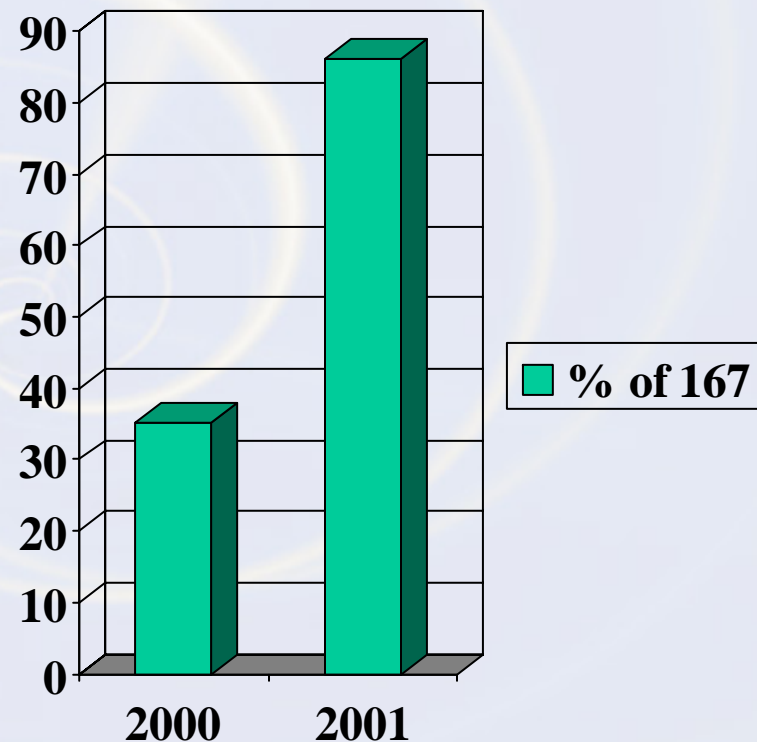
# Leverage of government purchasing



- Most agencies paid more than \$3,000 per month for frame relay T1s a year ago
- Pricing for many locations is now under \$500 per month

# Leverage of government purchasing

- Broadband offerings in the original list of 167 communities has increased from 50 to 144 communities

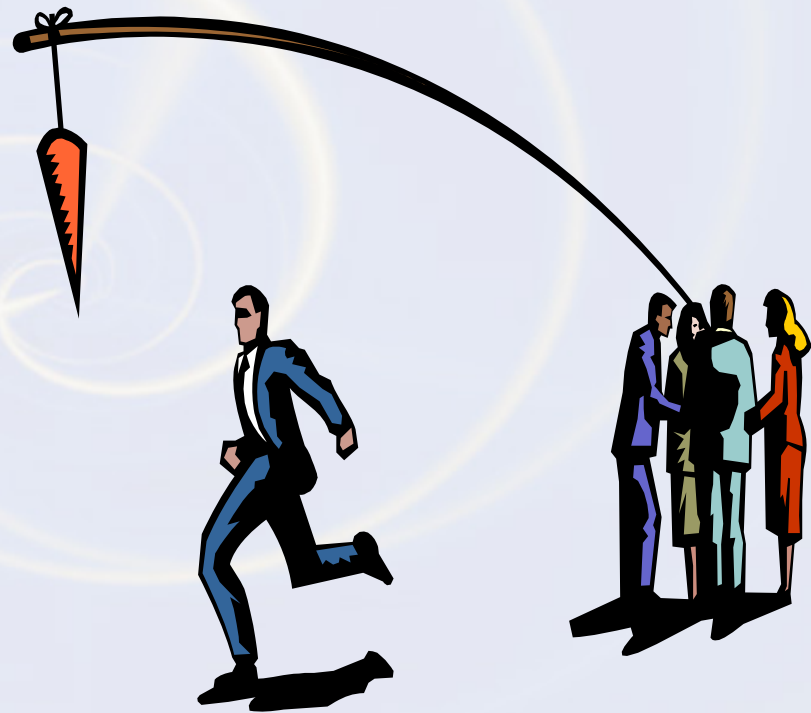


# Leverage of government purchasing

- “Broadband offerings” does not mean broadband is operational in that community
- It is a statement of “interest” by telecom providers
- We must turn that “interest” into a deployment based on a workable business model

# Demand aggregation

- Carriers must see the business potential before building out new infrastructure
- Demand is best aggregated on a community-by-community basis



# Demand aggregation

- Establishing “Telecom Task Forces”
- Large bandwidth users, including residential and commercial developers, businesses, education, government, health care, etc. can comprise a task force
- Leverage this power to engage existing and new providers
- Proving successful in roll out of new “middle mile” and “last mile” infrastructure – “stay tuned!”

# Community Telecom Assessments

- Telecom infrastructure inventory
- Demand survey – what business case exists
- Identify specific technology recommendations based on business case, existing infrastructure, and interested parties

# Community Telecom Assessments

Qualifying and quantifying answers to these questions

– Is your community on the Internet backbone?

- Do these providers have long-haul fiber points of presence in your community?

(ISP backbone providers by market share)

WorldCom—29 percent

Sprint —15 percent

AT&T — 8 percent

Cable & Wireless—8 percent

Qwest —5 percent

Genuity—5 percent

Verio — 5 percent



# Community Telecom Assessments

Qualifying and quantifying answers to these questions

- How does your community connect to the Internet backbone?
  - Middle mile infrastructure (between your community and the Internet backbone)
    - Fiber
    - Microwave
    - Satellite
  - Switch
    - Circuit switched
    - Packet switched
  - ISP hops – how many?
    - Determines latency, which affects applications



# Community Telecom Assessments

Qualifying and quantifying answers to these questions

- How is bandwidth distributed in your community?
  - Methods
    - Dial-up (local and national ISPs)
    - T1s (businesses/larger organizations)
    - xDSL
    - Cable modem
    - Microwave
      - » Licensed (e.g., MMDS and LMDS)
      - » Unlicensed
      - » 802.11b
    - Ethernet over fiber
  - GIS mapping distribution



# Community Telecom Assessments

Action plan based on answers

- Do we have unmet demand?
- What are the ILEC and cable TV companies' plans for broadband?
- Any CLECs coming to town?
- Should public/private partnerships or cooperatives be explored?
- What is the most cost-effective broadband technology for our community?
- What does our community want?



# Development of Database

Tracking the progress

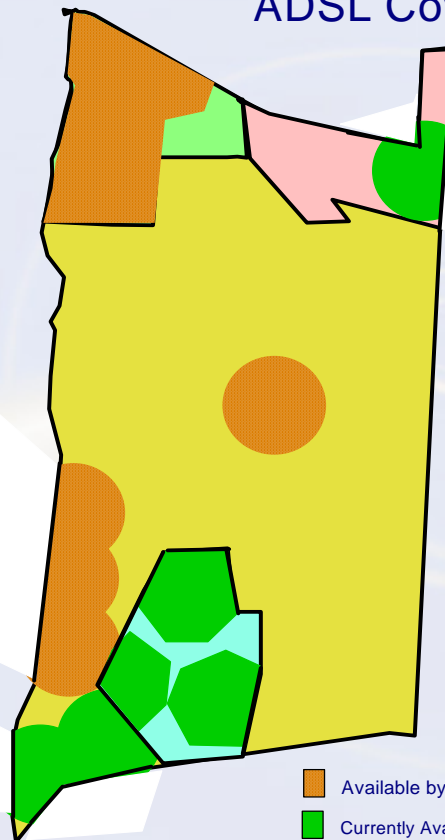
- **Incumbent**
- **CLECs**
- **Cable operator**
- **Wireless providers**
- **Towers with backhaul**
- **Nearest POP**
- Track deployed broadband – by community
- Use 200kbps definition (e.g., DSL, cable modem, MMDS)



# Mapping of infrastructure / service areas

- GIS mapping distribution – Duchess County, NY (courtesy IBM, as of June 2000)

## ADSL Coverage by Y/E '2000



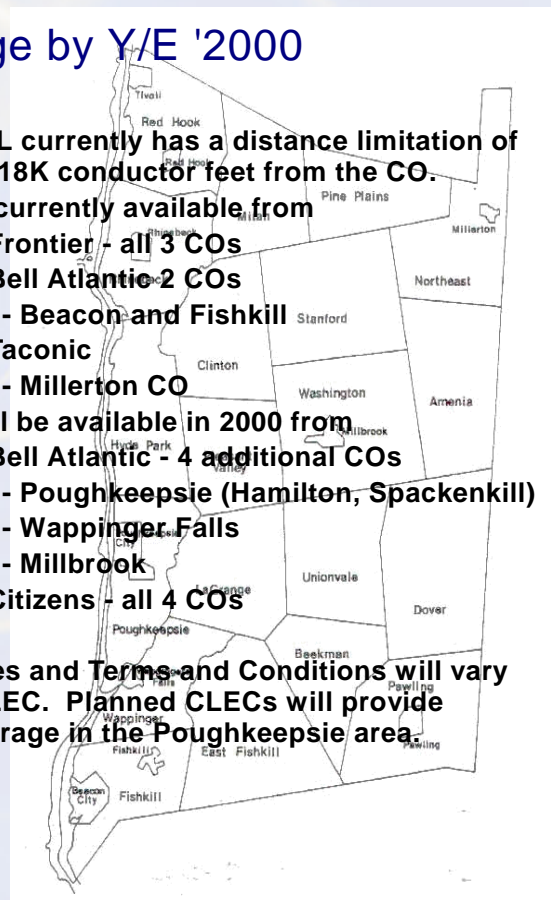
ADSL currently has a distance limitation of 15K-18K conductor feet from the CO. It is currently available from

- Frontier - all 3 COs
- Bell Atlantic - 2 COs
- Beacon and Fishkill
- Taconic
- Millerton CO

It will be available in 2000 from

- Bell Atlantic - 4 additional COs
- Poughkeepsie (Hamilton, Spackenkill)
- Wappinger Falls
- Millbrook
- Citizens - all 4 COs

Prices and Terms and Conditions will vary by ILEC. Planned CLECs will provide coverage in the Poughkeepsie area.



- Available by Y/E 2000
- Currently Available



# Arizona's direction

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