



Maryland Telehealth Roundtable

Annapolis, Maryland December 6, 2010





Maryland Broadband Cooperative

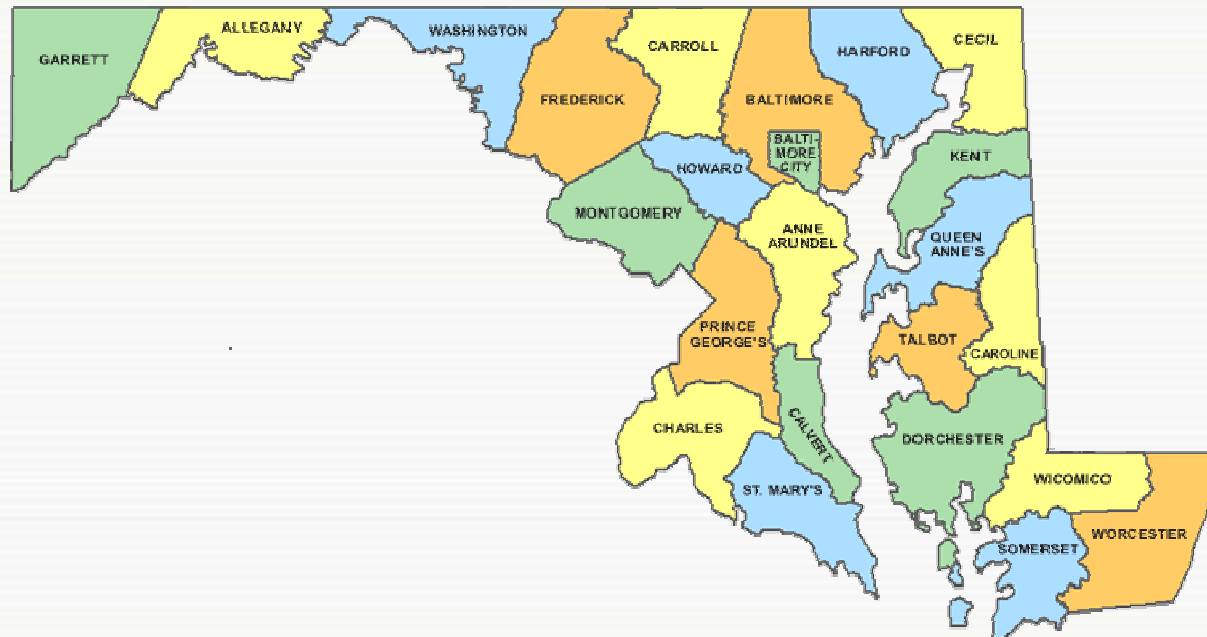


- Long understood problem of delivering broadband to rural Maryland
- Formed by legislation in 2006 (SB 753)
- The 5 Tri-County Councils are our permanent Class A Members
 - **Focus on Promoting both Availability and Affordability**
 - **Public/Private Partnership**
- Middle-Mile Solution
 - **Only entity in the state with fiber that spans the Bay Bridge**
- Cooperative Business Model
 - **Cooperatives brought electricity to rural America, can do the same for BB**
 - **Built by the Users of service, for the Users of service**
 - **Cooperative profits are returned to customers through lower prices**
- Roughly 60 Members and Growing

Mission Statement



Our Mission is to drive economic development through universal, open access to broadband services via a fiber optic network that serves rural Maryland by building an advanced, world-class broadband network across the rural communities of Eastern, Southern, and Western Maryland supported by its Members who provide Last Mile services.



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UMMS Telemedicine Network

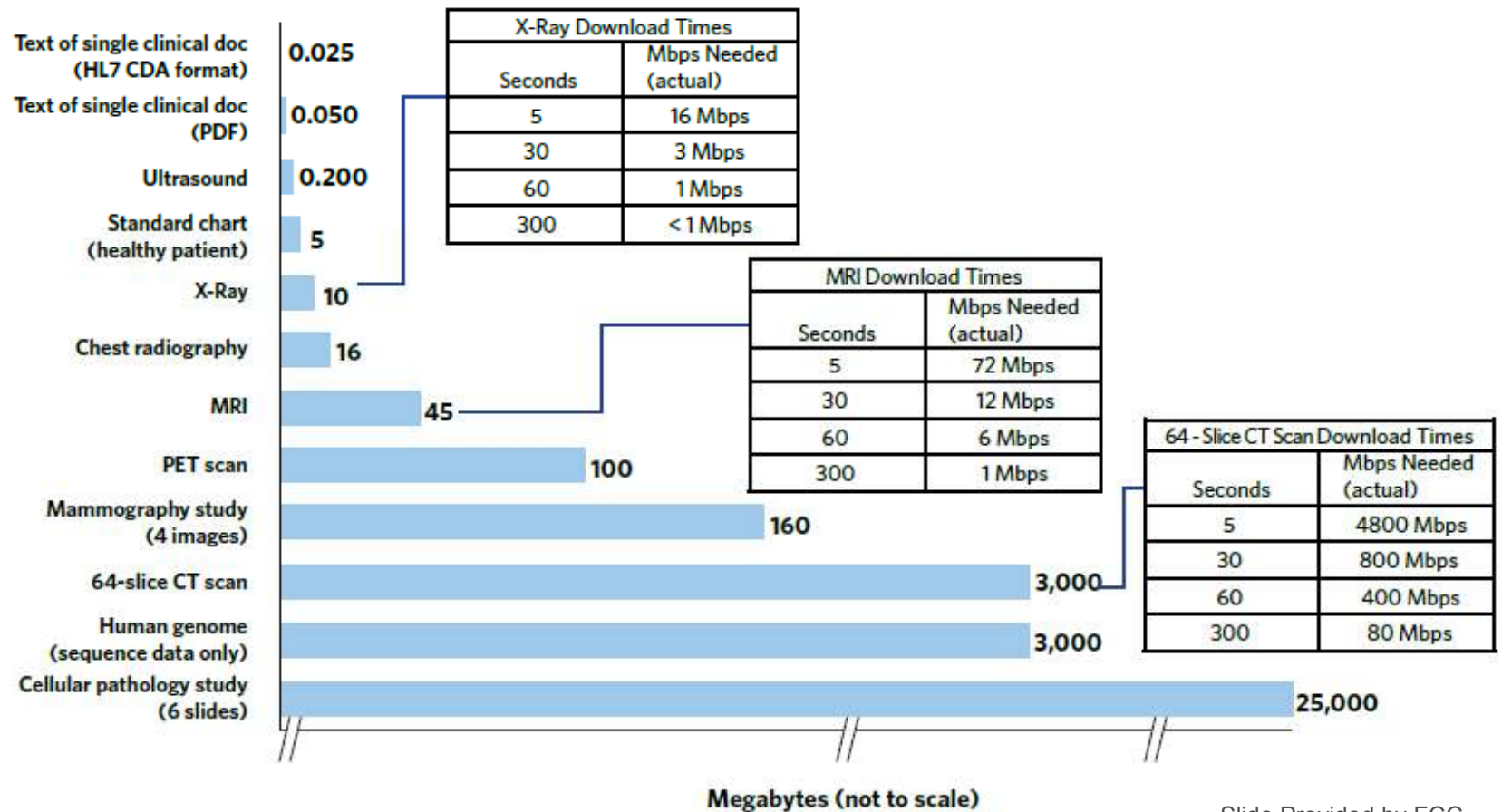


- Connects 3 rural Eastern Shore medical centers with UMMC and TOC
- Planned to expand to most UMMS facilities
- Collaboration of 4 Cooperative Members
- Extraordinary Speed and Throughput Capability

Telemedicine is About Speed



| Basic email + Web browsing | Text-only EHR | Remote Monitoring | SD Video Conferencing | HD Video Conferencing | Image Transfer (PACS) |
|----------------------------|---------------|-------------------|-----------------------|-----------------------|-----------------------|
| 1.0 | 0.025 | 0.5 | 2.0 | >10 | 100 |



Speed Needs by Delivery Setting



| Delivery Setting | Use Profile | Key Assumptions | (Mbps) |
|--|--|--|--------|
| Solo Primary Care Practice | <ul style="list-style-type: none"> • Supports practice management functions (billing, scheduling, etc.), email and web browsing • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Enables remote monitoring | <ul style="list-style-type: none"> • Three total users per doctor for EHR and other general web-based activities • Image files (-10MB) should download in less than 30 seconds | ≥ 4 |
| Small Primary Care Practice (2-4 physicians) | <ul style="list-style-type: none"> • Supports practice management functions (billing, scheduling, etc.), email and web browsing • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Enables remote monitoring • Makes possible use of HD video consultations | <ul style="list-style-type: none"> • Three total users per doctor for EHR and other general web-based activities • Two simultaneous high-quality SD video consultations • Image files (-10MB) should download in less than 30 seconds | ≥ 10 |
| Nursing Home | <ul style="list-style-type: none"> • Supports facility management functions, email and web browsing • Enables remote monitoring of resident population • Allows simultaneous use of EHR and high-quality SD video consultations • Enables non real-time image downloads • Makes possible use of HD video consultations | <ul style="list-style-type: none"> • Five simultaneous users of general facility management and web-based activities • Two simultaneous high-quality SD video consultations • Image files (-10MB) should download in less than 30 seconds | ≥ 10 |



Speed Needs by Delivery Setting



| | | | |
|--|--|---|--------------|
| <p>Rural Health Clinic (-5 practitioners)</p> | <ul style="list-style-type: none"> ▪ Supports clinic management functions (billing, scheduling, etc.), email and web browsing ▪ Allows simultaneous use of EHR and high-quality SD video consultations ▪ Enables non real-time image downloads ▪ Enables remote monitoring ▪ Makes possible use of HD video consultations | <ul style="list-style-type: none"> ▪ Three total users per practitioner for EHR and other general web-based activities ▪ Two simultaneous high-quality SD video consultations ▪ Image files (-10MB) should download in less than 30 seconds | <p>≥ 10</p> |
| <p>Clinic / Large Physician Practice (5-25 physicians)</p> | <ul style="list-style-type: none"> ▪ Supports clinic management functions (billing, scheduling, etc.), email and web browsing ▪ Enables real-time image transfer ▪ Allows simultaneous use of EHR and high-quality SD video consultations ▪ Enables remote monitoring ▪ Makes possible use of HD video consultations | <ul style="list-style-type: none"> ▪ Specialty services (e.g., radiology, orthopaedics, dermatology) provided ▪ Three total users per practitioner for EHR and other general web-based activities ▪ Large image files (-20MB) should transfer in less than 10 seconds ▪ Five simultaneous high-quality SD video consultations | <p>≥ 25</p> |
| <p>Hospital</p> | <ul style="list-style-type: none"> ▪ Supports hospital management functions (billing, scheduling, etc.), email and web browsing ▪ Enables real-time image transfer ▪ Allows simultaneous use of EHR and high-quality SD video consultations ▪ Enables continuous remote monitoring ▪ Makes possible use of HD video consultations | <ul style="list-style-type: none"> ▪ PACS in place for real-time diagnostic imaging ▪ Very large image files (-50MB) should transfer in less than 5 seconds ▪ Multiple simultaneous high-quality SD video consultations | <p>≥ 100</p> |



What Can MdBC Do?



- Wholesale lit backbone services to ISPs and Enterprise customers
 - **50 Mg to 1G to 10G waves**
- Dark Fiber Leases under special circumstances
- If you are a non-governmental entity:
 - **MdBC member ISPs may compete to provide you service off our backbone**
 - **If you have Enterprise needs, MdBC may coordinate that for you directly**
- If you are a governmental entity:
 - **We will help you coordinate with networkMaryland**

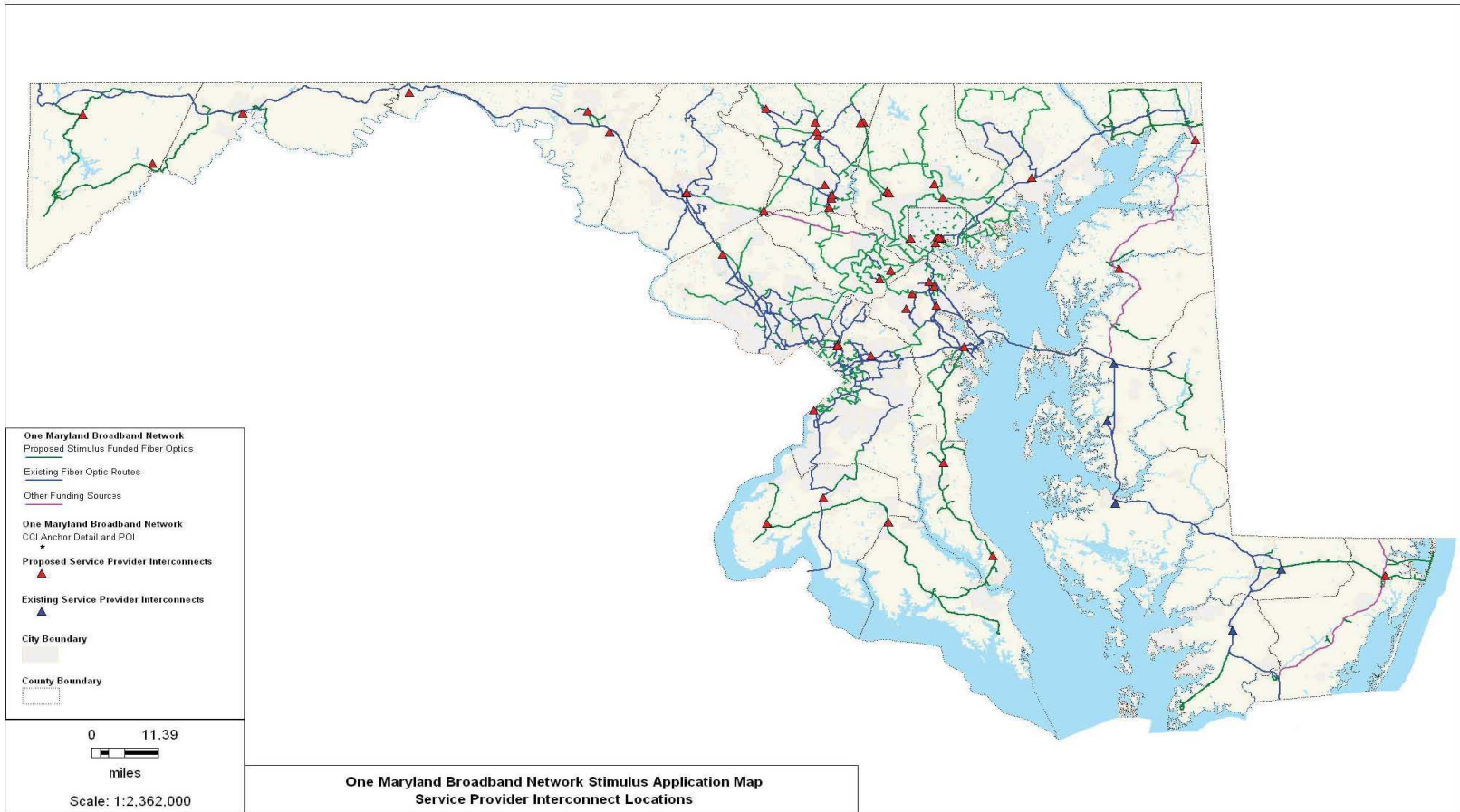


Where Can MdBC Help?



- There are places we can serve today with our existing network and through member partnership.
- Extraordinary service area expansion in 12-18 months. Upon approval of the OMBN Environmental Assessment (Maryland's \$115M ARRA Award), MdBC will be able to offer service along significant portions of the State's broadband network.
- New backbone builds funded by the ARRA grant will make MdBC's service delivery footprint almost ubiquitous in the 15 rural counties of Maryland. New backbone builds must be completed by Sep 1, 2013.

One MD Network Map





Questions and Answers



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