



OPENCape

Creating Regional Broadband Opportunities

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June 5, 2009

Subject: OpenCape Request for Information Question Responses

The OpenCape Corporation is seeking to secure partnerships with qualified network service providers, right-of-way contributors, and other relevant providers to assist in our efforts to obtain funding from the National Telecommunications and Information Administration (NTIA) for the construction of a next-generation broadband infrastructure for Cape Cod and Southeastern Massachusetts.

The OpenCape Corporation has assembled all questions from vendors in response to its RFI of May 15, 2009. The consolidated questions from all inquiries, and answers are attached.

Project Timeline – *all dates are subject to change at OpenCape's discretion*

- **May 15, 2009** – RFI released
- **May 29, 2009** – Closing date for RFI inquiries
- **May 29, 2009** – Submit Intention to Respond to info@opencape.com
- **June 5, 2009** – RFI inquiry responses provided by OpenCape
- **June 19, 2009** – All RFI submissions due
- **May - June, 2009** – Vendor meetings scheduled

Sincerely,

Daniel J. Gallagher
President and Chairman

REQUEST FOR INFORMATION

Vendor Question Responses

Network Service Provider Information and Input on Participation in a Public-Private Partnership Supporting OpenCape Corporation's ARRA Application

There is a common theme in many of the questions submitted to OpenCape with regard to this RFI. Most relate to markets and projected revenues. Below is a narrative description of the market as perceived by the OpenCape Corporation based on its analysis. This description may aid RFI respondents, but respondents should conduct their own market analysis and not rely on these projections and estimates alone.

Many vertical segments and their needs have been identified as a result of OpenCape's ongoing discussion with working and advisory groups from numerous business sectors. These relationships have helped shape the design and implementation of the network, ensuring the outcome will have long term viability and matches the region's growing needs. Some of these groups include:

- 1) Municipalities, which are demanding wide area networks and increased symmetrical bandwidth for daily operational needs, as well as requiring connectivity to provide expected services to residents.
- 2) The development of Municipal Area Networks provides for the opportunity for Towns to join together with Barnstable County for the provision of shared regional services such as GIS, Permit Management, Assessing Department data services, Municipal Accounting services, secure online backup, VOIP and the opportunity to further develop the concept of a Regional Area Network for government.
- 3) Public safety organizations, whose needs - especially in this hurricane and storm vulnerable coastal region - continue to escalate with the request that data capacity pair with emergency voice channels for local and regional public safety entities. This includes the necessity to provide data services to Police on patrol in those areas which today do not have a mobility network available for those services.
- 4) The regional emergency medical network has needs to provide parametric data on patient care to the various health care facilities while en-route with patients. Services which were widely available on mobility networks in the mid '70's are still not available in places such as the Outer Cape where even an emergency trip to the hospital is at least 1 hour.
- 5) Regional fire services need the ability to know a variety of information about the ownership, contents or inhabitants of a structure while en-route or on scene, which today is not available due to the lack of an available mobility network.
- 6) Homeland security entities at the former Otis Air Force Base, which have an existing and growing unmet need for greater bandwidth.
- 7) Educational organizations, which lack access to Internet2, which is widely used in other regions to provide students with real time links to science and research. Distance learning potential is currently constrained by lack of bandwidth capacity.
- 8) Nonprofits – more than 1,300 of them – which form a substantial sector that requires affordable connectivity in order to compete and deliver services.
- 9) The growing health care segment, which is driven by mandated electronic medical records and, in this rural region, the need for remote diagnostics and real time connections to urban medical centers in order to deliver quality care. In addition, disaster planning and service delivery are constrained by a lack of sufficient capacity.
- 10) The senior sector, a vertical market that is rapidly growing in the region and represents a significant portion of the Cape's residential households. In addition to personal use, another need within this sector is infrastructure support for remote health monitoring and remote healthcare access.
- 11) A large proportion of the Capes properties are described as second homes. Recently released reports indicate that a large proportion of these second home owners intend to retire to the Cape at the end of their work career bringing with them an expectation of Broadband services equal to are better than the services they had at their first home.

- 12) On the Outer Cape in particular in some communities as much as 40% of the population have no access to broadband whatsoever. This market, which in most cases represents residents with adequate disposable income to purchase such services represents a significant end-user market opportunity in underserved communities with properties which lie 'beyond the last mile' of providers physical plant.
- 13) The research sector, which requires access to state-of-the-art network capabilities not available from commercial providers, as well as redundancy. The National Science Foundation (NSF) mandates connectivity parameters for certain grant programs and the Cape's world class oceans and climate research institutions are at a competitive disadvantage due to our current bandwidth constraints and lack of physically independent network paths off of the Cape.
- 14) Emerging businesses in the innovation sector – from software, to environmental technology, to sustainable energy ventures – which are unable to scale up their businesses in this region, in large part due to bandwidth constraints and as a consequence, as they grow they and the jobs they create leave the region. This is a flow that needs to be reversed for the long-term economic health of the area.
- 15) The micro and small business category, which forms the bulk of the region's ongoing businesses. There were over 31,000 businesses in Barnstable County in 2002 generating \$11.5B in receipts according to the U.S. Census Bureau.
- 16) The self employed or those working remotely for innovation industry employers, who form a large but hidden economic sector in the region. Non-wage data indicates the existence of 75,000 sole proprietorships or individual contributors, clustered in the knowledge and creative worker categories. In all these cases, the ability to telecommute, to transmit large data files to remote clients, and to effectively conduct digital business is essential.
- 17) The tourism sector, which requires online competition and visitors expect a certain level of data services. This is especially pronounced in the high end tourism market.
- 18) Traditional fisheries and aquaculture, which require mobile connectivity and two-way access to research and market data sources.
- 19) The regions libraries are today connected by an antiquated and expensive network of dedicated phone lines to provide inter-library borrowing programs. The regional library system has expressed a critical need to bring their infrastructure up to the level expected of a modern day library system.
- 20) Commercial and public radio stations have a need to increase coverage and bandwidth to transmitters in support of their requirements to provide public information during emergencies as well as their desire to provide emergency technology capabilities such as HD Radio.

The Operator of both the network and the data center have a number of opportunities, which lie first in satisfying existing needs and second in growing latent demand for connectivity products and services. It is anticipated that the Operator will anchor itself by securing a core customer base in the enterprise, government and non-profit consortia markets, and that its long term growth will most likely come from securing the cellular backhaul market as well as from new access markets.

The untapped cellular backhaul market is a potential growth segment with both current unmet needs and future expansion. Nine organizations hold sets of licensed frequencies for the Cape region and the market is estimated to be \$21.9 million in 2013 through the deployment of advanced mobile broadband technologies. These emerging applications will require 75 Mbps or more per site, a five-fold increase over current bandwidth use -- and current regional networks on Cape Cod cannot support the intense bandwidth requirements. Seasonally from April through November, local cellsites are often overwhelmed with travel related user traffic. This demand will only increase as Cell providers continue to sell more bandwidth intensive services. Gaming, mobile video, and increasingly bandwidth-rich mobile applications continue to drive the demand for capacity.

Columbia Telecommunications Corporation (CTC), in a report produced for OpenCape Corporation, recommended that OpenCape look at three products to address this market need: dark fiber, which would enable the wireless provider to manage its own capacity and quality; wavelengths, which

would also conserve the use of OpenCape fiber, and Ethernet, which would allow wireless providers to connect multiple cell sites to a central switch solution.

Another growth market is the access market. Last mile providers, such as commercial Internet Service Providers (ISPs), require backhaul capacity in order to offer competitive end user products to both business and residential markets.

The Access Entities have a number of opportunities in the unserved and underserved residential and business markets. A year round market of 250,000, that doubles over the summer with seasonal residents, plus more than 30,000 small businesses that are estimated to be growing by about 10% per year offer a variety of possibilities.

As previously noted, there are currently limited options for broadband business services, especially for businesses requiring true symmetrical service and fast upstream speeds. Residential services are mixed, with pockets of no service, many areas with only one option, and an overall level of offerings that underperform that which is found in a metro area.

The OpenCape network creates opportunities for new access providers, including ones that address specific niche needs, as well as providing new capacity for incumbents to offer extended services.

SPECIFIC VENDOR QUESTIONS RE THE RFI

Q1. What is the estimated or projected gross revenue for the first year of operation of the Open Cape network?

A1. Projections of gross revenues by OpenCape Corporation are estimates, based on its market analysis. By nature, this type of analysis is subjective. All potential partners responding to this RFI should conduct their own analysis of market to project potential revenues to be generated by the Operator. OpenCape estimates of gross operating revenues for the Operator are approximately \$350,000 - \$500,000 in the first year of operation. Again, RFI respondents should not rely on this information, but should conduct their own market analysis for decision-making.

Q2. What is the estimated or projected number of customers who are expected to sign up for service on the Open Cape network on the first day of operation?

A2. Some of the existing and emerging anchor tenants with unmet needs in the enterprise market include the following. OpenCape can make no commitment on behalf of these institutions that they will contract for services in the first day of operation:

- The research organizations clustered primarily around Woods Hole, which have a large and growing need for greater bandwidth capacity.
- The emerging Plymouth Rock movie studio, whose employees and contractors will be creating and sharing large video, graphic, and data files both regionally and globally.
- The health care industry including Cape Cod Health Care, Partners Health Care, Outer Cape Health Care and several community-based rural providers all of whom have needs around disaster and backup

planning, remote diagnostics and the real time transfer of video and large data files, and site to site sharing of electronic medical records.

- The homeland security entities on the former Otis Air Force Base have an existing unmet need for greater bandwidth and redundancy.
- Emergency service and municipal entities requiring backup capacity or data-specific services in both fixed and mobile locations.
- Commercial, institutional and consumer customers seeking broadband services in unserved areas ‘beyond the last mile’, underserved areas where service is not adequate to the need and customers who are not satisfied with the services provided by their current provider and are actively seeking a better solution.

Some of the existing and emerging anchor tenant with unmet needs in the government and nonprofit sector include:

- Regional and local government entities which require bandwidth to service WANs and regional applications.
- School districts and educational collaboratives.
- The post-secondary schools, including Cape Cod Community College and the Massachusetts Maritime Academy, whose needs include distance learning and support for a large number of data consuming users. Cape Cod Community College, for example, currently spends approximately \$70,000 per year for Internet bandwidth, and only minimally meets its needs.
- Non-profit consortia such as the Cape Libraries Automated Materials (CLAMS) network.

Q3. Would all customers on the Open Cape network be paying for the service, or would some customers be entitled to free service?

A3. The final agreement for the licensed right to operate the network and collocation center will contain consideration in both financial and service forms. Most customers will pay for service. However, some forms of in-kind service are likely. For example, the Operator may be required to create, operate and maintain a regional wide area network that connects the 15 town governments on Cape Cod and the two islands from one location within the town to the collocation center. Also, water districts and municipalities may contribute access to water and communication towers for placement of microwave antennas and radios in exchange for some bandwidth. None of these arrangements are final.

Q4. Would all customers be required to take so-called “lit services,” or would some customers run their own network (i.e. take only “dark fiber” capacity from Open Cape)?

A4. The operator will be licensed to provide lit services and to lease dark fiber. However, there will be restrictions on the leasing of dark fiber quantities in a given segment to prevent monopolization of the resource.

Q5. Does the projected cost/revenue reflect additional costs (such as, for example, upfront and recurring charges for lateral connections) required to connect individual customer addresses to the fiber backbone?

A5. The construction costs include laterals to nodes for the backhaul network, and laterals to a handful of regional emergency shelters. In many cases, the proposed network will pass many of the envisioned customers. Laterals into the property of these customers would be additional costs to the Operator. The Operator could then provide the capital cost of constructing the lateral and charge the customer a recurring rate of payment for the service, including the cost of

the lateral. This method may be preferred by some customers, particularly those eligible for ERate.

Q6. Can OpenCape accommodate participant ownership of dedicated strands of fiber on the network (say, 8 fibers out of however many are in the cable sheath to be installed), in lieu of revenue sharing?

A6. A direct exchange of fiber strands for a needed resource, such as right of way or a building, may be acceptable; however, until the final NTIA grant rules are issued OpenCape cannot say this definitively as the grant rules may require the grant recipient to own the physical resource.

Q7. If the answer to Q6) is “no”, can Open Cape accommodate exclusive, indefeasible right to use (“IRU”) arrangements for participants, with respect to a certain number of dedicated fiber strands on the network, in lieu of revenue sharing?

A7. If the NTIA rules prohibit a direct exchange of fiber strands with a contributing partner OpenCape will use an IRU to accomplish its goals.

Q8. In exchange for either Q6, or Q7, and in lieu of cash financial participation, would Open Cape accept “in kind” contribution of any or all of the following: (a) access to utility infrastructure (poles, towers, conduit, etc.) and right-of-way for placement of the Open Cape fiber network; (b) assistance with system design; (c) assistance with system permitting; (d) assistance with system construction; (e) assistance with system maintenance?

A8. OpenCape would be open to in kind contributions such as those suggested in Q8. The details of such arrangements will also be dependent on the final rule making of the NTIA.

Q9. What would the Governance model be for OpenCape to support this long term? As a non Profit how do you envision the operation and management to be handled by the operation prime contractor post construction.

A9. OpenCape Corporation will own the physical assets of the network. The Operator will be licensed to operate a large percentage of the physical network. The Operator will pay OpenCape Corporation a license fee for the right to operate the network that will be sufficient to cover OpenCape’s operating costs and capital replacement objectives. The Operator will also pay OpenCape a portion of its gross revenues. OpenCape will direct revenues in excess of its base operating costs and capital replacement objectives into aiding regional government and non-profit entities to exploit the capabilities of the network. Of course, the amounts and percentages of any agreement are subject to negotiation.

Beyond the monetary consideration for the licensed right to operate the network, the Operator will be free to operate the network and conduct business to its best advantage subject to service level agreements and other negotiated contractual obligations.

Q10. What would be the TAX structure of the Opencape organization in relation to this project?

A10. The OpenCape Corporation is a 501(c)(3) non-profit corporation. As such, it will be operated consistent with its tax exempt purposes.

Q11. Is OSHEAN a member of OpenCape?

A11. OpenCape has no members. It has communicated with and is coordinating its planning with OSHEAN and other regional entities to ensure the greatest possible gain to the entire Southeast Massachusetts region. OpenCape and OSHEAN have expressed their intent to coordinate a common point of intersection of fiber in an as yet undesignated location west of Fall River, MA.

Q12. Do you see multiple contracts being let during the construction phase or all directed via the Prime contractor model? What would be your view of the post construction long term roles of vendors Prime/Subs?

A12. The construction phase will likely use a prime contractor model; however, rule making by the NTIA may impact the model that is selected.

Long term roles are as follows:

Owner. The OpenCape Corporation will own the physical and legal assets of the OpenCape network and ensure that it is run according to its guiding principles.

Builder. OpenCape intends to contract with an experienced and reputable private company to construct the physical network and its components. The Builder will construct and implement the OpenCape network.

Operator. OpenCape intends to license rights to operate the network to an experienced private sector company or companies who will serve as the middle mile and collocation center Operator. The Operator may sell transport services, dark fiber leasing, and regional aggregation.

The Builder and Operator may or may not be the same company; however, they will be treated distinctly through two separate contract agreements if one company is selected as both Builder and Operator.

OpenCape views several potential partnerships. The Builder and Operator will be considered Primary Partners. At least the Operator will participate in the NTIA grant application. There may be additional Contributing Partners who participate through the contribution of a specific asset, such as right of way, in return for a specific capability or service from the constructed OpenCape network.

The Builder and Operator may bring additional subcontracting companies with specific expertise.

The final partnership arrangements will be negotiated.

Q13. How much detailed engineering has been completed?

A13. A network topology design was developed by AccessPlus on behalf of OpenCape Corporation. Microwave line of site analysis has been conducted. General paths for the network have been identified, but the specific paths have not been selected as they are dependent on right of way access and other variables. Detailed engineering will be an early activity either prior to NTIA grant award using Primary Partner in kind contributions, or after NTIA grant award contracted services.

Q14. Where is a description of options considered where and what are they (i.e. fiber vs microwave, aerial vs trenching, boring vs trenching, existing infrastructure?)

A14. A final route selection is largely contingent on negotiating right of way access to appropriate paths (e.g. rail, highway, public utility, and poles). All are under consideration as each offers some specific value. For example, due to the hurricane vulnerability of the region it is preferred to place the core backbone underground or on highly survivable high tension towers. The network will include a microwave and fiber component. The microwave component will be able to operate independently of the fiber network during and after a hurricane.

Options under consideration for fiber paths are as follows:

	Miles	Methods	Strands	Path 1	Path 2	Path 3	Path 4	Path 5
W Fall River to Bourne Bridge S	52	Pole/Buried	288	Route 6	Route 195	Combo		
Bourne Bridge S to Plymouth MBTA	20	Pole/High Tension/Buried	144	Route 6	Route 3	Route 3A	Util RoW	Combo
Plymouth MBTA to Lakeville MBTA	23	Buried/Pole/High Tension	48	Route 44	Util RoW	Combo		
Cumulative	95							

	Miles	Methods	Strands	Path 1	Path 2	Path 3	Path 4	Path 5	Path 6	Path 7
Bourne Bridge S to Falmouth	14	Pole/Buried/High Tension	144	Route 28	Route 28A	Rail RoW	Util RoW	Bike Path	Combo	
Bourne Bridge N to Provincetown	66	Pole/Buried/High Tension	144	Route 6	Rail RoW	Util RoW	Route 6A	Service Road	Bike Path	Combo
Falmouth to Orleans via Rte 28	43	Pole/Buried	92	Route 28						
Rte 28/132 Intersection to Orleans via 132 and 6A	27	Pole/Buried	92	Route 132	Route 6A					
Cumulative	150									

MBTA resources are being considered for further connection from Plymouth and Lakeville to Boston with an ultimate connection point at 1 Summer Street, Boston.

Q15. What is the basis of your cost estimate?

A15. The cost estimates are based on real world experience laying fiber and installing microwave in the region. These estimates are under constant review, and the partner selected will provide further granularity though their experience. Current estimates for the total project are between \$22-25M.

Q16. What are the expected traffic patterns and loads anticipated on the various loops?

A16. It is not possible to predict traffic patterns and loading at this time. Certainly the location and size of several of the entities shown above should provide some guidance (i.e. it is safe to assume Falmouth, Woods Hole, and Hyannis are going to have greater traffic because of their relative size, density, and the location of high bandwidth users such as Woods Hole

Oceanographic Institution, Cape Cod Community College and Cape Cod Hospital. Other traffic patterns and loading will require further analysis.

Q17. Have any other sources of funding been identified such as ERATE funding, Good will/sponsorship (naming rights), DISA, Other Schools? Would you want your vendor(s) to help support this project from inception and for an on-going operational basis with regards to this on-going marketing and funding help?

A17. OpenCape Corporation is pursuing other funding sources, such as granting from the Economic Development Administration (EDA), as well as other federal agencies.

The selected Primary Partners will be expected to contribute to the 20% match requirement of the NTIA along with Contributing Partners. This contribution may take the form of in kind contributions of goods or services. For example, a Contributing Partner may donate a building for use as the Regional Collocation Center by outright gift or a 25 year IRU. This contribution would be valued as part of the match. The Builder may contribute in kind engineering work, etc.

On-going support will be expected from the Operator (A9 is relevant) and we are exploring the role of ERate for library and schools, particularly in light of a probable shift in emphasis by the FCC in this program towards broadband expansion. We are engaging DISA and others, and although we have not at this time looked at naming rights would consider exploring this and all other reasonable options that are within OpenCape's operating principles.

Q18. Do you already have some key constituency and political support for this project?

A18 OpenCape is a **STRONGLY SUPPORTED** grass roots effort **WITH WIDE AND DEEP DEMONSTRATED ORGANIZATIONAL, POLITICAL, AND REGIONAL SUPPORT.**

Barnstable County has identified OpenCape in its Regional Planning Policy and its draft CEDS submission to the EDA as a top priority for regional economic development. The Cape's State legislators have publicly expressed their support for the project and provided unanimous support for the project during the promotion and passage of the 2008 Broadband Bill. Governor Deval Patrick included OpenCape in his Broadband Bill and has committed to seeing the Broadband Bill funded on the Cape during his 'first term'. The Massachusetts Technology Collaborative and its newest arm, the Massachusetts Broadband Institute have granted OpenCape \$150,000 through the John Adams Innovation Institute. The federal legislative delegation is lending its support and aid to OpenCape Corporation in specific and meaningful ways.

Q19. Can we propose to build, operate, and market this network to other carriers, Cape ISPs, other schools. Etc in conjunction with OpenCape?

A19. It is OpenCape's intent that the Operator actively and successfully market this network to other carriers, ISPs, schools, and any and all potential customers and to profit from these activities. Ultimately, it is the private Operator's success that will sustain OpenCape over the long term and validate the government capital investment.

OpenCape Corporation does not intend to be a last mile provider itself, although last mile operators will use the network as a backhaul service. It shall be the Owner of the physical plant and focus its efforts on preserving that asset for the region's benefit, managing relationships, and aiding government and non-profit entities in identifying, funding, and creating applications and services to better serve the region.

The Operator, licensed to operate the network will service last mile access entities with dark fiber, high bandwidth wireless and lit service backhaul, as well as aggregation services at the collocation center. It may also provide last mile ISP services directly.

In addition to core institutional anchor tenants, there are additional market opportunities such as wireless backhaul and a variety of last mile service providers.

There are currently limited options for broadband business services, especially for businesses requiring true symmetrical service and fast upstream speeds. Residential services are mixed, with pockets of no service which in some cases represents as much as 40% of the available customer base, many areas with only one option, and an overall level of offerings that underperform that which is found in a metro area.

The OpenCape network creates opportunities for new access providers, including ones that address specific niche needs, as well as providing new capacity for incumbents to offer extended services.

The Operator will sell services to these entities services. OpenCape encourages and supports the Operator's great success at developing markets, revenue, and profits. OpenCape believes that this is the only way to sustain the network in the long term.

Q20. In the documentation, it is indicated design and analysis has been completed. It is our understanding that no actual design of the fiber optic network has yet been completed, only some possible routes. Is this correct? It is also our understanding the design of the wireless network has been completed. Is this correct?

A20. See A13.

Q21. Is it possible for OpenCape to provide a summary of the core "tenants" or customers that would initially need access to the backbone network for purposes of high bandwidth interconnect to the Boston or Providence POPs?

A21. See A2.

Q22. Does OpenCape believe you should design and price more than one alternative fiber network design, for example a non- redundant, and fully redundant solution for the Cape locations?

A22. Yes. OpenCape intends to identify a preferred network path. However, it must examine alternatives to ensure it can react to any potential failure to gain right of way etc. As a carrier of emergency service traffic the backbone portion of the network must continue to operate under

the most severe conditions and in the event of a mechanical disconnection of the service by an accident.

Q23. Does OpenCape believe you should design and price both aerial and underground fiber network options?

A23. Yes. See A22.

Q24. At this time, what avenues are being pursued for right of way in both aerial and underground environments? Has any right of way been procured at this point, or is any right of way been established through MBI or any other state agency?

A24. OpenCape is communicating directly with appropriate state agencies for right of way access, to include the Executive Office of Transportation for rail and highway, Mass Highways for state highways, Department of Conservation and Recreation for bike trails, and private entities with rights of way that could serve OpenCape's needs. OpenCape is also negotiating licensed access to water towers for microwave placement. Canal crossing options are being pursued with the Army Corps of Engineers with the support of Senators Kennedy and Kerry and Representative Delahunt. OpenCape is also working very closely with the MBI to ensure a coordinated effort to secure right of way access and supports recent legislation (<http://www.massbroadband.org/docs/HD4298.pdf>) introduced by Governor Patrick to enable MBI greater flexibility with respect to rights of way and permitting.

Q25. Would any facilities placed in aerial or underground utility be subject in any manner to taxes of any type given OpenCape's organizational structure?

A25. This question is under internal legal review to determine if OpenCape, as a tax exempt 501(c)(3) non-profit, would be exempt from any excise taxes on its physical assets. It is believed so, but unconfirmed at this time.

Q26. Does OpenCape have any specific location identified for the potential data center?

A26. OpenCape has selected Barnstable in the generally area of exit 6 off of Route 6 as a location best suited to all potential Cape users of the colocation center. Other criteria in this selection included elevation, distance from coast, etc. OpenCape is currently discussing a well suited building owned by Barnstable County. This building is on high ground and is highly reinforced to aid withstanding a hurricane. It has an existing 500Kva service with looped dual source power, and access to a communications tower.

Q27. Has OpenCape determined the costs of oversight of the network by OpenCape for administrative costs, or other operational costs?

A27. OpenCape has prepared a detailed business plan and financials. It is not prepared to discuss these costs openly at this time as they will be subject to some negotiation with potential partners.

Q28. Has OpenCape determined any type of budget for re-capitalization of the network(s) for fiber and wireless over time?

A28. OpenCape has estimated the cost of re-capitalization at \$10M over 25 years. OpenCape intends to devote a set percentage of revenue into a sinking fund specifically dedicated to re-capitalization of the system over time.

Q29. Has OpenCape identified any physical points of interconnection from any municipal networks in the towns of Cape Cod? If so, are the locations available for design purposes assuming access in some manner to the respective towns will be part of the overall design?

A29. Physical points of interconnection to municipal networks have not yet been established formally; however, there are many that will be determined by other considerations. For example, we have several instances where a water tower and a regional emergency evacuation center are collocated. In these cases a node will be built at the water tower and this will represent the interconnection point for the municipal network. Municipalities will be asked for input for a preferred connection point as some communities may have more than one location where they can make a connection. OpenCape has committed to at least one interconnection per town, but the path of the network may create an opportunity to make an additional connection at very low cost.

Q30. What will be the process for the RFP assuming OpenCape is awarded the grant?

A30. OpenCape may not use an RFP process if the partner selected is both the Builder and Operator. In this case OpenCape and the Builder/Operator are applying for the grant as partners. In this scenario there may be a need for RFPs for specific contracting of one element of the total network or another. In the case of two different vendors the Operator and OpenCape will apply for the grant as partners. They shall together issue an RFP for the Builder.

Q31. Has OpenCape determined how it would like to be compensated for the licensing of the fiber network?

A31. See A9.

Q32. Has there been any clarification as to the definitions of unserved and underserved areas?

A32. The NTIA has not yet issued its rules. They are expected by June 30, 2009. See original RFI para 1.5 for OpenCape position on these definitions. On a more conceptual basis, vendors should know that OpenCape has a vision for the region in 2015 that includes the following with relation to broadband:

- Opportunity: 100% Availability of Broadband on the Cape and Islands
- Capacity: 100Mbps Symmetric Service Available to Businesses
- Mobility: Mobility Network that supports bandwidth intensive applications
- Efficiency: Government, education and healthcare Regional Umbrella Services Model
- Survivability: A robust data network and regional collocation center that can survive and quickly recover fully and rapidly from a hurricane or other state of emergency.

Q33. Can OpenCape clarify the requirements, kind, and size of required investment(s), and due dates? What kind of investment would be considered "investment in kind"; does it include manpower, expertise, equipment, facilities, supplies, etc?

A33. See A9 and A17. It is not yet determined that the NTIA will permit in kind contributions for matching requirements. Until final rules are issued this cannot be known. However, we are optimistic that in kind contributions will be permitted.

Q34. Are you seeking construction pricing on the red & purple routes?

A34. Yes.

Q35. What count fibers are you looking to place?

A35. See A14. These are estimated counts at the present time and are subject to change. They are provided to give the sense of our current thinking. A selected partner would contribute to the refinement of this planning.

Q36. Do you want to replace the blue and orange (microwave) links with fiber?

A36. No. The microwave is deliberately intended to provide additional backup to fiber loops in day to day operations, but are largely seen as a potential independent, survivable, and easily restored component of the network in and after a hurricane.

Q37. Do any of these links exist today?

A37. Yes. The link from WHOI to UMass Dartmouth was installed by OpenCape as a proof of concept. It has been running for nearly 2 years using a Motorola PTP 600 radio set.