



INOSS, Inc – Enabling success through Best in Class Practices
www.inoss.net

INTRODUCTION

As a Woman Owned Business who operates in a rural community which has limited and unreliable internet service, I am especially keen to ensure that the \$7.2B in stimulus funds allocated to the improvement of Broadband are spent wisely and efficiently. My company has suffered from the poor economy and taking the necessary steps to provide reliable access to the internet is critical to my business recovery.

INOSS, Inc. was founded in 1998 to deliver solutions and services within the Global Information and Communications Technology (ICT) industry. With extensive experience in Information Movement and Management of next generation networks and services, INOSS has successfully enabled clients to optimize their business processes while improving the quality of their customer service.

INOSS, Inc. is dedicated to enabling companies to reduce operations costs through the use of intelligent technology and enhanced business processes. With extensive experience in project management, in managing the operational processes of global telecommunications providers, and in developing industry best practices, INOSS is uniquely qualified to provide technical expertise in planning and/or administering initiatives associated with the Broadband Technology Opportunities Program (BTOP)

As an expert in the telecommunications and information industry, INOSS is pleased to provide assistance to the National Telecommunications and Information Administration (NTIA) and to the U.S. Department of Agriculture's Rural Utility Services (RUS) specifically in providing comments to the strategically important BTOP Request for Information (RFI).



Libbey Scheible
CEO and Owner
INOSS Inc.

INOSS Inc.
3340 Rauder Rd., Muldoon, Texas 78949
Phone: 830 839-4181, www.inoss.net

Executive Summary

Facilitating economic recovery and growth by improving access to Broadband services is dependent on three critical factors:

1. Definition of Broadband to include an enhanced set of service criteria
2. Broadband Mapping Inventory and Administration
3. Post-Award Compliance and Oversight through neutral third party(s)

Broadband definitions need to be created and standardized to ensure fair and equitable handling of stimulus funding for the general benefit of all Americans. Not all technologies that fall under the generic definition provide the type of high-speed interactive services the President envisions for the general population. Enabling citizens in unserved and underserved areas to have the same advantage as their neighbors who not only have access to the world wide web via instantaneous, interactive internet services, but who can choose from several different providers with price-flexible packages is imperative to returning the United States to a leadership role of producing manufactured goods, agricultural products, and technological innovation.

Currently, the FCC defines broadband as equal to or greater than speeds of 768kbs. Yet, 768k is not adequate for transmission of reasonable quality video which limits the capability to deliver basic internet services (data, video, voice and online commerce). Slow speeds will severely jeopardizing the possibility of delivering educational or medical services to remote areas and impede sustainable adoption. The minimum should be set at 2Mbs for stationary downloads, agnostic to the access technology used.

Another critical service parameter for Broadband is latency. Satellite service is sufficient for e-mail, and limited web browsing, however, satellite is inadequate for many other applications. It takes about a quarter of a second to bounce information off a geo-synchronous satellite, which makes satellite service inherently deficient for interactive service, such as voice over IP (VOIP), or videoconferencing. Because of the cost, satellite capacity is also typically severely limited in the upstream, which can be a problem for those who produce and share as well as consume content. Thus, while satellite service is important, it should not be seen as the equivalent of today's cable, DSL, or fixed wireless broadband services. It is recommended that in addition to a minimum speed of 2Mbs, there be a minimum latency from user to Internet backbone of 20 ms¹.

An inventory of broadband mapping for unserved / underserved areas by state and by county needs to be created utilizing the above mentioned Broadband definition. This inventory should be created and administered by a neutral third party working in conjunction with existing Broadband providers. The resulting mapping database should

allow for rapid and transparent identification and should be able to roll up to a national view. Quarterly updates should be maintained and reported to the oversight process.

For ubiquitous Broadband service to be achieved and to ensure fair and equitable handling of stimulus funding for the general benefit of all Americans, Post-Award Compliance and Oversight should be administered through neutral third party(s). Given the national scope of this endeavor, it is recommended that regional territories be identified and a neutral third party / entity be assigned the responsibility for compliance and oversight in each region. Regional reports should be provided and made public via the internet.

Table of Contents

INTRODUCTION	1
Executive Summary	2
National Telecommunications and Information Administration (NTIA)	5
1. The Purposes of the Grant Program:.....	5
2. The Role of the States	5
4. Establishing Selection Criteria	6
5. Grant mechanics.....	7
6. Grants for Expanding Public	7
7. Grants for Innovative Programs	7
8. Broadband Mapping	8
10. Timely Completion	9
11. Reporting and De-obligation	9
12. Coordination with USDA's.....	10
13. How terms should be defined	10
14. Measuring the Success	12
15. Additional Comments.....	12
Agriculture's Rural Utility Services (RUS)	12
1. What are the most effective ways	12
2. In what ways can RUS and NTIA best align	13
3. How should RUS evaluate	13
4. In further evaluating projects.....	14
5. What benchmarks should RUS use	14

National Telecommunications and Information Administration (NTIA)

1. The Purposes of the Grant Program:

a. Should a certain percentage of grant funds be apportioned to each category?

Response: YES, with the items (1), (2), (5) as stated in Recovery Act Section 6001(b) receiving a larger portion of the funding allocation since these are associated with the providing the enabling infrastructure, whereas items (3) and (4) as stated in Recovery Act Section 6001(b) are dependent on basic infrastructure being in place.

b. Should applicants be encouraged to address more than one purpose?

Response: YES, but this should not be a limiting factor for receiving a grant.

c. How should the BTOP leverage or respond to the other broadband-related portions of the Recovery Act, including the United States Department of Agriculture (USDA) grants and loans program as well as the portions of the Recovery Act that address smart grids, health information technology, education, and transportation infrastructure?

Response: There should be cross-agency coordination with regular updates and BTOP should have the flexibility to respond or not. Checks and balances should be in place to ensure the funds are applied correctly, and do not overlap with similar funding and grants from other governmental agencies.

2. The Role of the States:

a. How should the grant program consider State priorities in awarding grants?

Response: Priorities should be allocated based on the greater percent of unserved population, percent of underserved population, and the percent of rural population within a state.

b. What is the appropriate role for States in selecting projects for funding?

Response: States are in the best position to address local needs, thus NTIA and a designated State Board consisting of experts from local leaders in the business community and leaders from the impacted unserved and underserved communities should work together. States should be encouraged to take a leadership role in defining their broadband needs and assessing the impact to their own economic development.

d. How should NTIA ensure that projects proposed by States are well-executed and produce worthwhile and measurable results?

Response: Accountability and transparency is vital to enabling successful measurements. Standard goals with measurable milestones should be created by NTIA. The State Board (mentioned in section b above) should manage the execution of state level projects and provide regular status reports on achievements to the NTIA.

4. Establishing Selection Criteria for Grant Awards:

b. *What should the weighting of these criteria be in determining consideration for grant and loan awards?*

Response: Emphasis should be on the unserved and underserved areas to enable all Americans to have access to and benefit from broadband services.

c. *How should the BTOP prioritize proposals that serve underserved or unserved areas? Should the BTOP consider USDA broadband grant awards and loans in establishing these priorities?*

Response: Unserved areas should have top priority. A key criterion for defining which unserved areas will get priority is counties with populations of 100,000 or less. For example using this criterion in the State of Texas would mean 80% of the counties would be eligible for grant awards and loans. The BTOP should coordinate with the USDA using a single view of broadband deployment to the unserved areas.

e. *Should priority be given to proposals that address several purposes, serve several of the populations identified in the Recovery Act, or provide service to different types of areas?*

Response: The Recovery Act is intended to stimulate growth and reduce unemployment. Priorities should be given to the proposals that have the greatest impact and benefit to the public.

g. *Should the fact that different technologies can provide different service characteristics, such as speed and use of dedicated or shared links, be considered given the statute's direction that, to the extent practicable, the purposes of the statute should be promoted in a technologically neutral fashion?*

Response: Yes, strong consideration must be given to the characteristics that define broadband. Broadband is a widely generalized term relative to the deployment technology (refer to http://en.wikipedia.org/wiki/Broadband_Internet_access).

Definitions need to be created and standardized to ensure fair and equitable handling of stimulus funding for the general benefit of all Americans. Not all technologies that fall under the generic definition enable the type high-speed services the President envisions for the general population.

Currently, the FCC defines broadband as equal to or greater than speeds of 768kbs. Yet, 768k is not adequate for transmission of reasonable quality video which limits the capability to deliver basic internet services (data, video, voice and online commerce). Slow speeds will severely jeopardizing the possibility of delivering educational or medical services to remote areas and impede sustainable adoption. The minimum should be set at 2Mbs for stationary downloads, agnostic to the access technology used.

Another critical service parameter for Broadband is latency. Satellite service is sufficient for e-mail, and limited web browsing, however, satellite is inadequate for many other applications. It takes about a quarter of a second to bounce information off a geosynchronous satellite, which makes satellite service inherently deficient for interactive service, such as voice over IP (VOIP), or videoconferencing. Because of the cost,

satellite capacity is also typically severely limited in the upstream, which can be a problem for those who produce and share as well as consume content. Thus, while satellite service is important, it should not be seen as the equivalent of today's cable, DSL, or fixed wireless broadband services. It is recommended that there be a minimum latency from user to Internet backbone of 20 ms².

h. What role, if any, should retail price play in the grant program?

Response: Care should be used to avoid the stigmas associated with the Universal Service Fund. While there are many political and controversial arguments about the Universal Services Act and its interpretation, there is virtually no argument that telephone service penetration was not affected by this piece of 'implied' regulation. Attempts to constrain or moderate pricing can have a negative impact on regulatory government costs without any benefit to the general consumers. Grant monies must be considered 'seed money' to stimulate the market. Competition drives innovation, reliability and quality.

5. Grant mechanics:

a. What mechanisms for distributing stimulus funds should be used by NTIA and USDA in addition to traditional grant and loan programs?

Response: The states should take a leadership role in improving its economic development. To ensure this is accomplished, NTIA and the USDA should mandate that each state create an oversight board. Each state should create an oversight Board consisting of experts from local leaders in the business community and leaders from the impacted unserved and underserved communities. When selecting the Board members, consideration should be given to candidates from vulnerable populations such as small businesses, minority owned, etc. Business leaders must have experience in planning, designing, and deploying telecommunication and information infrastructure.

6. Grants for Expanding Public Computer Center Capacity:

a. What selection criteria should be applied to ensure the success of this aspect of the program?

Response: Unserved areas should have priority.

b. What additional institutions other than community colleges and public libraries should be considered as eligible recipients under this program?

Response: Senior Citizens areas, Community Centers, Local and state government buildings, Youth Organizations like YMCA, YWCA, Boy Scouts and Girl Scouts, etc. Priority should be unserved areas.

7. Grants for Innovative Programs to Encourage Sustainable Adoption of Broadband Service:

a. What selection criteria should be applied to ensure the success of this program?

Response: Public education programs need to be developed for business owners, service providers, and end users to aid in the understanding behind the endless possibilities associated with using broadband services.

b. What measures should be used to determine whether such innovative programs have succeeded in creating sustainable adoption of broadband services?

Response: NTIA and the states should measure against the types of education programs that are awarded. Grant recipients must measure the number of training classes conducted and the number of students attending the courses.

8. Broadband Mapping:

a. What uses should such a map be capable of serving?

Response: A map is needed to track progress of Broadband deployments. A national, holistic view will allow priorities to be placed on unserved and underserved areas and will serve as a visual progress report to the general public. Simply put, a map would be a picture of where Broadband stimulus funds are needed and where the funds have distributed.

b. What specific information should the broadband map contain, and should the map provide different types of information to different users (e.g., consumers versus governmental entities)?

Response: Type of broadband (speed and interactive feature capabilities); percentage of the population with access to Broadband; community access facilities; name of Broadband service providers in the service area.

c. At what level of geographic or other granularity should the broadband map provide information on broadband service?

Response: At a minimum, granularity should be at the zip-code level. However, a finer level of granularity can be done depending on the technical capability of the state reporting.

f. Specifically what information should states collect as conditions of receiving statewide inventory grants?

Response: Rural or underdeveloped population percentages, percent of broadband areas served, percent of unemployment.

g. What technical specifications should be required of state grantees to ensure that statewide inventory maps can be efficiently rolled up into a searchable national broadband database to be made available on NTIA's website no later than February 2011?

Response: Before grants can be effectively awarded, a statewide inventory of unserved and underserved areas MUST be available. Creating a baseline is critical to measuring the success of broadband deployment, as well as identifying priorities for broadband grants and loans. A better date for State maps would be December 31, 2009.

State grantees must utilize software applications capable of electronic data sharing (HTML, Java, C++, Visual Basic, etc.) that allows for mapping as well as exporting to Excel and other reporting mechanisms. Smart implementation of IT to eliminate paper and provide real-time, or near-real time data sharing, can reduce costs and improve

information sharing. With faster access to more accurate data, accountability can be determined for making better informed decisions when it comes to grants. Strong consideration should be given to 1) Data access via any internet-enabled device, 2) Ability to collaborate and share, 3) High Encryption (256-bit), 4) Simple software tools for managing.

h. Should other conditions attach to statewide inventory grants?

Response: Priority should be given to small businesses located in the target population areas that provide jobs to unemployed workers.

i. What information, other than statewide inventory information, that should populate the comprehensive nationwide map?

Response: An overall USA map that is accessible to the public showing current, in-progress and planned broadband development areas, including access types and general characteristics (speed/latency) and the number of providers serving the area.

10. Timely Completion of Proposals:

a. What is the most efficient, effective, and fair way to carry out the requirement that the BTOP be established expeditiously and that awards be made before the end of fiscal year 2010?

Response: Establish BTOP guidelines by June 1, 2009, create a simplified online grant application, and institute a streamlined, simplified grant award process. The availability of the national broadband deployment maps need to be a high priority for 2009.

b. What elements should be included in the application to ensure the projects can be completed within two (2) years (e.g., timelines, milestones, letters of agreement with partners)?

Response: Accountability – grantee should state deployment timelines and milestones and there should be a clause stating that if more than x number of the milestones are missed, the grantee loses the funding.

11. Reporting and De-obligation:

a. How should NTIA define wasteful or fraudulent spending for purposes of the grant program?

Response: Deployment timelines and milestones should meet BTOP service criteria such as x% reduction in unserved and/or underserved areas by x timeframe, x% reduction in unemployment by x timeframe, etc.

b. How should NTIA determine that performance is at an “insufficient level?”

Response: By tracking deployment timelines and milestones and taking action when dates are missed.

c. If such spending is detected, what actions should NTIA take to ensure effective use of investments made and remaining funding?

Response: Give consideration to companies that did not receive funding. NTIA must be able to remove funding from grantees for not meeting milestones.

12. Coordination with USDA's Broadband Grant Program:

a. *What specific programmatic elements should both agencies adopt to ensure that grant funds are utilized in the most effective and efficient manner?*

Response: RUS and NTIA should use same map for selecting unserved and underserved areas and for tracking progress of Broadband deployment.

b. *In cases where proposals encompass both rural and non-rural areas, what programmatic elements should the agencies establish to ensure that worthy projects are funded by one or both programs in the most cost effective manner without unjustly enriching the applicant(s)?*

Response: Grants should be awarded separately for rural and non-rural areas.

13. How terms set out in the relevant sections of the Recovery Act should be defined:

a. *For purposes of the BTOP, how should NTIA, in consultation with the FCC, define the terms "unserved area" and "underserved area?"*

Response: Unserved area is an area where Broadband service as defined in paragraph b. (below) is not available to either residential and/or business entities. Underserved area is an area that has access to the internet but the Broadband capability does not meet the definition in paragraph b. (below).

b. *How should the BTOP define "broadband service?"*

Response: Broadband should be defined as having a minimum speed of 2Mbps for stationary downloads, agnostic to the access technology used and there should be a minimum latency from user to Internet backbone of 20ms.

(1) Should the BTOP establish threshold transmission speeds for purposes of analyzing whether an area is "unserved" or "underserved" and prioritizing grant awards? Should thresholds be rigid or flexible?

Response: Yes, thresholds should be rigid and speed should increase over time.

(2) Should the BTOP establish different threshold speeds for different technology platforms?

Response: The minimum speed should be 2Mbps for stationary downloads and there should be a minimum latency from user to Internet backbone of 20 ms agnostic to the access technology.

(3) What should any such threshold speed(s) be, and how should they be measured and evaluated (e.g., advertised speed, average speed, typical speed, maximum speed)?

Response: The minimum speed should be 2Mbps for stationary downloads and should be provided as compliance reports to the FCC.

(4) Should the threshold speeds be symmetrical or asymmetrical?

Response: Depends on technology chosen.

(5) How should the BTOP consider the impacts of the use of shared facilities by service providers and of network congestion?

Response: BTOP should receive reports provided by FCC regarding network congestion and impact to customers which are produced by the industry.

c. How should the BTOP define the nondiscrimination and network interconnection obligations that will be contractual conditions of grants awarded under Section 6001?

(1) In defining nondiscrimination obligations, what elements of network management techniques to be used by grantees, if any, should be described and permitted as a condition of any grant?

Response: BTOP should utilize already existing industry standards.

(2) Should the network interconnection obligation be based on existing statutory schemes? If not, what should the interconnection obligation be?

Response: A review of those schemes should be warranted, if not up to date then yes.

(3) Should there be different nondiscrimination and network interconnection standards for different technology platforms?

Response: Yes under current conditions.

(4) Should failure to abide by whatever obligations are established result in de-obligation of fund awards?

Response: Absolutely.

(5) In the case of infrastructure paid for in whole or part by grant funds, should the obligations extend beyond the life of the grant and attach for the useable life of the infrastructure?

Response: Should go beyond the grant.

d. Are there other terms in this section of the Recovery Act, such as “community anchor institutions,” that NTIA should define to ensure the success of the grant program? If so, what are those terms and how should those terms be defined, given the stated purposes of the Recovery Act?

Response: Rural should be defined as “a municipality with a population less than 20,000 or a county with a population less than 100,000”. Community anchor institution should be defined as a publically available entity with publically available computer facilities. Examples of this would be libraries, public schools, community centers, etc.

e. What role, if any, should retail price play in these definitions?

Response: None

14. Measuring the Success of the BTOP Program

a. *What measurements can be used to determine whether an individual proposal has successfully complied with the statutory obligations and project timelines?*

Response: Monthly or quarterly reports but with independent accountability to prove the grant is being upheld per contract.

b. *Should applicants be required to report on a set of common data elements so that the relative success of individual proposals may be measured? If so, what should those elements be?*

Response: Yes, on monthly basis: number of infrastructure installation starts, % infrastructure installation completions, % of monies utilized, % reduction in unemployment.

15. Please provide comment on any other issues that NTIA should consider in creating BTOP within the confines of the statutory structure established by the Recovery Act.

Response:

1. Accountability should be provided by independent small businesses
2. Priority given to unemployed
3. Use technology manufactured in USA

Agriculture's Rural Utility Services (RUS)

1. What are the most effective ways RUS could offer broadband funds to ensure that rural residents that lack access to broadband will receive it?

Response: Use the same mapping criteria recommended for NTIA. Define a rural area as "a municipality with a population less than 20,000 or a county with a population less than 100,000" and give priority to unserved areas. During the initial phases ensure accountability of grantee to provide such services.

For a number of years, RUS has struggled to find an effective way to use the Agency's current broadband loan program to provide broadband access to rural residents that lack such access. RUS believes that the authority to provide grants as well as loans will give it the tools necessary to achieve that goal. RUS is looking for suggestions as to the best ways to:

a. *bundle loan and grant funding options to ensure such access is provided in the projects funded under the Recovery Act to areas that could not traditionally afford the investment;*

Response: Categorize each of the grants and use cross checks for overlaps that will provide bundling.

b. promote leveraging of Recovery Act funding with private investment that ensures project viability and future sustainability;

Response: Priority should be given to small businesses located in rural areas.

c. ensure that Recovery Funding is targeted to unserved areas that stand to benefit the most from this funding opportunity.

Response: Prioritization should be given to 1.) a municipality with a population less than 20,000 or a county with a population less than 100,000, 2.) health care & emergency service entities, and 3.) small businesses in “unserved” areas.

2. In what ways can RUS and NTIA best align their Recovery Act broadband activities to make the most efficient and effective use of the Recovery Act broadband funds?

Response: Communicate with each other and share all data. Use one consolidated map to identify unserved and underserved areas and to track progress of Broadband deployment. Use same definitions for Broadband, rural, community anchor institutions, etc. and for deployment compliance.

In the Recovery Act, Congress provided funding and authorities to both RUS and the NTIA to expand the development of broadband throughout the country. Taking into account the authorities and limitations provided in the Recovery Act, RUS is looking for suggestions as to how both agencies can conduct their Recovery Act broadband activities so as to foster effective broadband development. For instance:

a) RUS is charged with ensuring that 75 percent of the area is rural and without sufficient access needed for economic development. How should this definition be reconciled with the NTIA definitions of “unserved” and “underserved?”

Response: RUS and NTIA should use same definitions.

b) How should the agencies structure their eligibility requirements and other programmatic elements to ensure that applicants that desire to seek funding from both agencies (i) do not receive duplicate resources and (ii) are not hampered in their ability to apply for funds from both agencies?

Response: There should be a cross check between the two agencies before the grant is awarded.

3. How should RUS evaluate whether a particular level of broadband access and service is needed to facilitate economic development?

Response: One of the criteria for grants should be a reduction in unemployment or growth in small business.

Seventy-five percent of an area to be funded under the Recovery Act must be in an area that USDA determines lacks sufficient “high speed broadband service to facilitate rural economic development.” RUS is seeking suggestions as to the factors it should use to make such determinations.

b) What speeds are needed to facilitate “economic development?” What does “high speed broadband service” mean?

Response: Broadband should be defined as having a minimum speed of 2Mbps for stationary downloads and there should be a minimum latency from user to Internet backbone of 20 ms agnostic to the access technology. This definition should be used to facilitate economic development.

c) What factors should be considered, when creating economic development incentives, in constructing facilities in areas outside the seventy-five percent area that is rural (i.e., within an area that is less than 25 percent rural)?

Response: Funding for areas that are less than 25 percent rural should come from NTIA grants.

4. In further evaluating projects, RUS must consider the priorities listed below. What value should be assigned to those factors in selecting applications?

What additional priorities should be considered by RUS?

Response: Minorities, Small Business and Unemployed located in rural areas.

Priorities have been assigned to projects that will: 1) give end-users a choice of internet service providers,

Response: High priority

2) serve the highest proportion of rural residents that lack access to broadband service,

Response: High priority

3) be projects of current and former RUS borrowers,

Response: Low priority

4) be fully funded and ready to start once they receive funding under the Recovery Act.

Response: High priority

5. What benchmarks should RUS use to determine the success of its Recovery Act broadband activities?

Response: % reduction in unserved areas, % reduction in underserved areas, % growth in economic development, % reduction in unemployment. This should be reported by an independent neutral third party.

The Recovery Act gives RUS new tools to expand the availability of broadband in rural America. RUS is seeking suggestions regarding how it can measure the effectiveness of its funding programs under the Recovery Act. Factors to consider include, but are not limited to:

a. Businesses and residences with “first-time” access

b. Critical facilities provided new and/or improved service:

- i. Educational institutions*
- ii. Healthcare Providers*
- iii. Public service/safety*
- c. Businesses created or saved*
- d. Job retention and/or creation*
- e. Decline in unemployment rates*
- f. State, local, community support*

Response: These are excellent parameters to measure and should all be included.

This response to NTIA and RUS's request for information is provided by INOSS, Inc. The authors may be contacted via email at info@inoss.net.

References:

¹ pg 2, Bringing Broadband to Unserved Communities, Jon M. Peha, Carnegie Mellon University

References:

² pg 6, Bringing Broadband to Unserved Communities, Jon M. Peha, Carnegie Mellon University