Department of Commerce
National Telecommunications and Information Administration

Department of Agriculture

Rural Utility Service

Federal Communications Commission

Joint Request for Information:

American Recovery and	NTIA Docket No. 090309298-9299-01
Reinvestment Act of 2009	FCC GN Docket No. 09-40
Broadband Initiatives	

Comments of Apex CoVantage and Rolka Loube Saltzer Associates

April 13, 2009

1.0 Introduction

Apex CoVantage and Rolka Loube Saltzer Associates (collectively referred to here as "Apex") file these comments in response to the Request for Information ("RFI") released on March 12, 2009 by the National Telecommunications and Information Administration, U.S. Department of Commerce, ("NTIA") and the Rural Utilities Service, U.S. Department of Agriculture, ("RUS").

The focus of these comments is on Section Eight of the RFI, Broadband Mapping. Apex recommends that the mapping initiative should be based on an intelligent database approach. This approach will expand the ability of the agencies (including state agencies) to analyze broadband issues because it will allow each agency to generate multiple maps, where each map would answer a particular policy question. As such the maps would be able to provide insight into not only where there are unserved or underserved areas but also identify the needs of schools, libraries, hospitals and other public building and also to serve as an economic development tool by identifying the needs of businesses. To facilitate a Nationwide roll up of the state maps, Apex recommends that the NTIA specifies a common standard Database Dictionary for the mapping initiative. Moreover, when the database is expanded to include existing infrastructure, each agency can use the mapping output as inputs into grant application analysis. In addition, issues associated with low income and other causes of low broadband penetration can be highlighted. Finally, Apex recommends that it is necessary to verify data obtained from providers. Verification should be conducted through field surveys. The field surveys will collect data on availability by provider and speed tiers, rates and actual speeds in use. The field survey workers can also disseminate information about the broadband access to enhance consumer technology literacy, and to stimulate broadband adoption.

In addition, as an attachment to our comments, Apex is providing the presentation that we made to the NTIA staff on the March 12th 2009. This presentation

- Discusses the need to develop intelligent database driven maps.
- Examines the difficulties encountered with provider supplied data.
- Explains how field validation of provider supplied data is a necessary component of the mapping initiative.
- Proposes a mapping methodology which can be leveraged by the agencies to meet the objectives of the ARRA.

2.0 Broadband Mapping

8a. What uses should such a map be capable of serving?

The broadband map must allow the NTIA, RUS and the FCC to fulfill their obligations specified in Title VI Broadband Technology Opportunities Program of the American Recovery and Reinvestment Act of 2009, and those agencies responsibilities specified in Broadband Data Gathering Act. Moreover, the map should allow state agencies to fulfill their state mandates and to interact with and help the federal agencies fulfill the goals of the two federal acts.

The initial use of the map should be to identify unserved and underserved areas. Because the terms "unserved" and "underserved" have not been defined and may change over time, the map must be based on a flexible and dynamic data base. This approach to mapping would allow the agencies to determine those terms dynamically across a number of options. For example, "unserved" may first be defined as the ability to receive information at a rate of 768 kbps, but within two years, that ability may be increased to 5 mbps.

Second, the map should be able to identify specific user groups. For example, the maps should be able to identify schools, libraries, medical facilities, police and fire stations and institutions of higher learning. For these institutions, the map should be able to determine the available speed tiers, number of providers, and rates for service.

Third, the map should allow the FCC to compare the broadband availability and access in the United States to that of other Organization for Economic Co-Operation and Development (OECD) countries. Therefore, the map should collect information that contains metrics that are similar to the standards used by the OECD.

Fourth, the map should allow consumers to determine what providers are serving their neighborhoods, the speed tiers available and the rates for those services.

Fifth, the map should be used as a tool to evaluate grant applications. As such, the map would support a cost tool by providing the cost tool with estimates of the addition fiber cable or the number and placement of additional wireless towers required to provide service in unserved areas. With that information, the cost tool would develop an approximate cost of providing service to determine if the grant application is within a ball park figure for reasonableness.

Sixth, the map should be a tool to track the construction progress as the recipient organizations extend broadband availability into unserved and underserved areas. Therefore, the map must be able to accept ongoing information from those recipients.

Seventh, the map should be able to track the affordability of broadband access. Thus, it must be able to combine rate information and income information.

Eighth, the map should contain information that assist the providers and potential providers to develop their grant applications. As such, it would provide the size and location of the unserved or underserved areas along with potential routes and cost of reaching Internet back bone providers.

8b. 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)?

Apex recommends that NTIA and RUS recognize that this question requires the specification of the data base that supports the broadband map because the broadband mapping initiative should not produce just one map but it should be able to generate multiple maps based on an intelligent data base. Moreover, because the NTIA will rely on the state agencies to gather the information required for the national map, it is necessary that the NTIA define the minimum requirements of the data base that each state agency collects. To that end Apex suggests that the data base include the following types of information.

First, there should be information at the customer address level that specifies geo-coded location of the customer, the availability of any broadband service at that address, the speed tiers available at the address, identification of the customer by class such as residential, business, school, library, etc.

Second, the type of technology available to serve the customer should be listed, such as fiber to the home, fiber/coaxial cable or wireless.

Third, the customer data base should be linked to provider database. The provider data base should contain information regarding terminal location, wireless towers, wireline and cable service territories and wireless operating areas.

Fourth, political and census data should be linked to the customer and provider data bases. This would allow the agencies to create maps by county or census block. It would also link broadband availability and usage to income, population density and demographic information.

8c. At what level of geographic or other granularity should the broadband map provide information on broadband service?

Apex recommends that the street segment be designated as the basic level of reporting information. Once data is obtained at that level then it would be possible to build up to any Census or political aggregate that the agencies wish to focus on. Moreover, data at the road segment level would provide sufficient data necessary for determining the cost of extending or upgrading service to a specific area.

8d. What other factors should NTIA take into consideration in fulfilling the requirements of the Broadband Data Improvement Act, Pub L. No. 110-385?

Apex recommends that the NTIA consider the fact that it will be necessary to verify the information supplied by broadband service providers. It has been our experience that broadband service providers' data contain some errors and omissions, and that the level of errors appears to increase in rural areas, those areas where it is more likely to be unserved or underserved.

Apex recommends that the NTIA authorize the use of field surveys to validate provider data. These field surveys will collect information on whether a consumer can obtain broadband service, is the consumer currently purchasing a broadband service, and if so, speed tier purchased and the rate for that speed. The person conducting the survey can also provide information to the consumer to help consumers understand broadband technology and alternative rates that may be available to that consumer. The survey would also request the consumer to perform a speed test on his service, to help the consumer understand the service quality he is receiving and to accumulate information about service level availability.

Apex further recommends that the field surveys be conducted using a large number of college students. The use of college students is extremely beneficial for a number of reasons. First, it will provide those students with funds to finance their education. Second, it will provide stimulus funds immediately throughout the nation. Third, because the survey work is not a long term job, college students attempting to obtain short term financial resources match the job requirements.

8f. Specifically what information should states collect as conditions of receiving statewide inventory grants?

In addition to the information recommended in 8b above, states should obtain survey information about actual consumer purchases. This information would include the speed tier purchased and the rate for that speed. If broadband service is available and the consumer is not purchasing that service, then the survey should identify the reason for the lack of purchase, such as the service is not affordable.

8g. 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?

State should be required to maintain the information specified in on our responses to 8b and 8f above in a data base that is compatible with standard GIS software such as ARCinfo or Mapinfo. The fields of the data base should match the fields specified by the NTIA.

3.0 Conclusion

Apex urges the NTIA and RUS to adopt the mapping recommendations set forth in these comments. Apex believes that the adoption of a common National mapping database standard, field survey requirement, broadband availability and use at street level are critical components of a National Broadband Mapping initiative.

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Respectively submitted,

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