Broadband USA Applications Database

Applicant Name: Custom Software, Inc.

Project Title: Custom Software, Inc. dba/M-33 Access

Project Type: Last Mile Remote

_____**Executive Summary**_____

a)Opportunity the proposed system seeks to address: This project includes a network comprised of fiber-to-the-home and fixed wireless throughout seven remote and rural counties that will support the expansion of high speed data service to homes, businesses, and critical service entities in the northeast portion of the lower peninsula of the State of Michigan. This opportunity, through the loan and grant program offered by the Rural Utilities Service will allow us, M-33 Access, to provide access to high speed data service to facilitate economic development in locations currently without access to these types of services today. b)General description of the proposed funded service areas: The proposed project is located in the northeastern part of the Lower Peninsula of Michigan and will pass over 97,824 un-served and under-served remote rural households. The service area is comprised of seven counties, Crawford, Oscoda, Alcona, Roscommon, Ogemaw, Iosco, and Arenac. In these areas there are 72 census recognized townships, 18 recognized census communities, and other very small communities not in the census records, but are nonetheless home to many citizens who want and desire access to the broadband world. c) Number of Households and businesses passed: County Name Households in 2000 Census Businesses in 2002 Economic Census Alcona 10,584 141 Arenac 9,563 275 Crawford 10,042 268 Iosco 20,432 545 Ogemaw 15,404 438 Oscoda 8,690 136 Roscommon 23,109 475 Total: 97,824 2,278 d) Number of community anchor institutions, public safety entities, and critical service organizations passed and/or involved with project: County Name Anchor Institutions Public Safety Critical Service Organizations Alcona Public Library-5 County Sheriff-1 Healthcare Organizations-15 Retail Trade-48 Local Police-4 Includes Hospitals, clinics, Schools-4 Volunteer Fire ambulance service, etc. Arenac Public Library-3 County Sheriff-1 Healthcare Organizations-29 Manufacturing-32 Local Police-6 Includes Hospitals, clinics, Schools-9 Volunteer Fire ambulance service, etc. Crawford Public Library-4 County Sheriff-1 Healthcare Organizations-30 Manufacturing-18 Local Police-1 Includes Hospitals, clinics, Schools-6 Volunteer Fire ambulance service, etc. Iosco Public Library-6 County Sheriff-1 Healthcare Organizations-53 Manufacturing-37 Local Police-5 Includes Hospitals, clinics, Schools-21 Volunteer Fire ambulance service, etc. Ogemaw Public Library-4 County Sheriff-1 Healthcare Organizations-62 Manufacturing-34 Local Police-4 Includes Hospitals, clinics, Schools-9 Volunteer Fire ambulance service, etc. Oscoda Public Library-1 County Sheriff-1 Healthcare Organizations-13 Retail Trade-46 Local Police-1 Includes Hospitals, clinics, Schools-2 Volunteer Fire ambulance service, etc. Roscommon Public Library-4 County Sheriff-1 Healthcare Organizations-52 Retail Trade-145 Local Police-4 Includes Hospitals, clinics, Schools-16 Volunteer Fire ambulance service, etc. e) Proposed services and applications for the proposed funded service areas end users: The fiber-to-the-home (FTTH) customers will each have a 20 Mb level of basic service. Each wireless customer will have access to a base service offering of 2 Mb at

their home plus Voice over Internet Protocol (VOIP). Higher speeds of internet access will be available at a higher cost. f) Approach to addressing the non-discrimination and interconnection obligations: M-33 Access has always had, and will continue to have, an open attitude to not limit service or employment on any discrimination basis. Employees are hired on the basis of their abilities or willingness to be trained. Interconnection opportunities are available as technology allows. Any request that is presented to interconnect will be evaluated and worked if reasonably possible. g) Type of broadband system that will be deployed: Both fixed wireless and fiber-to-the home technologies will be utilized to serve the project area. The wireless network will use unlicensed wireless broadband equipment to deliver broadband services to the seven county service area. Backhaul equipment will consist of 5.8 GHz wireless radios and last mile equipment will be 2.4 GHz or 900 MHz wireless subscriber units. We will use routers and switches to ensure our network is secure and reliable. This broadband network will allow end-user connection speeds up to 100 MB. An access point will be installed on each tower and will allow subscriber units to be installed in residential homes and businesses within 5 to 8 miles of that tower. This solution is scalable to accommodate changing needs, wider geographic areas, larger populations and higher traffic volumes. M-33 ACCESS has been successfully utilizing this equipment for over nine years and has found its performance to be extremely reliable. This project will also build a fiber-to-the-premise network connected via a backbone fiber feeder to deliver services to families, community organizations and businesses. This design will use standard GPON technology (ITU-T G.984) deploying a 32:1 split ratio with a maximum serving distance of 12 Km from the OLT (Optical Line Terminal). This architecture will be configured to accept electronics from any RUS approved vendor such as Occam, Calix, Zhone, Motorola, etc. The delivery access platform of choice will be an advanced broadband system particularly well suited for deployment in rural and underserved areas. The chosen vendor architecture will be a Multi-Service Access platform that supports a wide array of technologies and services and will be deployed to create a deep fiber, high-bandwidth network. Every node will be equipped to provide high speed internet services to both residential and businesses. This network will support VPN services for community organizations such as schools and libraries, clinics and hospitals, public safety organizations, and government offices and public computing centers. h) Qualifications of the applicant that demonstrates the ability to implement and operate a broadband infrastructure, and/or be a sustainable broadband services provider: Custom Software, Inc. dba/M-33 Access is a full-service state-wide Internet service provider that offers dial-up internet, a variety of high-speed wireless services, DSL, broadband and T-1 lines, and voice over Internet protocol (VoIP) phone service. All services are provided at highly competitive rates and supported by an in-house Customer Care Call Center. The wireless network has a series of 50 towers that serve as the backbone of one of the largest wireless grids covering more than 5,000 square miles throughout rural northeast Michigan. A recent news article read, "M-33 Access is a fast-growing, Michigan based company that is revolutionizing how broadband can be delivered to users in an effective cost-efficient manner. I am thrilled with the entrepreneurial spirit behind this company." Governor, Jennifer Granholm. i) Overall infrastructure cost of the broadband system: There are three major components of this application. The first is a fiber to the home deployment that extends through six counties and connects to the statewide network in two locations. The second is the placement of a CATV head-end and telecommunications switch to maximize the service offerings to the residents along the FTTH route. The third is the upgrade of 18 existing wireless tower and the placement of 57 new towers to serve those residents not on the fiber route with

2 Mb data service, which will accommodate VOIP service. The cost to accomplish this is $72,989,059 of which 67% will be a loan and 33% a grant request. j) Overall expected subscriber projections for the project: The anticipated customers along the fiber route based on a 70% take rate of homes and businesses passed are 6,865. Of the remaining homes and businesses not served by the fiber, a very conservative 15% take rate is estimated or 15,053 wireless and VOIP customers over seven counties. Included in the project is the installation of 100 remote cameras to be placed in public safety vehicles to record encounters that affect the residents. The data from these events would be uploaded to their offices for review and storage. In addition, 50 additional cameras would be placed at selected intersections in the 25 census communities to record traffic and motorist information. Local law enforcement agencies herald this technology as a step to meeting the homeland security needs of these counties. k) Number of jobs estimated to be created or saved as a result of the project: In the 2000 census records, unemployment was averaged at 5.8% in the project area. The unemployment rate today has reached as high as 20.2%. Access to the internet would provide the opportunity to increase skill sets for residents to possibly change their careers and it would also be a medium to search for a new job. More and more industries are using the internet to advertise job openings, as well as looking and encouraging individuals with computer experience to apply. Improving quality of life is what technology can offer. Without the availability of the internet, educational enhancement opportunities just aren't there for small rural communities. It is estimated that providing access to the internet would generate 5,000 - 6,000 new opportunities. Home-based businesses would obviously increase as would the need of businesses to increase staff to meet the changing environment that the internet has to offer. The construction effort of this project will add 30-50 employees to the work crews building the network.