CENTRAL COAST/TRI-COUNTY REGIONAL BROADBAND ROUNDTABLE

June 20th, 2008

University Center, California State University, Monterey Bay, Building 29

Seaside, CA

Sponsored by the Community Foundation for Monterey County with the Association of Monterey Bay Area Governments (AMBAG) and California State University, Monterey Bay (CSUMB) on behalf of the California Emerging Technology Fund (CETF)

— AGENDA —

9:30 **Sign In - Refreshments and Conversation**

10:00 **Welcome and Introductions –Purpose of the Meeting: California Emerging Technology Fund (CETF) and Co-Sponsors**

- Sunne Wright McPeak, *President and CEO,* CETF
- Judy Sulsona, *Executive Vice President,* Community Foundation for Monterey County
- Nick Papadakis, *Executive Director,* Association of Monterey Bay Area Governments (AMBAG)
- Gil Gonzales, *CIO,* California State University, Monterey Bay (CSUMB)

10:10 **Overview of CETF and Governor's Broadband Task Force**

- Sunne Wright McPeak

10:30 **Update on Status of Central Coast/Tri-County Region Broadband Activities**

- Nick Papadakis
- Arlene Krebs, *Director,* Wireless Education and Technology Center, CSUMB

10:45 **Facilitated Discussion – Identify the next steps and actions to further the work that has been done in the Region:**

- What are the major gaps in broadband availability and digital literacy?
- What are the targets of opportunity and assets for the application of broadband access and use – including economic and small business development, eHealth and telemedicine, distance learning and workforce development, e-government solutions and services, "green" strategies, community revitalization and emergency services?
- What are the kinds of public policies, plans and ordinances that local governments can adopt to promote broadband infrastructure, deployment and digital inclusion, in general plans, public works, economic development strategies, and other areas?
- What other strategies and actions are needed from regional public and private sector partners to advance broadband infrastructure and applications?
- How can CETF and the State Broadband Taskforce assist the Region?

11:45 **Summary and Next Steps – CETF and Co-Sponsors**

Noon **Adjourn**

Central Coast / Tri-County Regional Roundtable

June 20, 2008

California State University, Monterey Bay

SUMMARY

"To benefit end users in rural areas, we need to look for local partners who can serve as conduits, such as libraries, non-profit organizations and low-income housing projects. It's important to make sure all voices are heard in the planning process."

Judy Sulsona, Executive Vice President
Community Foundation for Monterey County

"Broadband is needed to address the economic divide in the region and promote rural economic vitality, especially for small businesses and their workers. The State has an important role in breaking the divide. It's time to move forward with a new coordinated regional action plan for increasing broadband usage."

Nick Papadakis, Executive Director
Association of Monterey Association of Government

Overview of Region

The Central Coast Region consists of three counties (Monterey, San Benito and Santa Cruz) and eighteen cities covering 5320 square miles with a total population of approximately 750,000. The region covers a wide range of terrain, from coastal areas to inland valleys and remote mountainous areas, with great variation in population density, development patterns and ethnic and cultural diversity. Agriculture, tourism and hospitality services, government, education-related services and research, and construction are major economic sectors. The Association of Monterey Bay Area Governments projects moderate and steady growth for the region, forecasted to add 180,000 new residents and 80,000 jobs by 2036. The region is primarily rural.

According to the Governor's California Broadband Task Force (CBTF), wireline broadband is available to 95% of the households in the Central Coast region.1 However, this definition includes Monterey, San Luis Obispo and Santa Barbara counties; San Benito and Santa Cruz counties are included in the Bay Area. Thus, the true lack of coverage is difficult to assess. Maps illustrating wireline and wireless availability show major gaps in Monterey and San Benito counties, and slower service in many communities. The Appendix indicates that thirty-two communities are unserved in Monterey County, eight in San Benito County, and two in Santa Cruz County (www.calink.ca.gov).

[1] "The State of Connectivity: Building Innovation Through Broadband," Governor' Task Force on Broadband, p. 33, 2008.

The Central Coast region is experiencing a pronounced demographic shift: the percentage of Latino/Hispanic residents grew from approximately 48% of the total population in Monterey and San Benito counties in 2000 to 52% in 2004, and from 27% to 31% in Santa Cruz County. A new survey by the Public Policy Institute of California (PPIC) indicates wide disparities in rates of both computer and Internet use by Latinos compared to Whites, Blacks, and Asians. In addition to Latinos, sharply lower rates of broadband use are evident among older adults, non-college-educated adults, less affluent residents, renters, those with disabilities, and immigrants.[2]

Significant Initiatives in the Central Coast Region

- The Central Coast Broadband Access Project, a collaboration sponsored by AMBAG in 2003, led to A Call to Action: Increasing High-Speed Internet Access and Usage for Regional Economic Development in 2004. Progress has been made in several areas, especially through partnerships and activities undertaken by California State University, Monterey Bay (CSU Monterey Bay), but action is still required on many fronts.
- CSU Monterey Bay is a proactive community partner and technology leader, especially in the areas of education and distance learning, health, public safety, community and municipal networks and connectivity, and application of new technologies. The Office of the CIO, the Wireless Education and Technology Center (WeTEC@CSUMB) and AMBAG convened three leadership forums (2005-2007) with public and private leaders to shape a vision for a "Connected Central Coast." WeTEC organized four annual conferences between 2003 and 2007, with the fifth scheduled for December 2008. WeTEC fosters partnerships with public and private sector entities to deploy wireless broadband technologies in community settings.
- CSU Monterey Bay, the Naval Postgraduate School, and the County of Monterey collaborated with the Corporation for Educational Networks (CENIC) to locate an aggregated network connection for high performance and digital California services for the region. CENIC is the Corp. for Education Network Initiatives in California, a network of educational and research communities leveraged to obtain cost-effective, high-bandwidth networking. CENIC operates CalREN, the California Research and Education Network, connecting most all of the State's K-20 educational institutions. CalREN consists of a fiber-based backbone and circuits leased from common carriers to reach between the backbone and educational entities.
- The County of Monterey assigned a pair of their franchise agreement derived network service to educational organizations. As of today, the Naval Postgraduate School and the Monterey County Office of Education share the County's educational network for research and collaborative projects.
- CSU Monterey Bay, in collaboration with the CSU Chancellor's office, and CENIC developed and installed a diverse fiber network path for services between San Jose, CA and San Luis Obispo. The additional network pairs of fiber may be used for educational purposes and for municipal network traffic. Several paths have been contracted to be available for economic development and research purposes throughout the region including within the City of Salinas and along the Highway 101 corridor.

"CSUMB is connecting with the community through the innovative use of information technology resources. The University is actively engaged with 350 non-profits, local governments, schools and others in 'service learning' which is helping to bridge the digital divide. We are trying to figure out how to engage and connect users across the region and help build the network infrastructure."

Gil Rodriquez, Chief Information Officer
California State University Monterey Bay

[2] "California's Digital Divide," Just the Facts, Public Policy Institute of California, June 2008

- The Naval Postgraduate School (NPS) has upgraded its network to a 10 Gbps backbone, and looks to leverage this with network upgrades in the region to exploit this bandwidth. NPS is connected to the CENIC CalREN backbone. NPS is spearheading High Performance Computing Initiatives that require high bandwidth capabilities with CENIC and its education and research partners. NPS is working on several initiatives, including the creation of a "fiber crescent" around Monterey Bay to connect Santa Cruz to the Monterey Peninsula, and "green data centers."
- U.C. Santa Cruz has several initiatives underway. These include a new fiber optic infrastructure being constructed by CENIC to provide for high-speed access to connect U.C. Santa Cruz to CENIC's backbone network and to CENIC-provided connectivity to the campus' Silicon Valley Center, and some research collaborations with institutions in other parts of the region such as the NPS. The future expansion of the fiber line from U.C. Santa Cruz to the south end of Monterey Bay (the fiber crescent) would facilitate the research and education process.
- The Community Foundation for Monterey County has worked with grantees and partners on projects that bring stakeholders into planning processes for developments such as adult literacy services, low income housing, improving broadband access and a wide range of services for CETF target populations.
- The County of Monterey Strategic Plan includes implementation of broadband as an action item, including how to make broadband accessible for local businesses. They are creating a website with a map to show the availability of broadband to help with business attraction.

"The Naval Postgraduate School is seeking partners and co-investor to build more points of presence on the Monterey Peninsula. We look forward to working with other networking stakeholders in our region to realize a "fiber crescent" around Monterey Bay to connect Santa Cruz to the Monterey Peninsula. This path will create much needed high speed redundancy in the region as well as new economic engines."

Doug Weismann, Collaborative Networking Engineering Manager
Naval Postgraduate School

"U.C. Santa Cruz, the Naval Postgraduate School and others will benefit greatly from the Monterey Bay "fiber crescent," and we are eager to work with our colleagues and collaborators to complete our region's high speed network connections to regional and national backbone networks."

Mary Doyle, Vice Chancellor of Information Technology Services
U.C. Santa Cruz

- AT&T is a major provider of telecommunications services in the region. AT&T has provided funding through its Excelerator technology grants program to bring technology services to underserved communities via nonprofits, and helps to finance networking, infrastructure and technical literacy programs for the K-12 schools. E-Rate (federal) and California Teleconnect (state) funding provides for discounted telecommunications services and internet access for qualified schools, libraries, hospitals and clinics, community organizations, and other nonprofits. These subsidies focus on institutional access to broadband and telephony services.
- Sunesys is a new broadband service provider in the region, with a focus on the design, construction and maintenance of fiber optic networks in underserved communities. CENIC has contracted with Sunesys to implement a 50 mile build connecting the CENIC infrastructure in Sunnyvale to the main campus of U.C. Santa Cruz and two nearby facilities. Sunesys is expanding services throughout Northern California and is interested in participating in regional partnerships to expand the fiber network and increase access and use of broadband throughout the region.

Challenges to Accelerating Broadband Infrastructure and Use

- A coordinated strategy is needed to create networks to cover the region and increase redundancy; connect education and research, telemedicine, e-government, public safety, land use and infrastructure; and ensure digital inclusion. Broadband leadership is critical to advance the strategy.
- The key element is infrastructure and collaborative design engineering; otherwise, it is difficult to share fiber connections with contrary or conflicting acceptable use policies. There are segmented uses of fiber in the region, mainly for education (both by local agencies and through CENIC), which hinders development of comprehensive networks and applications. CENIC is the high-tech backbone for the region but has limitations on the organizations it can serve. It is not a common carrier but rather a private network based on a combination of owned fiber and leased circuits. It is important to make sure the terms and conditions of engagement are correct, especially to have use strategies between the educational organizations, cities, counties, the CENIC network, commercial networks and other private fiber projects.
- There are many gaps in infrastructure throughout the region. It is currently not financially feasible for providers to extend the fiber network to remote rural areas. There is uneven availability of broadband in the northern Salinas Valley, and pockets of underserved communities, particularly on the remote coast in Santa Cruz and Monterey counties, the Santa Cruz Mountains, Big Sur, and the lower Salinas Valley. Some of the older high schools in the Salinas Valley are not connected. Even in cities with broadband access and high usage, some businesses do not have the same level of services as residences, and connectivity is not consistent for residences. Many municipalities are experiencing high levels of usage and are at capacity at facilities such as libraries, and need high-speed connections.
- Municipalities are looking to providers to help build infrastructure. Providers could help by making their "dark fiber" available to the community. Dark fiber is and unlit optical pathway provided to institutional users that furnish the communications equipment to use it. This is distinguished from the preferred business model of the phone companies where a managed service with equipment is provided with the fiber by the carrier. A GIS template could be laid over the region's backbone structure of fiber connections to map assets and rights of way for coordinated connection of schools, hospitals and local governments; and to see where providers could provide increased services.
- A survey of small businesses conducted for the Central Coast Broadband Access Project found that of those with computers, nearly a quarter had a lack of availability to broadband; needs included increased broadband availability and higher speed connections. Latino business owners needed assistance with technical instructions in Spanish to facilitate broadband usage.
- In 2006, California passed a law which allows cable franchisers to apply for a single statewide franchise rather than multiple local franchises. Some municipalities perceive that they have lost leverage to establish beneficial agreements with providers to advocate for comprehensive access for residents and high-speed connections for municipal services. Current contracts with cable companies are expiring and new contracts will be costly.
- Telecommunications is of the highest priority for economic development and disparities in access must be addressed. Medical facilities, businesses and educational institutions should all be connected in the same way. Other business needs: training for workers to use technology, and a toolkit of ordinances and agreements to leverage public control over broadband infrastructure projects.
- Language and cultural barriers (including for increasing indigenous populations) prevent full usage of broadband in the region. It's important to make sure that all voices are heard in the planning process.
- There is a high need for culturally-competent, language fluent staff and consultants with technical skills to provide services for residents.

"CSUMB's technology services focus on digital inclusion for all students; the resources make the teachers better as well. We have an opportunity to create a critical mass of leadership to make broadband a high priority and a reality throughout the region."
Arlene Krebs, Director, Wireless Education and Technology Center
California State University Monterey Bay

- It is easier to obtain initial funding for equipment, but more difficult to obtain sustained funding for design and management of systems.
- Hardware which enables wireless connectivity has worn out (example: Sand City) and needs replacing. The City is quadrupling the number of access points, but the price also has quadrupled, and the City has to pay for the hardware, trenching, poles and technical work. Current budgets and staffing challenges are a problem.

Opportunities for Increasing Broadband Adoption

- Many opportunities were identified with new and expanded partnerships, new investments coming into the region creating networks and connections, and new resources that can be leveraged. They need to be connected in a cohesive region-wide strategy.
- CSU Monterey Bay continues to build and deploy wireless mobility projects to supports its service learning, instructional and community connected projects.
- E- Rate and the California Teleconnect Fund administered through the telecommunications firms can provide more strategic support for the regional strategy.
- NPS is seeking partners and co-investors to build more points of presence on the Monterey Peninsula. Virtualization, "green data centers" and other distributed data center concepts for NPS hinge on a robust high-speed network in the region and beyond, and could benefit both NPS and other government and community stakeholders. Connections to CALREN and other networks are critical for defense, homeland security, research and other initiatives. The "fiber crescent" around Monterey Bay and other efforts will create needed high speed redundancy and can create new economic engines, including green technologies for energy savings.
- NPS received a $2 million grant to establish a Homeland Security Consortium. They are engaging with Monterey County and first responders. This is an opportunity to leverage federal funding and resources to supply broadband for research purposes, security, education institutions and private entities, and to work with providers to connect communities along the Monterey Bay through to the Santa Cruz mountains.
- AT&T is encouraging cities to initiate partnerships. AT&T is focused on a more strategic approach to leverage investments and is developing a new plan.
- Local partners (e.g., libraries, non-profit organizations, low-income housing developments) can act as conduits to gain access to low-income end users; they can organize a group of stakeholders to be part of the planning process. Projects can be potential models for replication.
- U.C. Santa Cruz assets and initiatives should be leveraged for increased community partnerships and building the regional high-speed network. They are eager to work with colleagues and partners to complete the region's high speed network connections to regional and national backbone networks.
- CSUMB continues to expand its outreach and partnerships with communities, users, businesses and providers, learning about new technologies, and its role as key innovator and convener.

Consensus on Priority Strategies and Next Steps

- Roundtable participants agreed that the convening process should continue, to create a regional strategy to develop a high-speed network connecting all parts of the region and beyond. Many users will greatly benefit from the Monterey Bay Fiber Crescent and other connections. Cross-sector dialogues that are regularized, disciplined and recorded are the best way to develop the region's plan and move the talk to action. Roundtable partners committed to reconvene the participants and other key stakeholders to produce the work plan for development and implementation of the strategy through a regional technology collaborative. Next steps include:
- **Convening Process:** The Community Foundation for Monterey County has been proposed as facilitator for the convening process. AT&T committed to provide resources and CETF will provide matching support. NPS's homeland security grant is another possible resource. The convening process will build on existing partner and provider resources and expertise, especially from institutions such as the universities and research institutes, and bring additional partners and leaders into the process from all three counties. The convenings could have three tracks: technology and infrastructure, the policy side with municipalities and state government, and end users.
- **Timeline:** The convening team should develop a work plan with a timeline to develop the regional network plan and targeted actions, outcomes and milestones. The process should work out a leadership structure for the "regional technology collaborative;" a formalized partnership to achieve increased broadband access and usage would be the most productive. Recommendations should be presented to the community in the fall of 2008. Thereafter there should be meetings every 60-90 days to keep the process on track for implementing action steps and reporting on outcomes.
- **Regional Strategy to Complete the Fiber Network:** The convening process should result in the preparation of a coordinated, holistic plan to develop a high-speed network connecting all parts of the region. Priority infrastructure projects were identified: filling the gaps along the Highway 101 corridor, developing the "fiber crescent" along the Monterey Bay and connected to the Silicon Valley, and connecting both through a "fiber ring." The Roundtable participants recommended the development of a new operating paradigm, where partners share investment in and ownership of the fiber network. They should negotiate for shared usage of the fiber lines rather than split or partitioned uses. Every partner laying cable should be working toward the same goal. The strategy should include a multi-year phased approach for filling gaps and bringing additional high speed piping alongside new fiber being installed, to achieve redundancy and serve multiple users. The plan could also identify pilots for both wireline and wireless demonstration projects in underserved areas.
- **GIS Mapping:** As part of the work plan, the convening team could work with providers and partners to develop a GIS map illustrating the fiber backbone and network, including CENIC. While this is proprietary information, partners can map where they know service is provided and where providers can supplement. Costs can be identified. This can help with aggregation of market demand and feasibility assessment.
- **Leveraging CENIC:** The plan should recommend options for more strategic use of the CENIC network already active in the region and for leveraging the installation of new fiber to add more capacity alongside dedicated lines. The convening team should explore the possibility of CSUMB working with local governments as an educational network, to learn about new technologies and applications for e-government and citizen engagement, among other topics. The network could be convened through a partnership with AMBAG and would enhance partnership opportunities between CSUMB and the community/local governments.

- **Leadership Engagement:** The region's leadership must be proactively engaged. Leadership is needed to formalize relationships and commitment to laying fiber, and collaboration in demonstration projects.
- **Local Government Tools:** Municipal participants recommended a more favorable and equitable arrangement for local governments vis a vis telecom providers through a statewide agreement to provide municipal services.
- **Stakeholders and Local Project Planning:** Institutions need to engage local partners that serve end users and involve stakeholders in local project planning processes. The Community Foundation can help identify these partners. Identify possible models for replication.
- **Skills Development:** The partners should work with education and training institutions to help create a pipeline of trained instructors who are multi-lingual and culturally competent, not just technologically proficient, and address needs for employee information technology skills needed by businesses.
- **Toolkit for Model Ordinances and Permit Processes:** CETF is developing a toolkit that will assist local governments to coordinate land use planning and infrastructure investments with installation of broadband infrastructure.

Roundtable Leadership **Participants**

Debby Bradshaw, Management Analyst III, Monterey County Administrative Office
Scott Buller, Regional Account Manager, Sunesys
Mary Claypool, Executive Director, Monterey Business Council
Marty Demare, Citizen, Santa Cruz County
Mary Doyle, Vice Chancellor of Information Technology Services, U.C. Santa Cruz
Darlene Dunham, Chief of Staff to Supervisor Simon Salinas, County of Monterey
Harold Galicer, Principal, SeaKay
Dianne Harrison, President, California State University,Monterey Bay (CSU Monterey Bay)
Scott Golden, Information Systems Manager, City of Salinas
Gil Gonzales, Chief Information Officer, CSU Monterey Bay
John Grunder, Director, Information Technology, Monterey Institute of International Studies
Kim Ha, Owner, Blue Pacific Computers
Chris Hasegawa, Dean, Extended Education and International Programs, CSU Monterey Bay
Trish Kelly, Consultant, California Emerging Technology Fund
Arlene Krebs, Director, Technology Development and the Wireless Education and Technology Center, CSU Monterey Bay
Bobby Lee, Director, Language Technology Services, Global Security & Engineering Solutions
Mary Ann Leffel, President, Monterey Business Council
Chris Lopez, Intern for Supervisor Simon Salinas, County of Monterey
Todd Lueders, President and CEO, Community Foundation of Monterey County
Sean Lynn, Information Technology Director, Community Hospital of the Monterey Peninsula
Mario Maldonado, Assistant City Manager, City of Watsonville
Tim McFadden, Officer, City of Sand City Police Department
Mary Newson, Consultant, California Emerging Technology Fund
Nick Papadakis, Executive Director, Association of Monterey Bay Area Governments (AMBAG)
Bettye J. Saxon, Area Manager, AT&T External Affairs
Virgil Schwab, Chief Information Officer, County of Monterey
Francisco Serna, Program Director, Davenport Family Services Agency
Judy Sulsona, Executive Vice President, Community Foundation for Monterey County
Chris Taylor, Director of Network Services, CSU Monterey Bay
Jim Warner, Network Engineer, U.C. Santa Cruz
Jeffrey Weir, Economic Development Director, City of Salinas
Doug Weismann, Collaborative Networking Engineering Manager, Naval Postgraduate School
Sunne Wright McPeak, President and CEO, California Emerging Technology Fund