



## **FACT SHEET: Bolstering High-Speed Broadband to Boost the Economy**

**June 13, 2012**

*Today the White House announced actions to lower broadband deployment costs across the Nation—a key step to linking communities, launching new businesses, and generating jobs. In addition, Federal agencies along with partners from industry, the non-profit sector, and local communities announced an array of initiatives under the umbrella of a new entity—the US Ignite Partnership—to accelerate the development of applications that can take advantage of ultra-high-speed, programmable broadband to bring innovative new products and services to the American people.*

### **President Signs Executive Order to Accelerate Broadband Infrastructure Deployment**

The Federal Government has managerial responsibilities over nearly 30 percent of all land in the United States and owns or leases approximately 10,000 buildings nationwide. Many of these properties can provide excellent pathways for deployment of broadband infrastructure, but broadband providers today face challenges in working with the relevant controlling Federal agencies, many of which have their own processes for granting access to their assets. To address this challenge, the new Executive Order requires Federal agencies to harmonize, streamline, and make publicly available comprehensive information on procedures and policies for accessing their assets for purposes of broadband deployment. In addition, agencies are directed to develop uniform master contracts for leasing Federal lands and buildings for broadband deployment. The Executive Order also directs the Department of Transportation to work with state and local transportation officials to help them implement best practices and adopt “dig once” policies, in order to minimize the number of wasteful, repeat excavations.

### **Community and Industry Leaders Announce New National Partnership: US Ignite**

The US Ignite Partnership ([us-ignite.org](http://us-ignite.org)) is a new, independent 501(c)(3) nonprofit with a mission to catalyze 60 advanced, next-generation applications capable of operating on giga-bit broadband networks over the next five years in six areas of national priority: education and workforce development, advanced manufacturing, health, transportation, public safety, and clean energy. The Partnership will connect industry leaders from small and large corporations, including startups, with local and state governments, universities, foundations, community institutions and broadband carriers to accelerate the development and testing of new applications that promise to have a significant impact on the US economy, providing a broad range of job and investment opportunities. Already, the Partnership has entered into agreements that will bring its efforts to 25 cities across the country, including small, medium and large municipalities. Additionally, a quickly growing number of commercial partners have agreed to be part of the US Ignite Partnership, including leading national telecommunications and networking corporations as well as regional and local organizations.

## **New Commitments and Actions Relating to US Ignite**

### **Federal Departments and Agencies**

#### **National Science Foundation (NSF) Leverages Investments in Virtual Laboratory to Support US Ignite**

As the lead Federal agency for US Ignite, NSF will expand its initial 4-year, ~\$40 million investment in the Global Environment for Networking Innovations (GENI) project, which currently connects more than a dozen universities with ultra-high-speed, programmable networks. Built with the technological contributions of more than 300 NSF-funded researchers at more than 60 universities, GENI is serving as a virtual laboratory and testbed for research on next-generation networks to host new applications in healthcare, energy efficiency, education, and other national priority areas. NSF is committed to spending another \$20 million to transition from building GENI to using it for Internet-scale experiments. To help achieve that, a cohort of participating universities will, over the next year, share “lessons learned” with candidate university partners.

#### **NSF Encourages Next-Generation Applications with Societal Impact**

NSF posted a Dear Colleague Letter today to encourage its research and education communities to develop novel applications that take advantage of ultra-fast, programmable, next-generation internets and which have the potential for significant societal impact. To exemplify the types of next-generation applications and services it seeks, NSF has funded ten projects to conduct exploratory research on GENI in areas of national priority, including advanced manufacturing, healthcare, public safety, and disaster mitigation. Finally, to reach out beyond the traditional NSF research community, NSF also announced an award to the Mozilla Foundation to host an open innovation challenge. The contest, “Mozilla Ignite,” invites designers, developers, university researchers, entrepreneurs and other visionaries across America to brainstorm and build next-generation applications that address important societal challenges and take advantage of the functionalities of future internets.

#### **Commerce Department Recovery Act Projects Leverage High-Speed Broadband Networks to Support Next-Generation Applications**

The Commerce Department’s National Telecommunications and Information Administration—whose Recovery Act projects are already increasing broadband access and adoption in communities across the country—announced today that six of its project grantees are joining the US Ignite initiative. These grantees have been building and upgrading broadband infrastructure, expanding and improving public computer centers, and bringing more Americans online through computer training and other approaches. Now they are partnering with US Ignite so that the new cutting-edge infrastructure can be used to develop and test advanced applications in health care, manufacturing, and energy that can strengthen communities and drive additional job creation and economic development. These broadband projects, including Merit Network, UTOPIA, Utah Education Network, Urbana-Champaign Big Broadband, and Internet2, have been building and upgrading broadband infrastructure, while others, such as OneCommunity, are expanding and improving public computer centers and bringing more Americans online through computer training and other approaches. NTIA’s Recovery Act projects are increasing broadband access in

communities across the country, with more than 56,000 miles of networks thus far providing broadband access to more than 8,000 schools, libraries, hospitals, and public safety entities.

### **US Department of Agriculture’s Rural Utility Service Announces New Support for Next-Generation Applications**

The Rural Utilities Service, a rural development agency of the US Department of Agriculture, strongly supports efforts to ensure that rural communities and anchor institutions are connected to ultra-high-speed broadband networks and announced that that such projects may qualify for financing under the RUS telecommunications and broadband loan programs. RUS loan recipient Albion Telephone Company, which is currently using loan funds to build high-speed fiber networks in Malad, Arco, and Albion, Idaho, is today announcing its participation in US Ignite, and other loan recipients are encouraged to participate in the coming months. The agency is on target to complete over \$3 billion in Recovery Act broadband investments. Earlier in the month, the RUS announced the release of more than \$14.6 million in grant funding for more than 50 distance learning and Telemedicine (DLT) projects to provide enhanced learning and healthcare services for rural residents. Projects using ultra-high-speed broadband would also be eligible for consideration in future DLT grant competitions.

### **Federal Communications Commission (FCC) Rural Healthcare Pilot Project Lends Telehealth Expertise to Missouri Eldercare Initiative**

With the aid of the FCC’s rural health care program, the Missouri Telehealth Network (MTN) uses a high-speed backbone network to link five major medical centers with more than 90 rural healthcare providers, which enables patients to access medical specialists via telemedicine while staying near their rural homes. MTN plans to lend its expertise to a partnership of US Ignite with researchers and network experts at the University of Missouri. Those researchers gather data from in-home, privacy-protected “sensor networks” in a senior living facility in order to provide remotely located nursing staff with early alerts of changes that might signify increased risk of falls and other medical problems. US Ignite is also partnering with other telehealth projects throughout the country that similarly depend upon high-capacity broadband networks to enable innovations that will enhance the quality and reduce the cost of healthcare.

### **HHS ONC Grantee Southeast Minnesota Beacon Community Announces Partnership with US Ignite**

The Office of the National Coordinator for Health Information Technology (ONC) of the US Department of Health and Human Services (HHS) funds 17 “Beacon Communities” across the country. Beacon Communities are committed to building and strengthening health IT infrastructure and information exchange capabilities, translating investments in health IT into measurable improvements in health and medical care at lower cost, and testing innovative approaches to performance measurement, technology integration, and care delivery. Southeast Minnesota Beacon Community is announcing today that Mayo Clinic, its lead grantee, is one of the new partners for the US Ignite initiative. Using the health information exchange and the new partnership with connectivity provider Hiawatha Broadband Communications (HBC) through Ignite, Southeast Minnesota Beacon Community and Mayo Clinic are expanding the program through a regional telemedicine network. The telemedicine network will take healthcare to the consumer utilizing eVisits to extend physician reach and parlaying the effort into lower

healthcare costs, and improved consumer satisfaction. For more information on the Beacon Community Program visit: <http://healthit.hhs.gov/programs/Beacon>.

### **Department of Defense (DoD) Announces Next-generation Networking and Application Initiative**

The Department of Defense identified the Defense Research and Engineering Network (DREN) as an ideal national test bed to accelerate the development and deployment of ultra-high-speed bandwidth applications. To further this increase in the Nation's advanced Internet capacity, DREN will connect research sites at the US Military Academy, Naval Postgraduate School, Space and Naval Warfare Systems Command, Naval Research Laboratory, Air Force Research Laboratory, and Army Research Laboratory. The DREN program will also participate in US Ignite applications between the continental United States and Hawaii, through an agreement between the Maui High Performance Computing Center and the University of Hawaii. DREN is the networking component of the DoD High Performance Computing Modernization Program, which provides robust, secure wide-area networking services for the DoD Research, Development, Test and Evaluation communities, and is a leader in the deployment of next generation networking and security technology.

### **Department of Energy (DOE) to Support Apps Competition, Help Advance High-Speed Networks**

Through DOE's National Training & Education Resource (NTER), the Department is supporting the NSF/Mozilla US Ignite application competition, helping to create new workforce online training tools and apps. NTER is an open-source platform that is designed to revolutionize online training and education through 3D immersive content, making it easy and inexpensive to build state-of-the-art learning experiences by reducing the cost and complexity of creating engaging 3D content. NTER's distribution framework and development platform will provide two components to support the US Ignite application competition. Additionally, the Department's Energy Sciences Network (ESnet), the world's first nationwide, 100 gigabit-per-second network, strongly supports the US Ignite's efforts to deploy high-speed networks to advance US prosperity, innovation, and discovery. ESnet will be working with US Ignite communities in mission areas such as transporting data collected by smart-grid projects to analysis facilities within the DOE complex.

### **Delta Regional Authority Plans Virtual Workforce Development Pilot in the DRA Region**

Working through US Ignite, the Delta Regional Authority (DRA)—an independent Federal agency focused on economic development and quality of life in the Mississippi River Delta region—will pilot a workforce development facility in the DRA region that will use existing facilities, workforce virtualization trends, and next-generation networking technologies to bring the benefits of “workforce virtualization” to local residents. In short, through the use of next-generation technologies, jobs will be brought to where workers reside in the Delta rather than workers having to move to where jobs reside. Required online tools—including recruitment services, E-learning and certification, and workforce planning—will be enhanced through the use of next-generation networking technologies such as ultra-fast networks, software-defined networking, and distributed, programmable cloud computing. Once the pilot phase is complete, similar projects may be deployed throughout DRA's eight-state region.

**The Institute of Museum and Library Services (IMLS) Partners with US Ignite to Promote Best Practices in High-Speed Innovation**

IMLS is helping libraries and museums use high-speed broadband to improve education, workforce, and health outcomes for millions of Americans. Its grants spur innovation in the creation of tools that enhance access, use, and management of digital assets. As part of US Ignite, IMLS is working to identify and share best practices as exemplified by such partnerships as Case Western Reserve University and One Community, which is bringing a one-gigabit broadband connection to the new Warrensville Height branch of the Cuyahoga County Public Library, serving 20,000 residents from an economically-disadvantaged community; Rutgers University Libraries, which is a lead partner on the Video Mosaic Collaborative (VMC), an NSF-grant-funded initiative to create a portal that will enable teachers and researchers to analyze and use more than 20 years of classroom videos to transform mathematics research, teaching and learning; and San Francisco Public Library, which is developing a Teen Media Learning Lab in partnership with local education, museum, technology, and media organizations, to create a free, seven-day-per-week interactive digital media learning space for youth.

**The NITRD National Coordination Office Announces Support for US Ignite**

The National Coordination Office (NCO) for Networking and Information Technology Research and Development (NITRD) announced its participation in US Ignite. NITRD, under its Large Scale Networking Coordination Group, provides coordination among 16 Federal agencies and researchers with research programs in networking, cloud computing, and development of applications that rely on networking. Together these programs contribute to the continued advancement of gigabit networking and new network architectures, such as Software Defined Networking, GENI racks, and cloud computing. NITRD will also use its technical and development expertise to support US Ignite's work in critical applications areas, including data exchanges and management and collaborative healthcare.

**Industry****Juniper Networks Sponsors US Ignite and Encourages US leadership in Networking**

As part of the US Ignite partnership, Juniper Networks is focusing on key opportunities that help advance U.S. technology leadership in the areas of networking broadband and software defined networking (SDN) to drive growth in the areas of healthcare, public safety, transportation, education, advanced manufacturing, and clean energy, among others. Juniper improves the economics and experience of networking through high-performance infrastructures built on simplicity, security, openness and scale. As part of the US Ignite partnership, Juniper Networks will help set the strategy for key initiatives, including decisions on the types of projects and developer events that will be supported through the program.

**NEC Equipment and Research Investments Power GENI Network and US Ignite**

As a sponsor of the US Ignite Partnership, NEC will be working to facilitate the development of next-generation applications using Software-defined Networking (SDN) infrastructure. To achieve this, NEC will support a collaborative ecosystem to accelerate innovation and the business growth of SDN. NEC has been investing research and development funding toward OpenFlow / SDN in support of next-generation infrastructure and applications. NEC has been

providing equipment for use within NSF's GENI program, enabling next-generation networking capabilities on US university campuses since the inception of the GENI program.

### **Cisco to Sponsor US Ignite and Provide Access to TelePresence and Open Network Environment Platform Kit**

Cisco and US-Ignite share a common vision for the full potential of next-generation gigabit-speed networks. Cisco is a sponsor of US Ignite and delivers open programmatic interfaces for easier access to network data, APIs for better build and discover capabilities, and new opportunities to deliver more flexible networking infrastructure. Cisco recently announced its new offering, Cisco's Open Network Environment (Cisco ONE) and onePK (One Platform Kit) to help industrial partners more rapidly develop, scale, extend, and create or automate applications and new services across networks and to new business platforms. In cooperation with US Ignite, Cisco will also provide access to collaborative solutions and services, such as TelePresence, to demonstrate the new visual applications that run over ultra-fast broadband networks. Cisco will also work with US Ignite to build a community for idea sharing.

### **Verizon to Create High-speed Networking Testbed in Philadelphia for US Ignite**

Verizon will partner with US Ignite to offer a testbed using very high speed FiOS connections in the Philadelphia area. This testbed will leverage Verizon's network, operating at speeds of up to 300 Mbps, to community institutions, homes and businesses. It will offer a much broader coalition of entrepreneurs, practitioners, and developers a chance to come up with new ideas that can take advantage of very high speeds connecting homes and institutions. Philadelphia has a rich density of healthcare and university research-related organizations that can take advantage of this testbed, and healthcare is one of the major areas Verizon is focused on for the future. High-speed broadband will also support over-the-top video programming on TVs and portable devices and accommodate the rise in Internet-enabled applications like video and audio streaming, home monitoring, and medical services and medical monitoring.

### **Comcast joins US Ignite to Promote Next-generation Applications**

Comcast is a sponsor of the US Ignite initiative and will work with participant universities and the vendor community to jointly develop and test next-generation applications in Comcast's lab in partnership with US Ignite. Next generation applications, and the underlying networks that support them, are critical to the United States maintaining its leadership role in areas such as healthcare, education, public safety, energy and manufacturing.

### **HP joins US Ignite in Spurring the Development of Next-generation Applications and Digital Experiences Specifically Designed for Advanced-technology Networks**

HP joins US Ignite in spurring the development of next-generation applications and digital experiences specifically designed for advanced-technology networks. HP will leverage the first fully functional, integrated GENI platform, which it designed, to enable the next generation of distributed network services for states, cities, rural towns and academic institutions around the Nation and the globe. Also as part of the collaboration, HP will convene a GENI/IGNITE summit at HP Labs in Palo Alto, CA, to discuss deployment and applications of GENI technology for America's Federal, state, and local governments, and institutions of higher learning, with the goal of making the United States the world leader in advanced network technologies.

**AT&T Research Contributes to GENI and US Ignite**

AT&T is announcing its partnership with US Ignite and the continuation of its collaboration on GENI-based university research projects, a measure of AT&T's commitment to entrepreneurial leadership and innovative development. AT&T Labs Research is dedicated to advancing the science and technology of communications and information and to creating innovative services founded on these advancements. AT&T Research recently contributed network control software to enable network virtualization in the GENI backbone network. Working together with a number of universities and research organizations, this work enables the automated creation of large virtual network topologies across the GENI national backbone.

**Ciena Equipment and Research to Support US Ignite and Partners**

As part of the US Ignite partnership, Ciena will collaborate with network users and network partners to develop and demonstrate open, application-driven, packet-optical networks that support critical national priorities such as healthcare, public safety, employment and education. Ciena deploys high-speed broadband networks by scaling network capacity and simplifying network operation through the introduction of automated transmission and switching technologies and sees in the US Ignite partnership an opportunity to extend network automation to enable application control of multilayer networks. Ciena will closely engage with customers that are part of the US Ignite partnership, their end-user customers and application developers, to demonstrate new applications that are made possible with intelligent bandwidth.

**Big Switch Networks Support US Ignite's Network Virtualization Initiative**

Big Switch Networks is announcing its participation in US Ignite. Building on three years of engineering collaboration with the NSF GENI program, Big Switch Networks has become a leader in network virtualization using SDN. By allowing many organizations to design and operate their own virtual networks suitable to their applications on top of a shared physical network, Big Switch's network virtualization technology will accelerate public/private collaboration in areas of national priority such as public safety, healthcare, education and advanced manufacturing. This core technology, the "Big Virtual Switch" application, is the first of a series of next-generation network control software applications that leverage virtualization and SDN.

**Communities****Lake Nona, FL, to Create 120 New Jobs and Deploy Next-generation Networking in its New Health and Life Sciences Cluster**

Committed to offering the community as a living laboratory, the Lake Nona Institute is convening a consortium of local public and private partners to collaborate nationally with US Ignite on the research and development of applications that will demonstrate the value of ultra-fast networks. Among the solutions expected to be deployed and tested will be telemedicine and remote diagnostic applications, including exploration of residential and senior-care use cases. \$2 billion in construction has fueled the trajectory of a health and life sciences cluster. Anchoring the community is a 1-gigabit network with ubiquitous mobile services to residents, employees, students, and visitors. The ultra-fast network is projected to support the creation of at least 120 new jobs in the near term including network deployment and management positions, software

application development jobs, and employment opportunities generated by new companies formed and grown in the network-powered Innovation Center being planned and built at Lake Nona.

### **Merit Network to Connect Anchor Institutions in Flint and across Michigan to GENI and US Ignite Testbed**

Merit Network, Inc., is joining the US Ignite Initiative and the GENI project to help create a platform that will drive next-generation innovation. Merit has a strong history of providing innovative technologies to our Membership, including currently developing a Cyber Security Range that is based on Open Flow and GENI technologies. Merit's participation in US Ignite will play an important role in this critical undertaking, and has the potential to benefit all of its membership, from higher education and libraries to K-12 schools, healthcare providers, and more. Formed in 1966, Merit Network is leveraging its experience managing the precursor to the modern Internet, the NSFNET, and its participation in US Ignite will add to a lineage of innovation as Merit continues to support leading-edge network technology in Michigan and beyond.

### **San Francisco, CA, to Deploy Next-gen Infrastructure to Support Health IT Apps to Clinics**

The City and County of San Francisco has joined the US Ignite Partnership and will be helping to test next-generation applications for the benefit of its residents. Specifically, the City will place OpenFlow switches and other equipment into its fiber network so that it can test how this ultra-fast network can more flexibly support an array of new applications. As part of its partnership with US Ignite, the City plans a variety of experimental efforts, working with cultural, educational, and healthcare institutions on new applications for delivering services to residents. One example is connecting patients at City clinics with specialists at San Francisco General Hospital through the addition of uncompressed, high-definition video capabilities. Specialists may be able to remotely diagnose and treat patients without requiring patients to visit the central facility, thereby improving patient care and providing cost savings.

### **Lafayette, LA, to become Living Lab for Health Innovation for the US via US Ignite**

Lafayette, LA, announces its participation in US Ignite and its efforts to become the "Living Lab for Health Innovation for the US." Lafayette built its fiber-to-the-home network with the vision of becoming a testbed for the next generation of networks and applications, and a coalition of community, university, education, business, and healthcare leaders have joined forces to achieve this goal. This Living Lab will serve as a community-scale testbed for healthcare innovators to test their technologies in real-world settings, and will facilitate co-creation by engaging end-users in defining, designing, and developing solutions to the many challenges facing healthcare today. Through US Ignite, Lafayette will be an active partner in developing the future of healthcare through the power of gigabit networks and software-defined networking – addressing such complex societal challenges as childhood obesity, aging in place, emergency medicine, and workplace health.

### **Chattanooga, TN's Gig City Initiative to Partner with US Ignite on Advanced Networking**

The Gig City initiative, an effort launched by multiple organizations within the Chattanooga, TN, community, aims to explore the future of ultra-fast Internet applications in partnership with US



Ignite using the community's 1 gigabit-per-second network that connects more than 150,000 homes and businesses. Because of Chattanooga's investments, the city has attracted companies like Volkswagen, Alstom, and Amazon, resulting in 7,000 new jobs and billions of dollars in capital investment for the area. Chattanooga's advanced network serves as the backbone for the Nation's most automated smart electric grid, which is already demonstrating substantial improvements in the reliability of the power distribution system. Eight teams of entrepreneurs and eleven students from around the world are participating in a summer program called the Gig Tank, for building and testing bandwidth-intensive apps with a prize of up to \$300k.

### **Urbana-Champaign Big Broadband to Provide US Ignite with Access to Gigabit Fiber Network Testbed and the World's Fastest Supercomputer**

Urbana-Champaign Big Broadband (UC2B) is announcing its involvement as a US Ignite community and a future testbed for the development of next-generation applications. UC2B is a BTOP-funded gigabit fiber-optic broadband network that will connect 2,500 homes and 200 community organizations by the end of 2012. All UC2B users can subscribe to new, innovative, big broadband applications delivered on a GENI slice across a nation-wide software defined network path via Internet2. The National Petascale Computing Facility, the fastest research supercomputer in the world, is also connected to UC2B and will come online later in 2012. Researchers at the University of Illinois will utilize the local GENI rack to develop applications leveraging strategic discoveries in critical areas, including cloud computing, advanced manufacturing, health, and education.

### **OneCommunity to Convene Northeast Ohio "Smart Region" as Anchor Participants in US Ignite**

OneCommunity, a Cleveland-based nonprofit, is a participant in the US Ignite initiative. OneCommunity has built an expansive community all-fiber network to 2,300 community anchor institutions such as hospitals, schools, libraries, and government offices. This open network, which was funded in part by a BTOP grant in 2010, serves as an ideal test environment for researchers, technology companies, and entrepreneurs. OneCommunity is now mobilizing public and private leaders to leverage this platform to innovate and ultimately transform our community, whether it's our research university's fiber-to-the-home test bed, the opening of perhaps the first gigabit library, the launch of an expansive city/county government shared-services platform, or leading the commercialization of "big data" led by our world-class health care institutions.

### **Missouri Launches In-Home Health Alert System with Remote Care Coordination for the Region**

US Ignite resources will be applied to networked healthcare in a new NSF project: An In-Home Health Alert System with Remote Care Coordination. The project is led by the Center for Eldercare and Rehabilitation Technology at the University of Missouri ([www.eldertech.missouri.edu](http://www.eldertech.missouri.edu)), which includes an interdisciplinary team from Engineering, Nursing, Medicine, Social Work, Health Informatics, and Health Professions. An intelligent monitoring system installed in senior housing captures data and generates alerts about health changes, thereby facilitating early interventions. New network resources will support remote nurse care coordination and connect healthcare providers and family with older adults so they may age in the home of their choice. Future development with the Missouri Telehealth Network,

MOREnet, and the University of Missouri will connect sites that provide eldercare monitoring on a high-speed national network such that locations like Iowa, Cleveland Clinics, and others can interoperate using the latest in networking technologies for healthcare, education and research.

### **KU Medical Center Researchers to Work with US Ignite and Others on Remote Healthcare for Alzheimer's Patients**

In coordination with US Ignite, researchers at the University of Kansas Medical Center are using home video-monitoring technology to support family caregivers of persons with Alzheimer's Disease. The technology empowers the family caregiver to record events where they feel they could benefit from professional advice. The project's caregiving experts can then interpret the recordings and offer suggestions to help family caregivers continue to care for their loved ones at home. KU researchers in the School of Nursing, KU Alzheimer's Disease Center, Division of Medical Informatics and Information and Telecommunications Technology Center will be working with fellow US Ignite participants Case Western University and the University of Missouri to explore enhancing the project to incorporate multi-point video conferencing and high-bandwidth sensors supporting remote nursing care. The project anticipates leveraging ultra-high-speed broadband access such as will be available with the network Google Fiber is building in Kansas City.

### **DC-Net to Enable US Ignite Testbed for Anchor Institutions in the Nation's Capital**

DC-Net, the District of Columbia's Citywide Network, will partner with US Ignite and GENI to extend the nationwide testbed network in support of advanced applications to community anchor institutions in DC. DC-Net supports anchors in areas of health, education, and public safety within the District and is committed to the development of transformative next-generation applications in these verticals. DC-Net's 100Gigabit network will support the deployment of OpenFlow switches in conjunction with GENI's nationwide network. The software defined network will provide a platform to the City's research universities and health institutions for the development of next-generation healthcare applications such as Medical Body Area Network (MBAN) remote monitoring systems, virtual clinics, and electronic health information exchanges. In addition, the platform is also aimed at supporting the development of NG9-1-1 applications to improve public emergency communications using wireless devices.

### **Albion Telephone Company and the City of Ammon, ID, to Focus on Public Safety Applications using Software-defined Networks**

ATC is announcing its participation in US Ignite based on its keen interest in next-generation public safety. With the advent of software defined networks, there is an opportunity to take a holistic approach to re-define public safety communications. Public safety is critical to the success in rural communities, and US Ignite technologies can provide the security that the consumer desires and serve as the new unit of recovery. ATC Communications now serves nearly 5,000 subscribers across two states, offering speeds of up to 50 Mbps. ATC has been approved by the Rural Utilities Service to build out a Fiber to the Premise network in the rural Idaho communities of Malad, Arco, and Albion. In the city of Ammon, ATC will work with US Ignite in developing an extensible platform for delivering next-generation emergency communications to the home or business, with a goal of improving public safety.

**Wilson, NC, to Streamline Municipal Operations with US Ignite-supported Applications**

Through its participation in US Ignite, the City of Wilson is planning to explore next-generation, bandwidth-heavy applications that support municipal operations. These applications will include proactive monitoring and management of services/infrastructure as well as citizen engagement including remote training of public safety personnel, weather sensors, and a smart grid that includes the city's electrical system. These applications will take advantage of the advanced infrastructure of the Greenlight fiber optic network. The network makes possible a wide array of real-time monitoring systems as well as delivery of new services to employees and citizens. Greenlight is an operating department of the City of Wilson that has provided fiber-to-the-home access since 2008 in the form of business and residential broadband, video, and telephone services.

**Hiawatha Broadband Communications to Create a High-speed Testbed in Southeastern Minnesota**

Hiawatha Broadband Communications, Inc. (HBC), Winona, MN, has pledged gigabit connectivity across its fiber-to-the-home properties to support the US Ignite initiative. Begun in 1992 as a not-for-profit designed to support distance learning, HBC emerged in 1997 to deploy advanced connectivity across southeastern Minnesota. HBC became one of the earliest testbeds designed to demonstrate the power of telehealth. Adopted as a testbed in 2000 by Cerner Corporation, the HBC network has continued to be used for testing quality-of-life applications across 16 communities. The latest trial features the development of another telehealth application, this one designed to improve healthcare quality, drive down cost, extend the reach of a shrinking number of physicians, and allow people to live independently longer.

**CENIC to provide OpenFlow-enabled Testbed for Member Institutions**

CENIC is announcing its participation in US Ignite. CENIC will help US Ignite develop and test next-generation applications via the California OpenFlow Testbed Network (COTN), an NSF-funded GENI-backed project to create an OpenFlow-enabled testbed on its network for CENIC member institutions. Today, CENIC has nearly 10,000 institutions throughout California connected to one another and colleagues worldwide via this network, and it has been used to create innovations that will help the state and the Nation meet the challenges of the 21st century. CENIC's members include some of the cradles of the technology US Ignite seeks to promote, including Stanford; University of California campuses in Berkeley, Los Angeles, Davis, San Diego, and Santa Cruz; USC; Caltech; and research institutes including the Center for Information Technology Research in the Interest of Society (CITRIS) and the California Institute for Telecommunications and Information Technology (Calit2).

**Santa Monica City Net<sup>SM</sup> Partners with US Ignite to Support Advanced Networking and Application Development**

The City of Santa Monica's 10 gigabit fiber optic network has proven to be an invaluable asset for attracting and retaining digital media, gaming, and tech firms. Santa Monica intends to use its growing tech community and the partnership with US Ignite to facilitate next-generation application development for national research, health, and educational initiatives. Small, mid-sized, and large businesses have demonstrated overwhelming support for the initiative. The award-winning Fairmont Miramar Hotel, for example, now offers 10 gigabit broadband to

guests, and commercial buildings connected to the fiber optic network report occupancy rates of 95%-100%.

### **Utah Education Network to Bring Advanced Networking to Utah Community Anchors**

The Utah Education Network (UEN), a state-funded consortium of K-12 and higher education and one of the Nation's leading, public-serving broadband networks, announced that it is joining the US Ignite initiative. Over 60,000 educators and 780,000 students in Utah will have access to advanced teaching and learning applications to be developed under the US Ignite banner and leveraging UEN's statewide broadband reach. UEN already collaborates closely with University of Utah network researchers to develop and deploy leading-edge NSF GENI network technologies. Working with private-sector telecommunications and Internet providers, UEN delivers broadband connectivity to public and charter schools, state universities, two-year colleges, and libraries throughout Utah and also provides connections to the advanced Internet2 Network and the Internet at large.

### **BTOP-funded Utah Telecommunication Open Infrastructure Agency to Work with US Ignite to Test Next-generation Applications**

As a US Ignite member, UTOPIA, the consortium of Utah cities building an open-access fiber-optic network, believes providing telecommunications infrastructure that supports improved connectivity for the state's residents, businesses and cities is critical in order to link crucial municipal facilities and drive economic development. UTOPIA is using a Broadband Technology Opportunities Program (BTOP) Federal grant to connect about 400 community anchor institutions, including government facilities, schools, libraries, and healthcare facilities. UTOPIA is also coordinating with the University of Utah to enhance the statewide Utah Education Network by connecting schools, libraries, and Head Start centers, and partnering with the Utah Department of Transportation and Utah Transit Authority to further link public facilities.

### **Florida LambdaRail (FLR) Connects Florida Research & Education Communities to US Ignite**

Florida LambdaRail and its 12 university and equity owners is announcing its participation in US Ignite to coordinate its collective efforts to collaboratively connect research and education communities on a regional, national and global basis. This innovative partnership and strategic alliance enables and supports FLR's member institutions with a network testbed connected to NDDI and GENI for the development of new applications for next generation networks. FLR's ultra-high-speed, regional optical network for research and education enables Florida's higher education institutions and their partners to collaborate, connect, utilize, and develop new innovative broadband applications and services in support of their research, education, and 21st century economy initiatives.

## **Non-profits**

### **Mozilla launches "Mozilla Ignite" challenge for application developers**

Mozilla, the global non-profit community and makers of the Firefox web browser, is launching the "Mozilla Ignite" challenge. The challenge invites designers, developers, and everyday people to brainstorm and build apps that take advantage of next-generation networks up to 250 times

faster than today's, in areas that benefit the public—like education, healthcare, transportation, manufacturing, public safety, and clean energy. The challenge begins with a "Brainstorming Round" where anyone can submit and discuss ideas. Later rounds will focus specifically on application design and development, with \$500,000 available in awards. Participants will gain access to advanced technologies developed through the National Science Foundation's "Global Environment for Network Innovation" (GENI) program. This advanced network provides speeds of up to one gigabit per second, and exciting new ways for developers to control, optimize, and modify the network through software defined networking. Learn more and get involved at [mozillaignite.org](http://mozillaignite.org)

### **Mott Foundation provides US Ignite with Support and Launches a Project to Benefit Flint, MI**

The Charles Stewart Mott Foundation has provided US Ignite with a planning grant to help kick-start the non-profit partnership, and has helped engage other national and local partners to bring the benefits of US Ignite to its hometown, Flint, MI. Mott believes US Ignite has the potential to help people improve their lives and their communities and enhance the work of Flint partners, including Kettering University, in the areas of clean energy, advanced manufacturing, and education, as well as the development of local workforce training activities that can help people overcome barriers to the labor market. Ultimately, the foundation seeks to leverage its investment in Ignite, along with the passion and energy of local partners, to help open new doors to opportunity in Flint and beyond.

### **Internet2 to Provide Technology and Strategic Guidance to US Ignite**

Internet2 plans to leverage its networking and technology expertise as a member of US Ignite, engaging in advisory committees on a range of issues affecting next-generation networks and applications. Also, US Ignite will become a member of Internet2. Internet2 collaborates with U.S. research and education organizations to solve common technology challenges and develop innovative solutions to support their educational, research, and community service missions. Internet2's and US Ignite's missions fit well with each other—especially their mutual interest in strengthening the Nation's position as a global leader in research, education, and innovation. The newly upgraded network will allow Internet2 member institutions to keep pace with exponential growth in "Big Data" scientific research being driven by the Nation's collaborative researchers in labs and universities, and enable advanced networking features for more than 200,000 community anchor institutions. The National Telecommunications and Information Administration's Broadband Technology Opportunities Program helped fund Internet2's network upgrade.

### **Lyndhurst Foundation to Provide Strategy for US Ignite's Community Outreach Efforts**

The Lyndhurst Foundation, an early supporter of Chattanooga's Gig City initiative, is partnering with US Ignite to share lessons learned in how the Nation's foundations play a critical role in leveraging next-generation networks to strengthen communities. Chattanooga is the first city in the Western Hemisphere to offer 1 gigabit-per-second fiber Internet service to all of its residents and businesses. The Gig City initiative, a partnership among Lyndhurst Foundation, Chattanooga Electrical Power Board, Chattanooga Area Chamber of Commerce, The Company Lab, The Enterprise Center, and other area entities, is stimulating the development of applications and services that harness the power of ultra-fast broadband to reduce energy consumption, create

jobs, educate the workforce, and in general solidify Chattanooga's reputation as an innovative city of opportunity.

**Digital Public Library of America to Support US Ignite Apps Challenge**

The Digital Public Library of America (DPLA) is announcing it will participate in the Mozilla Foundation's competition for applications that take advantage of the high-bandwidth Internet access to be provided by the US Ignite Initiative. The DPLA is a coalition of libraries, museums, archives and online collections that is gathering a large catalog of information about books, images, audio and video recordings. The DPLA currently makes available for programmatic access online records for approximately 20 million books, as well as collections of multimedia objects. Catalog records contain rich data about books and other library items, and can be used to explore networks of related works, and can be mashed up with other data sources, from maps to historical photos to ecological data.

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