Idaho Regional Optical Network

Fiber Optic Connectivity in Idaho
The Idaho Regional Optical Network (IRON), founded in 2007, is a dedicated high-speed fiber optic network infrastructure owned and operated by a group of Charter Associates including the University of Idaho (UI), Idaho National Laboratory (INL) and other higher education, research and health care institutions. This advanced, secure, high-capacity and high-redundancy network provides robust connection to other research and education networks throughout the United States and around the world.

IRON’s strategy is to continuously develop its network to meet the associates' needs for capacity, reliability and cost management. IRON aims to upgrade its backbone network segments to provide greater bandwidth capacity, at least 100 Gigabits per second (Gbps) by 2020. The current IRON backbone capacity is 10 Gbps.

The plan to upgrade IRON and maintain it for 10 years will cost an estimated $16.4 million, with anticipated funding through public and private grants, capital contributions and additional contributions to operating expenses as bandwidth consumption increases. New federal infrastructure spending could provide an excellent source of additional funds for IRON development.

Background
Many of IRON’s associates derive a significant part of their budget through research activities. As datasets move to the cloud, both for processing and storage, the ability to access and move data becomes limiting. Associate programs, such as the UI-based Northwest Knowledge Network, the Idaho State University Science DMZ, a computer network designed to handle high-volume data transfers, and Brigham Young University-Idaho’s Distance Education program, all assume the availability of generous bandwidth increasing over time.

IRON’s self-owned infrastructure allows for a lower recurring cost and provides capacity for the future. IRON does not extend its network outside of the realm of its associates and thus does not incur costs to do so. As a result, the IRON network has lower structural operating costs. Service contributions pay for network operations. Contributions in excess of operational needs are reinvested in infrastructure for the benefit of all associates.

Recent Accomplishments
- IRON recently completed work associated with a $3 million grant from the J.A. and Kathryn Albertson Foundation. Awarded in May 2012, the grant allowed for improved sustainability, increased bandwidth and provided resiliency throughout the network. The final steps supported by the grant were completed in 2017 and included the upgrade of two network segments — one in northern Idaho and one in southeastern Idaho — to 100 Gbps-capable fiber leases. These upgrades completed IRON’s long-term plan for redundancy in the network in its north-south as well as its east-west segments, necessary to accommodate the unique geographic challenges of Idaho as well as robust connections to Internet2 and other national resources.
- IRON has continued operations under a strategic plan finalized in 2016 and supported unanimously by its associates. The plan outlines a prioritized process for the upgrade of the network to 100 Gbps in support of research, higher education, health care and other entities in the state. In addition to the successful completion of work associated with the aforementioned J.A. and Kathryn Albertson Foundation grant, IRON has also received commitments from charter associates to a new rate structure and has entered into long-term infrastructure upgrade and maintenance funding discussions.

For more information, please contact:
Janet E. Nelson, Vice President for Research and Economic Development
janetenelson@uidaho.edu  |  208-885-6689  |  www.uidaho.edu/research/federal-relations
with associates as well as the Idaho State Board of Education and legislators. The Idaho State Board of Education has listed operational support of IRON as a key legislative funding line item for discussion during the 2018 legislative session.

- IRON recently received a capital investment from INL to implement 100G connectivity in Southeast Idaho, part of a larger project to connect Idaho’s universities and colleges to the Cybercore and HPCC buildings at INL.

Upcoming Goals

- IRON is engaging its current associates, potential associates and secondary stakeholders to communicate IRON’s mission and goals, specifically the need for 100 Gbps capacity.
- IRON continues to upgrade the network when and where it is most advantageous.
- IRON continues work with the Idaho State Board of Education as Idaho governmental entities concerning long-term funding for upgrades and maintenance.

Projected Impact of Continued and Increased Funding

In today’s global society, a high-speed network isn’t just a benefit, it is essential. Economic development through education, research, government and health care all depend on high-speed connectivity between our institutions and the rest of the world. The IRON associates’ future success depends on a network that meets their future needs.

Accounts: Anticipated Federal Infrastructure Program; USDA, RUS, Rural Broadband. Possibly others as this is a developing and high priority issue for the federal government.