

United States Unified Community Anchor Network Affiliate Pilot Program

Indiana GigaPOP Proposal

The Indiana GigaPOP is a project of the Global Research Network Operations Center (GlobalNOC) at Indiana University. The GlobalNOC provides carrier grade operations, tools, and network expertise, while placing a singular focus on the unique requirements of our research and education (R&E) community.

IU formed the GlobalNOC in 1998 to help Internet2 found its new R&E networking community, providing high quality network operations center services for Internet2's Abilene network. Since then, we have evolved alongside the community we serve, growing from a three-person staff to an organization of more than 80 people who deliver unrivalled service and support for the world's most advanced research and education networks.

For Community Anchor Institutions (CAI) in Indiana, the Indiana GigaPOP has been a long standing connector. The Indiana GigaPOP continues to play a key and expanding role in Indiana's higher education connectivity and relationship to the emergent national and international cyber infrastructure. Current CAIs that connect to the Indiana GigaPOP with full access to the GigaPOP's resources include:

- K-12
- Libraries
- Higher Education
- Public Broadcasting
- State Government

The Indiana GigaPOP's mission has been to empower Indiana's community anchor communities through access to abundant bandwidth and evolving advanced network capabilities.

The goal of empowering CAI communities is reached by creating a network infrastructure that has capacity to grow with the community and by ensuring the network provides stability, connectivity, and services that support the goals of research and education communities within the state of Indiana.

The GigaPOP continues to expand services and build redundancy while reducing rates to many of its end users. In 2010 the GigaPOP increased connectivity to the commodity Internet by utilizing a new 10 GB connection to a low cost commercial internet provider. In 2011 the focus will be on the national research expansion as 100GB networking become a reality. The GigaPOP will prepare to attach to this new backbone which will bring some of the newest and highest performance networking technology to Indiana

The Indiana GigaPOP mission and goals coincide with the planned activities of the U. S. UCAN National Program in the areas of higher education, community colleges, public media and performing arts, libraries, museums, government and k-12 access to the national research and education infrastructures.

The Indiana GigaPOP continues to play a key and expanding role in Indiana's Higher Education connectivity and relationship to the emergent national and international cyberinfrastructure. Today all higher education institutions in Indiana have access to these advanced resources via the GigaPOP. The Indiana K-12 schools and libraries have comparable access to these resources via connections between the GigaPOP and K-12 service providers.

For the State's higher education sector, the GigaPOP is the single service provider to Internet2. Colleges and universities in Indiana connect to the GigaPOP via their connection to the state higher education network I-Light. I-Light is a member of the Indiana GigaPOP. As a true state-wide resource, the GigaPOP provides location neutral pricing for all of its users and services as well as providing no cost engineering consulting services to its members. One of our goals is to improve connectivity to high performance resources locally and nationally. By working with individual campuses, the “end-to end” performance problems that plague many researchers, even at large universities, can be overwhelming at smaller schools. The GigaPOP continues to help universities with local network configurations and design issues that help resolve these problems.

Community Colleges in Indiana connect to the Indiana GigaPOP through their membership with the I-Light Network. I-Light in partnership with Zayo Bandwidth received \$25.1 million from the American Recovery and Reinvestment Act BTOP program to connect 21 Ivy Tech Community College campuses to the I-Light network. The award will also allow Zayo to expand broadband connectivity across the state of Indiana to unserved and underserved areas with the goal of connecting CAI's along the route of 600 miles of fiber that is being constructed for this project.

Public media has access to Indiana GigaPOP through the I-Light Network. Today many of the PBS stations are located on university campuses throughout the state and can connect to the GigaPOP via the campuses connection to the I-Light network.

The state of Indiana contracts with Education Networks of America (ENA) for network connectivity for the K-12 community. ENA is a member of the Indiana GigaPOP. This partnership highlights the benefits the Indiana GigaPOP provides the education system of Indiana access to high speed bandwidth and research and education network connectivity across the state of Indiana. This partnership also allows the museums and state libraries the same access to Indiana GigaPOP thus ensuring the state libraries, museums, and k-12 education system a higher quality of network connectivity. Schools

who choose to not purchase off the state contract with ENA have comparable access to the resources at the GigaPOP via a connection between the GigaPOP and commercial K-12 service providers.

As a US UCAN Connector, the Indiana GigaPOP proposes to technically maintain a peering point in Indianapolis, IN. Today the Internet2 node equipment is physically located in the same cage as the Indiana GigaPOP. The Indiana GigaPOP will endeavor to establish peering partners with health care, city and county government, public safety and others as identified

If the application for affiliation with the U.S. UCAN is granted the Indiana GigaPOP would be willing to contribute to a repository of information on advanced applications, resources, state the processes utilized and report the details of the information as needed for this affiliation program.

As a U.S. UCAN affiliate the Indiana GigaPOP will identify potential U.S. UCAN customers. The Indiana GigaPOP will ensure the CAI's are able to identify any network barriers, plus utilize advanced applications by working with each of Community Anchor Institutions and with the engineering staff and GlobalNOC personnel to locate and eliminate any obstacles in their network connectivity. The use of advanced applications would also be enabled by the GlobalNOC engineering staff and NOC personnel by working one on one with each of the CAI's as needed to establish the network configurations and monitoring of connectivity to provide the advanced applications solid network connectivity and continuity.

The Indiana GigaPOP looks forward to further discussions on working together with the U.S. UCAN Program office on the affiliate program.

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