

Going to the Next Level: The Ohio Commons for Digital Education

The Ohio education community faces continuing development, expansion, and maintenance costs in instructional technologies, information resources, and research necessary for 21st century learning. It has been demonstrated, both inside and outside of Ohio, that these tasks can be accomplished effectively and efficiently in shared resources and services environments. Ohio Learning Network (OLN), OhioLINK, and Ohio Supercomputer Center (OSC), including OARnet, are leading edge examples of what can be accomplished within such environments. These three organizations will further collaborate efforts to create the Ohio Commons for Digital Education (OCDE), a set of common resources that will assist instruction, libraries, and research.

The convergence of instruction, libraries and research

The traditional distinctions between instruction, libraries, and research applications and resources are eliminated in an electronic environment. OLN, OhioLINK, and OSC activities are now converging. In order to best leverage the capabilities of all three organizations, OLN, OhioLINK and OSC will continue to focus on their own primary missions – developing Ohio's e-learning capacity, information resources, or computational research and networking – while taking into account the convergence of these activities. Expanded coordination of the three programs improves our collective ability to provide the best services at the lowest cost with maximum use. The objective is to provide high quality services at less cost than individual institutions would incur for those same services.

Building the Commons

Six projects comprise the initial priority list of how OLN, OhioLINK, and OSC can begin

building the Ohio Commons for Digital Education. These projects are the Institutional Repository/Knowledge Bank Concept, My Learning Space, Learning and Course Management Systems, Statewide Higher Education Authentication, Faculty Development, and the Ohio Computational Grid.

Institutional Repository/Knowledge Bank

Institutional Repository (IR), a subset of the Knowledge Bank concept, is defined as digital collections that preserve access to the intellectual output of an institutional community. A Knowledge Bank (KB) is defined more broadly to include the full array of digital assets and

Knowledge Bank Components

- Online Library Materials
- Online Reference Tools
- Scholarly Portal: Gateway to Authoritative Internet Sites
- Digital Publishing
- Administrative Data Warehouse
- Faculty Research Directory
- Online Help Desk
- Institutional Repository
- Research/Development in Digital Information Services

information services available to or created by faculty, staff, and students. A KB includes not only campus-produced digital assets, but also the OhioLINK and library supplied digital information available. If the IR/KB concept is pursued by individual institutions, it will result in a great deal of duplicative technical costs and systems that neither communicate with each other, nor fully exploit access to and use of the assets created and maintained across institutions. Institutions with few resources for the development of these capabilities will be left behind. The OCDE partners have the ability to advance the Knowledge Bank concept by efficiently building and maintaining a set of services that each institution can take advantage of at its own discretion and pace. OhioLINK already has a number of IR/KB elements in place. The Ohio State University has an active interest in IR/KB and provides an active incubator for the trial and development of statewide IR/KB capabilities.

Continuing State Budget Erosion Jeopardizes Services

Operating Budget

The continued erosion of the OhioLINK operating appropriation remains the focus of our attention. OhioLINK has absorbed a current F03 mid-year cut of 2.5% (\$180,607). In the past two years the OhioLINK budget has been reduced in total \$600,000 (-7.7%). In the F04 executive budget proposed by Governor Taft, OhioLINK's appropriation is \$7,028,000 each year, flat in both F04 and F05 with the latest F03 reduction. It is uncertain what appropriation the General Assembly will ultimately approve.

The OhioLINK program has not maintained its buying power over the past several years. To this point students and faculty have seen minimal impact from these budget reductions. OhioLINK and the Ohio academic libraries have been transferring OhioLINK's lost buying power to library budgets. This has worked reasonably well as a coping strategy, so far, but may not be as effective in the future as the buying power of OhioLINK and library budgets both continue to erode.

Under the current appropriations prospects, it will be unlikely that we can maintain the current set of reference databases accessible statewide. The expansion of our statewide core reference resources in other key disciplines is not possible. We are in danger of losing the economic efficiencies and dramatic expansion of information access that motivated OhioLINK's formation and development. In tough economic times, the OhioLINK program remains a highly effective means to support the quality of Ohio education and our state's competitiveness in the 21st century.

The results of this investigation can then be shared with the Ohio community.

My Learning Space

Both OhioLINK and OSC are considering the creation of an electronic storage area, called My Learning Space, for students and faculty. OhioLINK is focused on storing users' research papers, dissertations, electronic media files, and stored searches. OSC is focused on development of the electronic laboratory notebook to facilitate tracking experiments that are conducted via simulation and visualization. A combined and broadened service could grow to support a student, faculty, or staff member throughout their career by creating an electronic portfolio of their work and interests.

Initially, OLN, OhioLINK, and OSC will examine existing electronic storage services and meet with leaders from across the state regarding needs and expectations. A task force will be formed to frame the requirements, the development approach, and resource needs.

Learning and Course Management Systems

OLN annually negotiates and manages (with assistance from OSC) a statewide license for 31 institutions using WebCT as a course management system. Numerous Ohio campuses have requested that OLN take leadership in becoming more active in open source products such as Open Knowledge Initiative, MIT's Stellar project, or Stanford's CourseWork. Additionally, OLN has explored the feasibility of creating a statewide utility similar to Wisconsin's dot.edu academic services provider (www.uwm.edu/dept/doredul/).

A set of services can be provided statewide to better serve the needs of individual institutions. OLN and OSC will explore mounting existing open source software and continue statewide licensing where appropriate.

Statewide Higher Education Authentication

Many institutions have already or are in the process of creating a campus-wide authentication service. As the use of OhioLINK, OLN, and eventually a set of grid services expand, the OCDE partners will need to implement a robust and secure common authentication system that

works compatibly across institutions statewide. Students will increasingly be taking courses from multiple institutions and will need access to common services. The community must work together to find the best solution for the state, as universal statewide authentication will be a key requirement to access OhioLINK, OLN, and OCDE services and resources. A statewide task force will be created to identify existing solutions and develop a feasibility paper that describes how authentication and authorization can be managed on a statewide basis.

Faculty Development Programs

Faculty development is at the heart of technology-enhanced teaching and learning and at the center of the OCDE. OLN works in collaboration with faculty development directors at Ohio colleges and universities to help faculty meet the challenges that instructional technologies offer.

Newly created digital assets from the OLN Learning Communities will be organized, stored, and shared via the IR/KB. The Ohio Computational Grid will assist faculty in teaching across the state by opening up access to ubiquitous computing. Faculty development activities of various types are essential for the forthcoming activities of the OCDE.

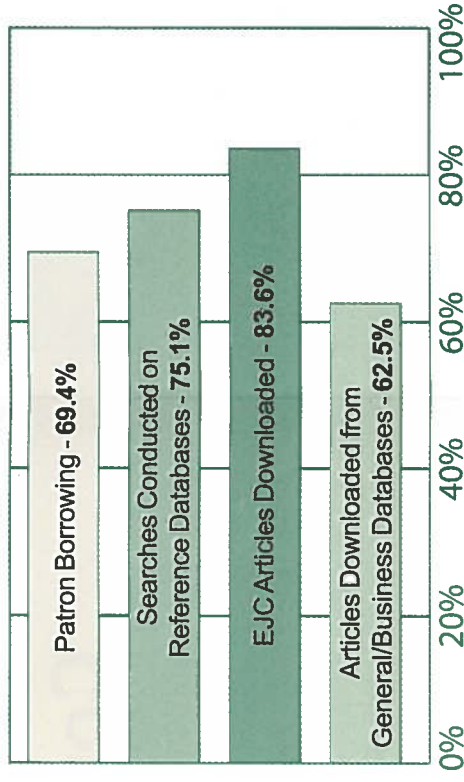
The Ohio Computational Grid

The availability of the Third Frontier Network and the Cluster Ohio project will create the Ohio Computational Grid. The success of the Cluster Ohio project shows that many components of computational services for students, faculty, and administration could be provided via a grid. As the use of grids matures, the OCDE partners believe that it will be common sense for Ohio to think of the state's academic computer systems, data storage, and network as a single unified service.

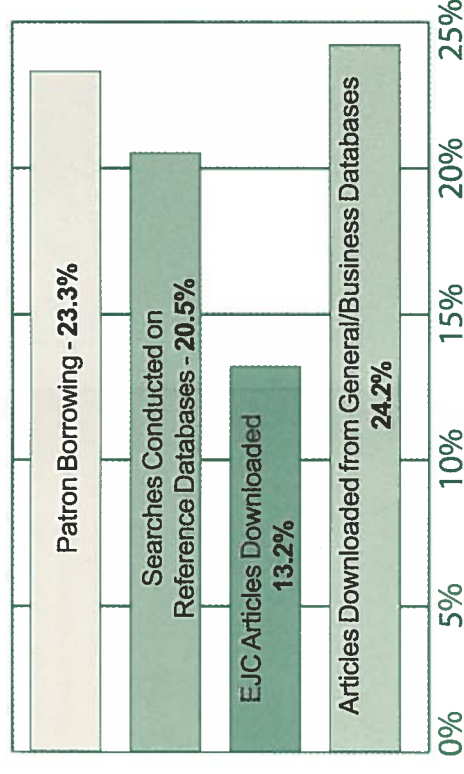
OSC continues to develop and research the management software and tools to create the Computational Grid. Although it will be several years before the Grid can provide comprehensive computing services, there are some areas where the Grid is ready for use: science simulation, volume rendering, and distributed data storage. OSC will prepare periodic updates for the Ohio community including background information on how the Grid can be more broadly applied in instruction and research.

Who Uses OhioLINK?

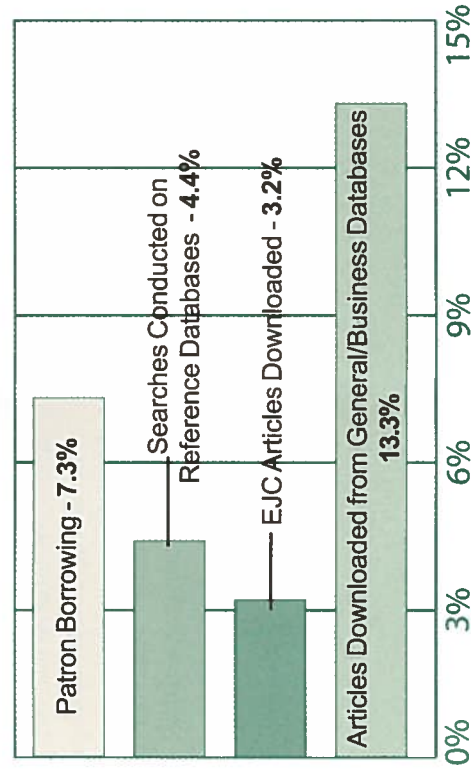
Universities Percentage of Total Use of Select OhioLINK Services



Independent Colleges Percentage of Total Use of Select OhioLINK Services



Two-Year Colleges Percentage of Total Use of Select OhioLINK Services



OhioLINK In Brief...

OhioLINK Adds Electronic Reference Book Collection

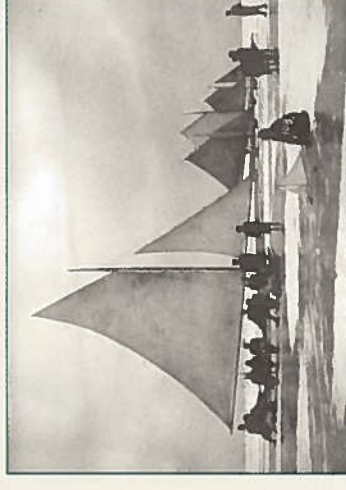
OhioLINK users now have access to the Electronic Reference Books Collection. This collection contains special-topic reference books – encyclopedias, handbooks, biographical collections, guides – from ABC-CLIO, an educational reference publisher. The OhioLINK Electronic Reference Books Collection will grow to a total of approximately 270 books. The collection is available at <http://rave.ohiolink.edu/ebooks/reference/home>.

ISI Databases Available to Independent Colleges

Three databases from the Institute for Scientific Information (ISI), *Arts and Humanities Citation Index*, *Social Sciences Citation Index* and *Social Sciences Citation Index Expanded*, are now available to 41 independent colleges through OhioLINK. The ISI Citation Databases collectively index more than 8,000 high quality, peer-reviewed journals cover-to-cover, providing complete bibliographic data, searchable author abstracts (science and social sciences), and cited references.

New Image Collection and New Zoom Tool Added to DMC

The Digital Media Center now includes images from the Rutherford B. Hayes Presidential Center in Fremont, Ohio. The Charles E. Frohman collection contains more than 200 black and white images produced by Ernst Niebergall, a commercial photographer from Sandusky, Ohio. Niebergall depicted the everyday lives and activities of Lake Erie's southern shoreline residents in the early 1900s. Additional images continue to be added to this collection.



As part of the introduction to this collection, a new image zoom tool has been enabled on these DMC images only. This tool provides a powerful and intuitive interface for zooming into the details of large images, without requiring users to download an entire high-resolution file. This feature will gradually be incorporated into other collections and databases. The zoom function will work on most JavaScript enabled browsers.

To view the Hayes images, select the DMC Historic & Archival Collections database at <http://dmc.ohiolink.edu/History/Login> and try a keyword search on 'Hayes'. To try the zoom functionality, click on the details for a record, and then click on a thumbnail to view the screen-sized image. Then, click on the "ZOOM" link located beneath the screen sized image. If the zoom link does not appear, your browser may not be JavaScript enabled. In the near future OhioLINK will be releasing a zoom tool that is compatible with more browsers and does not require JavaScript.

OhioLINK Member and Participating Institutions with Installation Dates

Antioch College, 1999
 Ashland University, 1999
 Athenaeum of Ohio, 1999
 Baldwin-Wallace College, 1999
 Belmont Technical College, 1995
 Bluffton College, 1999
 Bowling Green State University, 1992
 Capital University, 1996
 Case Western Reserve University, 1992
 Cedarville University, 1996
 Central Ohio Technical College, 1994
 Central State University, 1992
 Cincinnati Bible College & Seminary, 1999
 Cincinnati State Technical and Community College, 1995
 Clark State Community College, 1995
 Cleveland Clinic, 2002
 Cleveland State University, 1994
 College of Mount St. Joseph, 1996
 The College of Wooster, 1996
 Columbus College of Art & Design, 2000
 Columbus State Community College, 1994
 Cuyahoga Community College, 1994
 Defiance College, 1999
 Denison University, 1996
 Edison Community College, 1995
 Franciscan University of Steubenville, 1999
 Franklin University, 2002
 Heidelberg College, 1999
 Hiram College, 1997
 Hocking College, 1995
 Jefferson Community College, 1995
 John Carroll University, 1998
 Kent State University, 1994
 Kenyon College, 1996
 Lakeland Community College, 1995
 Lorain County Community College, 1995
 Lourdes College, 2002
 Malone College, 1999
 Marietta College, 1999
 Marion Technical College, 1994
 Medical College of Ohio, 1993

Miami University, 1992
 Mount Carmel College of Nursing, 1999
 Mount Union College, 1999
 Mount Vernon Nazarene University, 1996
 Muskingum Area Technical College, 1994
 Muskingum College, 1999
 Myers University, 2002
 North Central State College, 1994
 Northeastern Ohio Universities College of Medicine, 1993
 Northwest State Community College, 1996
 Notre Dame College, 1999
 Oberlin College, 1995
 Ohio Dominican University, 1997
 Ohio Northern University, 1995
 The Ohio State University, 1994
 Ohio University, 1994
 Ohio Wesleyan University, 1996
 Otterbein College, 1999
 Owens Community College, 1995
 Rhodes State College, 1994
 Shawnee State University, 1994
 Sinclair Community College, 1994
 Southern State Community College, 1994
 Stark State College of Technology, 1994
 State Library of Ohio, 1994
 Terra Community College, 1995
 Tiffin University, 1999
 University of Akron, 1993
 University of Cincinnati, 1992
 University of Dayton, 1994
 University of Findlay, 1999
 University of Rio Grande & RGCC, 1995
 University of Toledo, 1994
 Urbana University, 2000
 Ursuline College, 1997
 Washington State Community College, 1996
 Wilberforce University, 1999
 Wilmington College, 1999
 Wittenberg University, 1997
 Wright State University, 1992
 Xavier University, 1996
 Youngstown State University, 1993

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OhioLINK Update

2455 North Star Road
 Suite 300
 Columbus, OH 43221 www.ohiolink.edu
 (614) 728-3600 info@ohiolink.edu