Ohio Cyber Collaboration Committee (OC3)

Ohio's cyber community working together to help Ohio's citizens and organizations achieve world class cyber security

Ohio Cyber Collaboration Committee (OC3)

Ohio must posture itself with an enterprise-wide approach that allows for a statewide cyber governance structure. More importantly, Ohio must develop and implement the appropriate authority to provide the capability to respond to and prevent cyber-attacks.

Ohio Cyber Collaboration Committee (OC3)

Our Mission: To provide an environment for collaboration between key stakeholders, including education, business and local government to strengthen cyber security for all in the State of Ohio and to develop a stronger cyber security infrastructure.

Our Goals/Committees: OC3 has established four subcommittees to help it achieve its primary goals: Charter & Governance Public Awareness, Education/Workforce Development, Cyber Range, and Cyber Protection and Preparedness. The committees are composed of Ohioans with a wide range of cyber and educational expertise dedicated to making Ohio a leader in how to integrate public-private partnerships into solving the cyber security problem.
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Ohio Cyber Collaboration Committee (OC3)

Education/Workforce Development Subcommittee:

Improve the training and education of users and students in cyber security by:

a. Identifying critically needed skills and developing training and educational paths to provide the needed skilled workers in the cyber security field.

b. Encouraging interested students and individuals to become involved in and further develop their cyber security in both K-12 and in higher education.

c. Training users at all levels in good cyber hygiene and best cyber security practices.
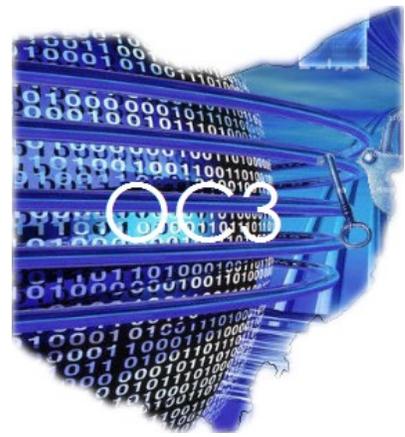
Ohio Cyber Collaboration Committee (OC3)

Cyber Range Subcommittee:

Provide a secure cyber security test and training environment, known as a cyber range, to:

a. Support the education of students at the K-12 and University level

b. Conduct cyber security exercises and competitions to hone cross organizational incident response capabilities and develop future cyber security professionals.

c. Research and test industry-standard best practices.

d. Facilitate the evaluation and testing of innovative technologies and processes.

e. Enable a training environment for the current and future cyber security workforce, including National Guard personnel, state and local government personnel, faculty and students in the education community, and private sector entities.

f. Will be able to connect from any location with OARnet access
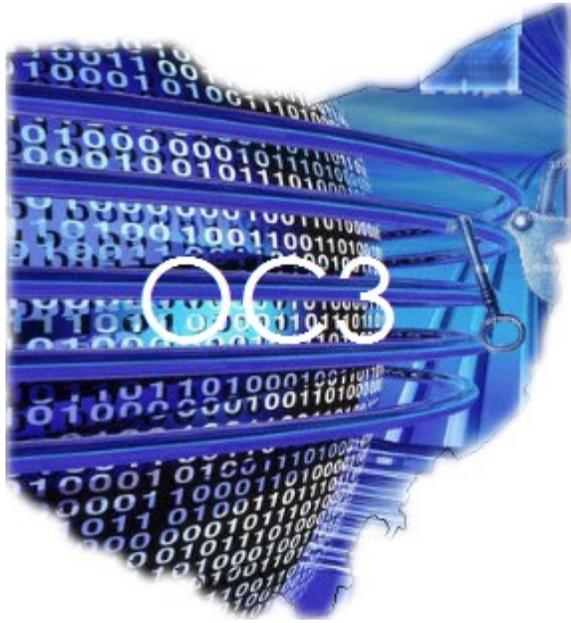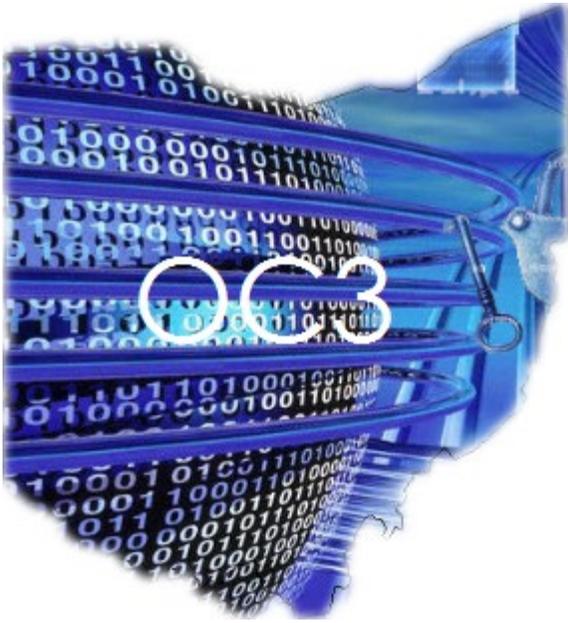
Ohio Cyber Range

Vision

The Ohio Cyber Range Enterprise is a tool to support the vision and lines of effort of the Ohio Cyber Collaboration Committee (OC3)

The range is a learning and teaching tool for students and educators at the K-12 and collegiate level, a workforce development tool, cyber incident response team training tool, and a test bed for cyber programs and systems.

The range will support:

- the curricula of the educational institutions
- certification training/testing of individuals/Cyber Volunteer Corp.
- cyber contests
- testing, defense, and recovery of networks
- cyber readiness exercises with EMAs and ONG
- testing of programs, networks and systems
- internship/co-op/apprenticeship programs
- student cyber portfolio
- workforce development of cyber professionals

Ohio Cyber Range

Phase One

The Ohio Cyber Range has been developed in stages to allow Ohio to learn from its implementation, and to conserve dollars during development.

Phase one was a contract with MERIT that began in the summer of 2017 and provided the following items via virtual log in through OARnet:

* Cyber exercises & training classes
- Executive IT Seminars
- Tabletop Exercise (10 person minimum, maximum of 30 participants).
- IR Workshop (Half Day).
- Capture the Flag (CTF) exercise (6 hours)
* Red vs. Blue practice areas for 15 participants
* Red vs. Blue exercise for 20 participants
- Cyber Training Classes
- Sandbox w/Training
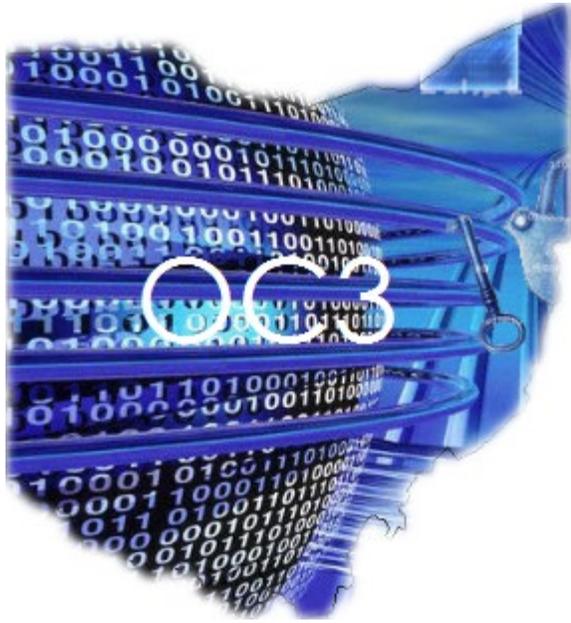
Ohio Cyber Range

Phase Two

Phase 2 was a demonstration project that provides both virtual log in and a "hands on" data center. Phase 2 was located at the University of Cincinnati and provided proof of concept for the full Ohio Cyber Range. This phase began in late fall of 2017 and ended June 30 2019. (Phase 2 was extended to meet the start of Phase 3)

Phase 2 supported virtual log in via OARnet from anywhere in Ohio, but also provided a data center and supported "hands on" SCADA, physical controls, and network switching, as well as provided a physical location for students to perform team exercises and seminars, and allowed Ohio to support internship programs, a cyber portfolio, workforce development and testing of cyber networks and systems.

The MOU with the University of Cincinnati provided 9 outcomes that allowed us to launch Phase 3 in FY 2019/2020. These lessons learned in Phase 2 are being applied in Phase 3. The demonstration site at UC has transitioned into a site as part of Phase 3.
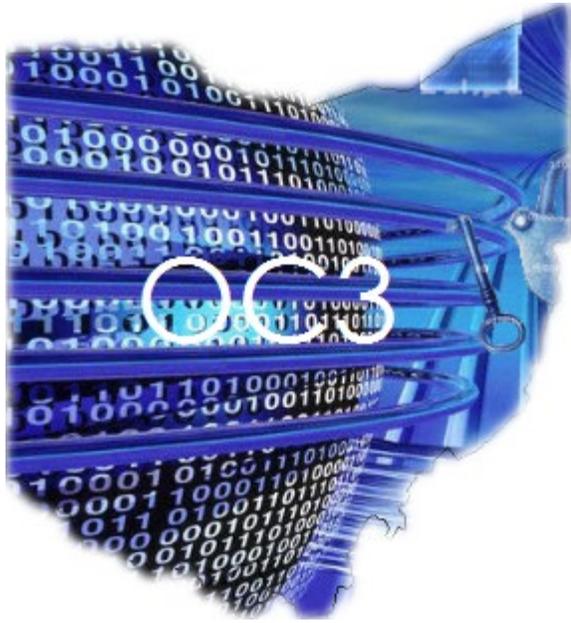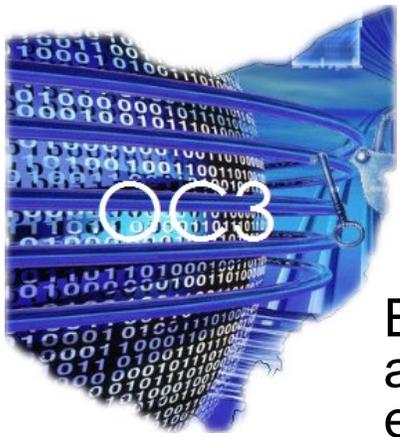
Ohio Cyber Range

Phase Three

Phase 3 builds on Phase 2 and expands the cyber range throughout Ohio. The Phase 3 expansion was signed in November 2019 and continues until complete. There is no upper limit to the number of colleges and universities that can participate in Phase 3. in Banking" etc.

The Ohio Cyber Range will be managed by the Ohio Cyber Range Institute. It is a cloud enterprise with physical locations (Core Services Sites) at the University of Cincinnati and the University of Akron. The OCR provides Regional Programing Centers in at least 9 locations around the state of Ohio. These sites will have everything contained in Phase 2 and will be networked together via OARnet. It is expected that different universities will develop Centers of Excellence that will pair cyber security with areas of study that each University already excels in. For example, "Cyber Security in Industrial Controls," "Cyber Security in Medicine," or "Cyber Security. Ohioans will be able to access the Ohio Cyber Range anywhere there is an OARnet connection such as high schools, public libraries and many other government sites.

Ohio Cyber Range Infrastructure

- Core Service Sites
  - Cincinnati & Akron
  - Range data centers
  - Services & Support
  - Geographically diverse
- Regional Programming Centers (RPC)
  - Instruction
  - Collaboration
  - Hands-on labs
  - Curriculum development
- All connections via OARnet
  - High-speed backbone
  - Virtual access to OCR throughout Ohio

CORE SERVICE SITE TWO
- Range Data Center
- Back-end Support
- Basic Range Services

The University of Akron

CORE SERVICE SITE ONE
- Range Data Center
- Back-end Support
- Basic Range Services

University of CINCINNATI

OARnet
OH·TECH
Ohio Technology Consortium
A Division of the Ohio Department of Higher Education

Regional Programming Center (RPC)

Virtual Access Point (via OARnet)

Ohio Cyber Collaboration Committee (OC3)

Cyber Protection and Preparedness Subcommittee:

Establish volunteer cyber incident response teams (CRT) capable of providing assistance to eligible public and private sector organizations in incident containment, eradication and recovery.

The Ohio Cyber Reserve

Bringing Cyber Talent to the Fight

The Ohio Cyber Reserve

The Need for a Cyber Reserve

1. Ohio's cyber experts are understaffed and over missioned

   - DAS

   - ONG

2. Small governmental entities do not have the resources or expertise to deal with cyber threats

   - Entities need help with assessments and best practices, as well as assistance when a cyber event occurs
     - Townships, villages, small cities, and smaller counties, eligible nonprofits
     - First responders, city services and utilities, Boards of Elections, public data

3. Critical infrastructure needs more protection, especially smaller utilities and emergency services

4. K-12 educators are typically not cyber security experts
   - They need help setting up cyber programs and cyber clubs with in Ohio's high schools and junior high schools
   - Students need mentors who can inspire them and show them the pathways to a cyber career

5. Ohio needs a way to tap into the wealth of cyber talent that exists throughout the state and connect that talent to the needs of Ohio, but in a way that is sustainable from a budget perspective

The Ohio Cyber Reserve

The Ohio Plan

1. Create a volunteer firefighter style Cyber Reserve made up of trained civilians nested under the Adjutant General's Department

2. Legislatively modeled after the Ohio Military Reserve ORC Chapter 5920

3. The Adjutant General's Department will develop appropriate policies to support and regulate the teams

   - Will be volunteer civilians subject to state call up in a cyber emergency to support the Ohio National Guard's cyber response efforts

   - While in training status, volunteers will not be paid, but when activated will be paid as state civilian employees

   - Volunteers will be vetted with appropriate background checks, training requirements

   - Volunteers will be organized into regionally based teams

   - The teams will be provided training, equipment and IDs and will work out of ONG armories

   - When fully trained and certified will be available for call up to assist in cyber response

   - Volunteers who are not fully trained, but who have been vetted can be used to support student mentoring efforts under the Ohio Cyber Collaboration Committee (OC3)

The Ohio Cyber Reserve

What will they do?

1. While in a training status, the Cyber Response Teams will hone their skills, train as teams, and obtain all necessary certifications and clearances.

2. While in a training status, the Cyber Response Teams will provide outreach, training, education, and security assessments to schools, eligible governmental entities and critical infrastructure.

3. While in a training status, the Cyber Response Teams will assist K-12 educational efforts supporting cyber clubs and mentoring students in support of the Ohio Cyber Collaboration Committee's (OC3) Education and Workforce Development efforts.

4. When called to state active duty status, the Cyber Response Teams, under the direction of the Adjutant General's Department will be available to respond to cyber incidents at eligible governmental entities and critical infrastructure
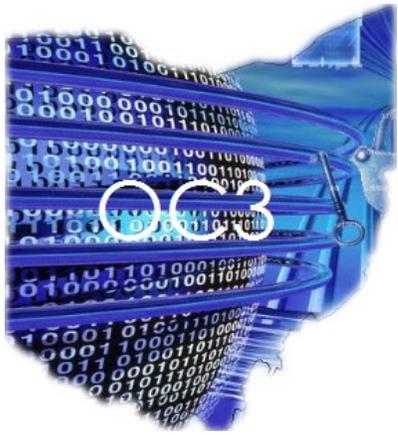
The Ohio Cyber Reserve

Want to be a member?

1. Register for an account @ APAN.org

2. Navigate to the link below and register. Volunteer Registration Site: https://wss.apan.org/ng/ONG_CPT/OHCR/SitePages/Home.aspx

3. This site will have all of the information of prerequisites, ideal candidates, etc.

4. For more information contact:

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http://ohioc3.org/

Ohio Cyber Collaboration Committee (OC3)

Charter, Governance, Public Awareness Subcommittee:

Identify and share best practices, policies and technologies for all Ohioans by:

a. Providing a collaborative research and development environment for the development and testing of innovative technologies and processes.

b. Ensuring cyber threats are part of emergency planning at all levels both public and private.

c. Using public awareness tools to educate and inform key decision makers of good cyber security practices and the latest information.

d. Educating the general public on the importance of cyber security for the "Internet of Things."

e. Sharing threat intelligence between both public and private sector entities, facilitated through the Ohio Homeland Security State Fusion Center.

Ohio Cyber Collaboration Committee (OC3)

OC3 is supported by a "whole of government" approach to ensure its success. Primary sponsors are the Department of Higher Education, the Ohio National Guard, The Ohio Department of Education, The Department of Administrative Services, The Department of Transportation, and The Department of Public Services.

OC3 has over 120 organizations who are active members who support the OC3 mission and objectives

OHIO CYBER COLLABORATION COMMITTEE (OC3)

Ohio's cyber community working together to help Ohio's citizens and organizations achieve world class cyber security

Points of Contact

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