

Why CPS CDC ?

Cyber defense competitions (CDCs) are used to develop technical skills and a deeper understanding in cyber security. While CDCs have solidified and enriched student understanding and competency in defending computer and network systems, none of these competitions have focused the protection and exploitation of critical infrastructures. ISU received an NSF grant to develop a framework for integrating critical infrastructure systems (e.g., power grid and water grid) into our effective and well established CDC model. The resulting framework will enable others to replicate CPS-CDCs providing an avenue for producing professionals who can help secure cyber-physical systems. By leveraging the ISU **ISERink / ISEAGE** platforms, we can provide a scalable framework to realize a *first-in-the-nation* CPS-CDC promoting inquiry-based learning. (ISEAGE/ISERink is funded by DoJ).

Details

You are invited to experience the first CPS-CDC.

Who should attend This event is open to the public. We encourage schools, companies and government agencies interested in security and/or CPS security to attend. You will have a chance to learn about how we implement the CPS-CDC and how you can utilize our framework. You can also interact with the student teams participating in the event.

Dates: February 12 & 13, 2016

Location: 1313 Coover Hall, ISU

Additional Info: www.iserink.org

Schedule:

Fri: 12 – 10 pm Team final setup
3 – 4 pm Overview of CPS-CDC for sponsors and guests
4 – 6 pm Open house for sponsors and guests
Sat: 8 – 4 Competition
9 – 10 am Overview of CPS-CDC (sponsors and guests)
4 – 5 pm Red team debrief and awards

How to participate (email cps-cdc@iastate.edu):

Red Team: We invite cyber security experts to come on Saturday and be part of the red team and test the defenses of the blue team.

Blue Team: The number of blue teams is limited for this first CPS-CDC. We are allowing a few teams beyond the teams already invited. (contact us by **Jan 10** if interested)

Guest and/or Sponsor:

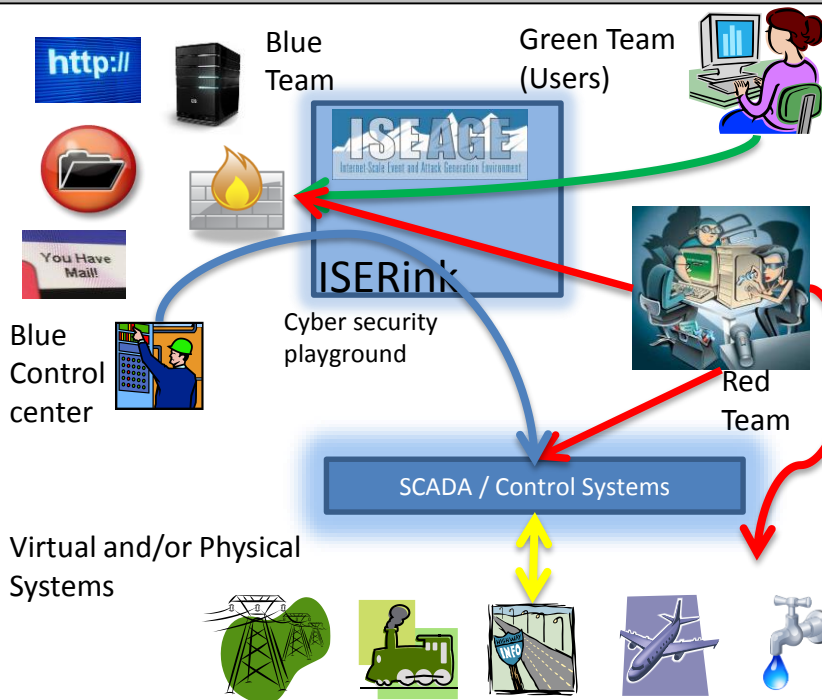
We encourage anyone interested in the CPS-CDC to attend and if your organization is interested in sponsoring the event please contact us.

Watch via streaming video: (see www.iserink.org for details)

Registration: We would like to get an estimate of the number of attendees.

Email by Feb 5: cps-cdc@iastate.edu if you wish to participate.

Iowa State's CPS-CDC Architecture: ISEAGE (ISERink) + CPS



Goals:

1. *Enhance the knowledge of students studying security to include the protection of CPS.*
2. *Develop a framework to integrate cyber-physical components into an existing cyber defense competition model.*
3. *Develop scenarios, scoring rubrics, real-time anomalies, and other materials to allow other groups to host their own CPS- CDC.*
4. *Create a set of effective inquiry-based laboratory exercises and assignments that support the CPS-CDCs.*

Unique Features:

1. Multi-level CPS integration
 - Fully virtual CPS
 - Hybrid (virtual + physical)
2. Full network data capture
3. Realistic network address space
4. Cyber and physical based attacks
5. Integrated scoring and visualization system