



# Fox DataDiode

secure one-way communication

## Secure Multi-Domain Desktop

Access to multiple differently classified domains has always been a cumbersome process. Due to security regulations classified domains have to be physically segregated from each other. Users have to switch physically from one workplace to another, just to check their email or to upload a file. Fox DataDiode combined with Keyboard, Video and Mouse Switch (KVM) provides a flexible solution to data separation in the office.

### Red/Black Segregation

Organizations currently handle confidential information on multiple separated computers, where classified (Red) information is stored on a Red computer and unclassified (Black) information is stored on a Black computer. Practically this means that the user has two computers, two monitors, two keyboards and two mouses on his desktop. Also, due to the Red/Black segregation transporting information from the Black to the Red computer has become a cumbersome process, since unsecure transportation media have to be used.

### KVM

KVM switches are used to access multiple computers through a single monitor, keyboard and mouse. This solution saves desktop space and gives the user a flexible way of switching between multiple computers and domains. Secure KVMs can be found in the Common Criteria Portal [1] or NATO Information Assurance Product Catalogue [2].

## Fox DataDiode

The Fox DataDiode is a Common Criteria EAL 4+ certified [1] unique hardware based solution that enforces secure one-way communication. Using the Fox DataDiode it is possible for information to enter the Red network without leaking information to the Black network.

## Drag and Drop file transfer

Based on the Common Internet File Systems (CIFS) users of Windows, Linux or Mac can easily share information with each other. On the Black network users are provided with a Dropbox folder where information can be dropped. This information is forwarded by the Fox DataDiode and transferred instantly to the designated recipient in the Red network.

## Automated Mirroring

Keeping a classified network up-to-date is an unyielded task which requires a lot of effort. By using the Fox DataDiode Windows Servers Update Service (WSUS) application or the Anti-Virus application, the update/repository servers on the Black network can automatically be updated to the Red network. For example, network administrators on the Black side approve the updates on the WSUS server. The application mirrors all the necessary update information, while the administrator switches to the Red network without moving to a different desktop. On the Red network the administrator deploys the new updates further inside the network to the clients.

## Email Forwarding

The Fox DataDiode forwards email traffic from the unclassified (Black) network to the classified (Red) network. Users can work on the Red computer while receiving emails without having to switch back to the Black computer.

Together with advanced SMTP filtering, a secure inbound connection can be created. Furthermore, by deploying a second Fox DataDiode together with an outbound SMTP filter, a secure two-way email application can be configured.

## Desktop Monitoring

By configuring the Black computer it becomes possible to stream the desktop on the Black side, through the Fox DataDiode, to the Red network and (multiple) Red computers. With this option multiple users can monitor processes on the Black network without switching to the Black side.

## Sharing Information

From a single Black computer streaming video, files or emails can also be shared with multiple users on the Red network. Instead of copying the information to a media carrier and transporting it to the designated users. The information can be forwarded or streamed through the Fox DataDiode to a specific Red computer. Since information is shared real-time, this improves usability and productivity without degrading security.

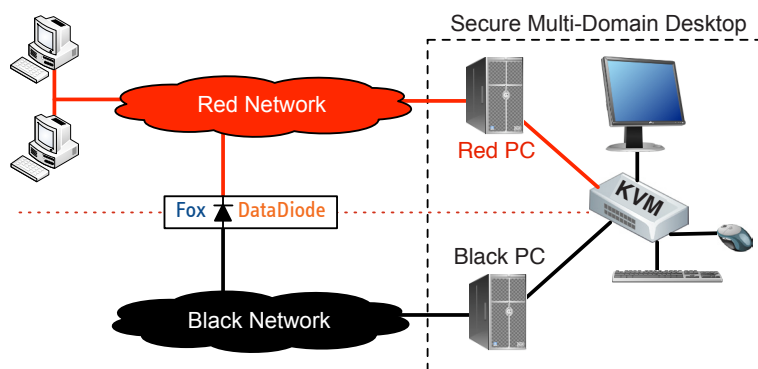
## Secure Multi-Domain Desktop

One-way communication through the Fox DataDiode can be augmented with various applications which enhance the usability of a multi-domain desktop without degrading security:

- Drag and Drop file transfer
- Automated Mirroring
- Desktop Monitoring
- Email Forwarding
- Sharing Information

## Links

1. Common Criteria Portal  
<http://www.commoncriteriaportal.org/>
2. NATO Information Assurance Product Catalogue  
<http://nato-cat.softbox.xo.uk/>



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