

# XD Bridge™



## Assured Information Sharing (AIS) Solution

*Low-cost PL5 uni- or bi-directional cross domain bridge appliance in a rack-mounted or tactical form factor*

The Tresys XD Bridge Cross Domain Solution (CDS) offers a novel approach to solving cross domain information transfer problems that delivers unmatched flexibility, low cost, and high performance. The unique XD Bridge architecture enables a single platform to support a wide range of CDS transfer and access applications, including the rapid development of custom filtering components. The result is a CDS that directly addresses the evolving needs of CDS users.

XD Bridge adds strong security at each layer of the system, including a Trusted Hardware Component, a matching Trusted Operating System (TOS), and multiple Trusted Software Components (TSC) cryptographically bound to the hardware and TOS. Each TSC provides unique data filtering and network integration features, allowing the development of new data filtering applications without costly development and re-certification of an entire CDS. Tresys currently offers a variety of file-transfer TSCs and other TSCs are in development.

XD Bridge is available for sale to the US Federal Government, US-owned Critical Infrastructure (CI), and US-owned Defense Industrial Base (DIB) organizations.

### Solution Benefits:

- Flexible architecture enables rapid deployment of data filtering applications (TSCs) to meet unique requirements of specific Government, CI, and DIB customers
- Features two fully physically and electrically isolated computer systems connected by uni-directional, high-performance fiber interfaces
- Provides two uni-directional channels that can be used separately for highest security or together to form bi-directional communication managed with filtering to limit backchannels
- Allows for a variety of configurations to solve common CDS use cases through the combination of flexible hardware and TSCs
- Available in both rack mount (1U) and tactical form factors for use in an enterprise environment or in the field
- Provides DCID 6/3 PL5\* level high-assurance and separation of the Certification and Accreditation (C&A) of the Operating System (OS) and CDS functions, decreasing the development and accreditation burden for custom solutions
- Incorporates reusable TSC components into the system to enable rapid development in support of new mission requirements
- Includes TOS support for common low-level networking protocols to external networks, enabling TSCs to support virtually any protocol run over Ethernet
- Allows flexible management and optional remote monitoring of the platform and TSCs

\* XD Bridge has been Certified and Accredited at DCID 6/3 PL5 by a US Government agency

## How It Works:

The TOS provides basic services, security, and loading of TSCs as well as integrated advanced operating features. Based upon Red Hat Enterprise Linux 5.6 and hardened using Tresys Certifiable Linux Integration Platform (CLIP) and a custom Security Enhanced Linux (SELinux) policy, the TOS is:

- **Stateless:** No data can be written to internal storage (the OS starts from a known good state on every boot), and
- **Userless:** Ensuring that the OS has no users and cannot be used interactively.

The system can also be monitored remotely via the TSC.

TSCs are software programs that are loaded by the TOS to perform the cross-domain functions including network connectivity, communication with external nodes, data inspection and cleansing, and policy enforcement. Within the boundaries established by the TOS, TSCs transfer data across the fiber devices using a custom network interface, allowing the use of standard IP protocols. TSCs are configurable, very flexible, and can be constrained with SELinux policy to provide many traditional CDS functions.

There are many TSCs available that can be implemented and customized by either Tresys or a customer (with Tresys assistance). Tresys and various customers are developing a range of TSCs. Additional form factors, performance enhancements, and custom TSCs are in development and those features can be accelerated at customer request. Existing and planned TSCs include FTP transfer w/ virus scanning, streaming video with uni-directional data flow, and bi-directional VOIP filtering.

## Specifications:

- Peak power consumption per side (red/black): 85W
- Typical power consumption per side (for real-world loads): 35W
- Supply/cooling solution of approximately 170W peak and 70W typical
- Power supply voltage: 12VDC +/- 5%
- Standard 1U rack mount and multiple tactical form factors available

## About Tresys

Tresys innovates and applies advanced technologies to quickly solve the needs of customers requiring agile responsiveness to security requirements. By leveraging secure open source software, our products and services support the most sensitive security missions around the world. As a result Tresys enjoys a distinct reputation for shifting the way governments and businesses approach security. For more information, visit: [www.tresys.com](http://www.tresys.com).

