# AROWData Diode

AROW Data Diode Support Software -AROWBftp

Data Diodes can perform most of the same functions as normal routers but usually with the aid of some support software. This software is used to marshall the data so that it can be accessed as if it were presented by a normal router.

System Administrators must make data available to users in response to requests that are extra to the normal user interaction with applications, for example, requesting web pages or database access. Marshalling software usually makes copies of data on the uncontrolled side of the diode, perhaps with extra filtering and data inspection. The basic form of software applications supporting data diodes is shown here:
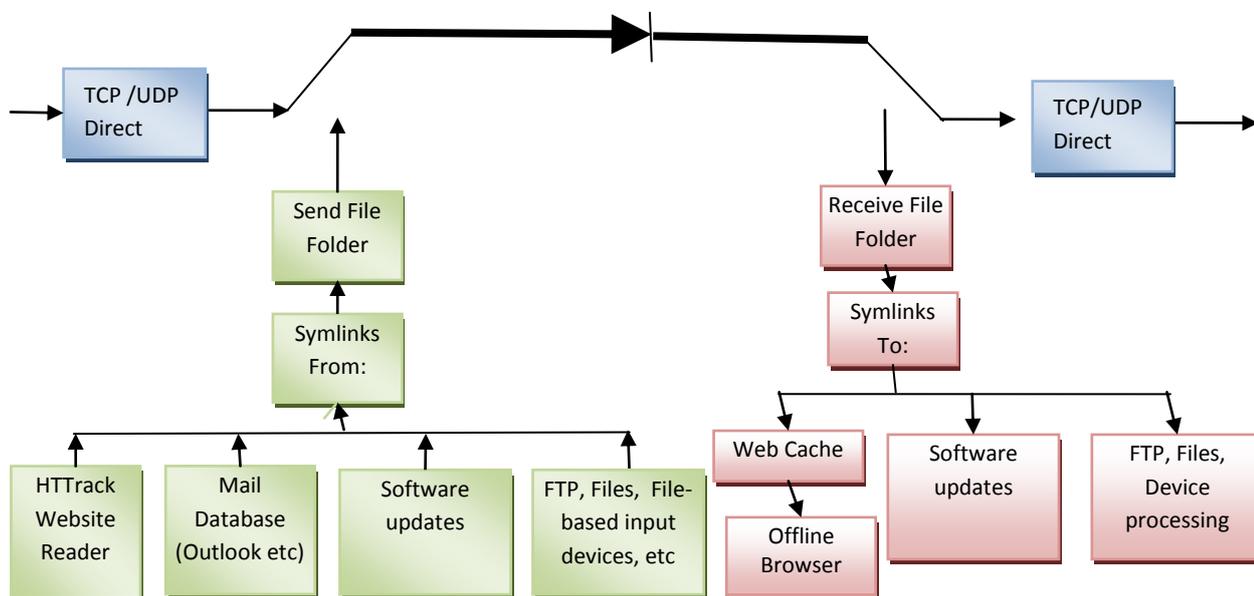
Data can be sourced directly from and to a TCP stream, or from and to management software. The principle of AROWBftp management software is the replication of file tree structure across the diode.

Data in file format can be transmitted across AROW and reconstructed seamlessly on the protected side. So application support software consists of conversion to a consistent file structure.

AROWBftp is provided as open source Python scripts under the GPLV3.0 licence. These scripts perform all the file management, scanning, error detection and log reporting required for confident system administration. The cross-platform and high-speed performance of modern Python ensures easily auditable and customisable code that can be used without licence fees or maintenance contracts.

AROW Data Diode
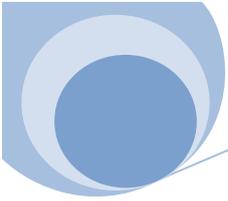
Symlinks

The most useful and simplest of these is the use of Symlinks (Symbolic Links). Standard on Unix/Linux systems and available on Windows NTFS systems since Server 2003, Vista and some versions of XP, these are simply links to the files in a system that are treated as if they were the files themselves. Thus access, copying, deleting, moving etc can be accomplished (subject to permissions) as if directly operating on the files. For example, a symlink can be created to a mail database, placed in AROWBftp's Send folder, and all of the database files will be copied to AROWBftp's Receive folder on the protected side of AROW. Symlinks placed in the Receive folder can be used to direct the received database files to their final destination for user access.

Web Access

Similarly Web pages can be transmitted after conversion to a file format by applications such as HTTrack. Again, symlinks can be used to control source and destination paths, and a stnadrd web browser in offline mode can be used to access the cached files on the protected side of AROW.

Other sources

This principle can be applied to any file-based transaction including hardware input devices, such as webcams and data acquisition devices.

Where possible, we recommend open source, cross-platform software that can be examined and audited

Contact us for detailed descriptions using HTTrack, FFmpeg, Netcat (and it's Windows port ,Ncat) and symlink manipulation tools such as Winbolic.

AROWBftp Features

- Full-speed GBE support
- Automatic file tree replication
- Guaranteed file integrity when used with AROW-G hardware
- Customisable and extendable Python open source code
- Comprehensive logging and performance notification
- Cross-platform single code source
- Simultaneous File Transfer, TCP and UDP stream transfer
- Multiple Diode instance support for load sharing

---

somerdata

Somerdata Ltd
1 Riverside Business Park
St Annes Road
Bristol
BS4 4ED
UK

Phone: +44 (0)1179 634050
Fax: +44 (0)1173 302929

E-mail: *sales@somerdata.com*
Website: *www.somerdata.com*