

Claims

What is claimed is:

1. A unidirectional data network system for unidirectional transfer of files from a sender network to a receiver network, the system comprising:
 - a data diode configured to provide a one-way link between the sender network and the receiver network so as to unidirectionally transfer files from the sender network to the receiver network, the data diode comprising:
 - a data diode sender; and
 - a data diode receiver, wherein the data diode receiver is communicably coupled to the data diode sender for unidirectional transfer of files from the data diode sender to the data diode receiver, wherein each file is identified using a file identifier;
 - wherein the data diode sender is configured to send a file list to the data diode receiver, the file list comprising file identifiers of all the files to be sent through the data diode and the data diode receiver is configured to detect a loss of one or more files based on comparing the file identifiers of received files with the file identifiers present in the file list, the data diode sender is further configured to send the file list a predetermined number of times to the data diode receiver.
2. The system of claim 1, wherein the data diode sender is configured to periodically send the file list to the data diode receiver.

3. The system of claim 1, wherein the file identifier is at least one of a file name and a file number.
4. The system of claim 1, wherein the data diode receiver, upon detecting the loss of the one or more files, is further configured to generate a log containing the file identifiers of the one or more lost files.
5. The system of claim 1, wherein the data diode receiver, upon detecting the loss of the one or more files, is further configured to generate an alert message indicating the loss of the one or more files.
6. The system of claim 5, wherein the alert message comprises the file identifiers of the one or more files that are lost during the transfer of files from the data diode sender to the data diode receiver.
7. The system of claim 5, wherein the alert message is communicated using Simple Mail Transfer Protocol (SMTP) or Syslog to a user device or a monitoring unit communicably coupled to the data diode.
8. The system of claim 5, wherein the alert message is used to trigger retransmission of the one or more files that are lost during the transfer of files from the data diode sender to the data diode receiver.
9. The system of claim 8, wherein the retransmission of the one or more lost files is triggered using the file identifiers of the one or more lost files.

10. A method for unidirectional transfer of files from a sender network to a receiver network using a data diode comprising a data diode sender and a data diode receiver, the method comprising:
 - receiving, by the data diode receiver, a file list comprising file identifiers of all the files to be sent through the data diode;
 - receiving, by the data diode receiver, the files from the data diode sender over a one-way link; and
 - detecting, by the data diode receiver, a loss of one or more files based on comparing the file identifiers of received files with the file identifiers present in the file list,
 - wherein receiving the file list comprises receiving the file list a predetermined number of times.
11. The method of claim 10, wherein receiving the file list comprises periodically receiving the file list.
12. The method of claim 10, wherein the file identifier is at least one of a file name and file number.
13. The method of claim 10 further comprising generating a log containing the file identifiers of the one or more lost files upon detecting the loss of the one or more files.

14. The method of claim 10 further comprising generating an alert message indicating the loss of the one or more files upon detecting the loss of the one or more files.
15. The method of claim 14, wherein the alert message comprises the file identifiers of the one or more files that are lost during the transfer of files from the data diode sender to the data diode receiver.
16. The method of claim 14, wherein the alert message is communicated using Simple Mail Transfer Protocol (SMTP) or Syslog to a user device or a monitoring unit communicably coupled to the data diode.
17. The method of claim 14, wherein the alert message is used to trigger retransmission of the one or more files that are lost during the transfer of files from the data diode sender to the data diode receiver.
18. The method of claim 17, wherein the retransmission of the one or more lost files is triggered using the file identifiers of the one or more lost files.