What is a High Availability Library?

The High Availability Library (HAL) addresses the need for highly resilient one-way network links, by providing an active-passive cluster using a secondary BAE Systems Cross Domain Solution (CDS). Any failures on the primary data path will cause the secondary data path to automatically become active, minimising the downtime associated with a hardware or software fault.

How does it work?

A dedicated HAL interconnect link is used to allow the primary and secondary Data Diode servers to communicate. All data transmitted through the primary data path is also replicated along the secondary data path using this dedicated link. If the secondary system cannot confirm that the primary system is functioning correctly, it automatically assumes the active role and begins sending data to its final destination.
## Technical Specifications

| Supported Products | – BAE Systems Data Diode  
| – BAE Systems Data Forwarding Application (DFA)  
| – BAE Systems File Transfer Application (FTA)  
| – BAE Systems Email Transfer Application (ETA)  
| – BAE Systems Java Message Service Proxy (JMSP)  
| – BAE Systems Datagate Orchestrator (DO) |
| Configuration | – Console-based Configuration Client  
| – Web Configuration Client (Optional) |
| Auditing & Monitoring | – Log files  
| – Syslog  
| – SNMP traps (v1 & v3)  
| – Web Configuration Client (Optional) |
| Minimum Hardware | – 2x BAE Systems CDS systems  
| – 8-Core 2.9GHz CPU  
| – 32GB RAM  
| – Fibre NIC (for connection to Data Diode)  
| – Copper/Fibre NIC (for interconnect between primary and secondary servers) |
| Operating Systems | Red Hat Enterprise Linux 6 and 7 |

- Detects single points of failure in the BAE Systems CDS, and facilitates automatic fail over to the secondary data path if a failure occurs on the primary data path.
- Facilitates automatic fail over back to the primary system once the cause of the failure on the primary data path has been remediated.
- Configurable failover tolerances allow the system to be tuned to meet performance and reliability requirements.
- Alias IP addresses are used on the source network to ensure that all network traffic is routed to whichever data path is currently active.