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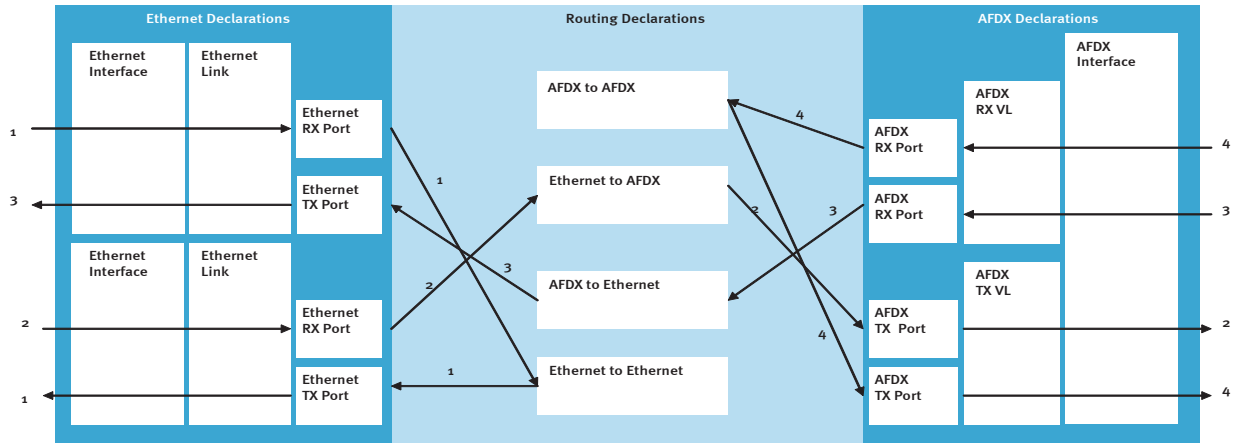
PortGate/AFDX®
Protocol Conversion Tool
A615A/Ethernet – A615A/AFDX®



PortGate/AFDX® Configuration

- Forwards UDP-based traffic between AFDX® and Ethernet interfaces
- Translates ARINC 615A over Ethernet to ARINC 615A over AFDX®
- Turns TechSAT's family of Ethernet Data Loader products into AFDX® Data Loader tools
- Fully supports all ARINC 615A operations: FIND/SNIP, Information Operation, Upload Operations, Download Operations
- Simple configuration using MS-Excel, Open Office, or text editor
- Highly configurable at AFDX® port and VL level

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PortGate/AFDX®
Protocol Conversion Tool A615A/Ethernet – A615A/AFDX®

Application Scope

PortGate/AFDX® is a configurable gateway, which can forward UDP-based traffic between AFDX® and Ethernet interfaces, i.e. it is able to move frames from either network to the other without modifying the data.

PortGate/AFDX® combines the functionalities of a router and a gateway in the following way:

> It can move every single Ethernet frame between different subnets associated to different Ethernet interfaces.
> It can move every single AFDX® frame between different AFDX® ports associated to different virtual links and interfaces.
> It can deliver every single Ethernet frame to the AFDX® interfaces and in the reverse direction with automatic IP fragmentation.

Different from a commercial gateway, PortGate/AFDX® does not perform any re-assembly, de-encapsulation, or inspection of the contents of the frames as they pass through, but automatically routes every frame (i.e. every fragment in case of IP fragmentation) according to the configuration only.

Hardware/Software Requirements

PortGate/AFDX® runs as a console application on Windows platforms and uses the AFDX®-PMC card from TechSAT.

The PortGate/AFDX® configuration (see diagram on front page) is stored in a comma-separated value (CSV) file, which can be edited with MS-Excel, Open Office, or any text editor. PortGate/AFDX® allows defining the following declarations:

> Ethernet declarations consisting of Ethernet interfaces, links (i.e. IP addresses), receive and transmit ports
> AFDX® declarations consisting of AFDX® interfaces, receive and transmit Virtual Links, receive and transmit ports
> Forwarding rules defining the routing of every frame on a port basis (combination of Ethernet/AFDX® receive ports and Ethernet/AFDX® transmit ports)
> AFDX® and Ethernet data loading targets used for the data loading support

PortGate/AFDX® allows forwarding data from one receive port to multiple destinations and allows buffering frames on a forwarding rule basis.

Support for Data Loading

PortGate/AFDX® allows turning an ARINC 615A NetLoader data loading system into an ARINC 615A over AFDX® data loading system with minimal configuration. PortGate/AFDX® can be used as an interconnecting device between Ethernet data loaders (e.g. TechSAT's NetLoader) and AFDX® targets, providing a suitable solution for loading AFDX® devices.

PortGate/AFDX® is ARINC 665 compliant and fully supports all ARINC 615A operations:

> FIND/SNIP
> Information Operation
> Upload Operations
> Download Operations

PortGate/AFDX® permits automatic discovery of Ethernet targets and loading of multiple AFDX®/Ethernet devices from one data loader

Technical Data

Hardware Requirements

- AFDX®/ARINC 664 PMC module (PN 700008)

Software Options

- A615A NetLoader (PN 202053)

Operating System Options

- Windows 7 32 bit

Part Number

- 202041

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