NFS Network File Server

High-Performance Onboard Connectivity across your Boeing Fleet

PART NUMBER 2247200-0X

Teledyne Controls' Network File Server (NFS) is the main hardware component of Boeing's Onboard Network System (ONS), and functions as a stand-alone server to provide a common, compact, non-essential, high-performance onboard network solution. The NFS facilitates data transfer between avionics systems and IP-based equipment, providing greater accessibility to a wide range of applications. This high-reliability device, built to OEM standards, combines in one single and lightweight unit the multiple functions of an ARINC 429/717/Discrete to Ethernet converter, a multicast router, a firewall, a data loader, and a communication gateway.

The Onboard Network System (ONS) is a computer-based information system that supports flight, maintenance, and cabin operations. The server controls communications between connected airplane systems. With optional communications equipment installed, NFS supports network connections between airplane systems and ground-based networks connected to airline operational end points.

Extensive Networking Functions

The NFS is designed to support extensive networking infrastructures. It connects previously isolated onboard systems and sub-networks with various Ethernet wired interfaces, while enforcing network security with its firewall functionality. It can also manage Quality of Service (QoS), allowing operators to prioritize traffic for critical applications.

Flexible Communication Gateway

Off board communication is also available through the NFS, as the system can interface with a variety of communication systems and high-speed links, to provide connectivity between the airplane and the airline's ground networks.

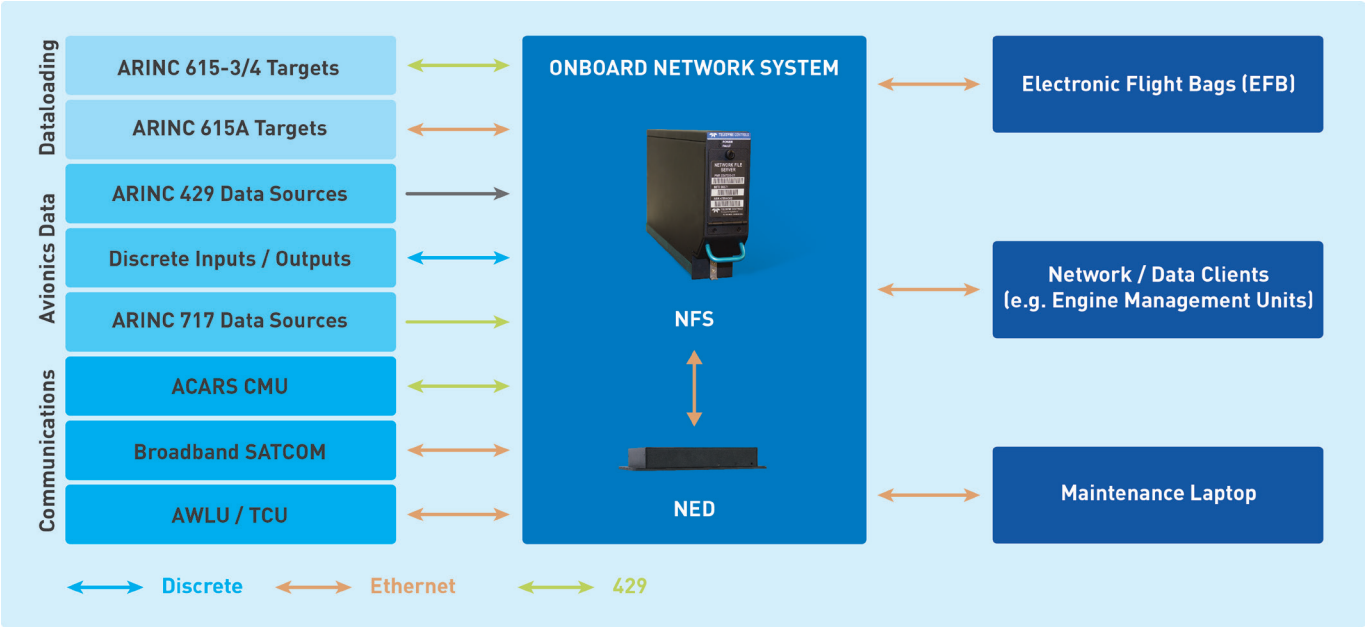
ARINC 615-4 and ARINC 615A Data Loading

The NFS replaces the Airborne Data Loader, as it provides full 615-4 and 615A data loading capability. This allows operators to streamline their data loading processes, by eliminating the need to reproduce, distribute and load countless floppy disks every month. The NFS hosts the mass storage device (MSD) function, which provides software parts and data storage capacity.

Application Hosting

The NFS can operate installed applications that support maintenance actions, and cabin operations.

The ONS user interface features a webpage, which can be accessed by a maintenance laptop computer, electronic portable terminal (EPT), or the newer model maintenance access terminal (MAT) when configured properly. The maintenance laptop (ML), or electronic portable terminal (EPT) is connected to an airplane network data port, using an Ethernet cable.



Key Features:

- Designed to Boeing OEM standards
  - Standard on Boeing 737 MAX and 777
  - Available on Boeing 737 NG
- Network management
- ARINC 429/717/Discrete to Ethernet converter
- Switch and Router functions
- PPPoE network protocol
- Port mirroring
- Extended networking with multiple NFS and NEDs
- 615-4 and 615A data loading
- 615A loadable (over Ethernet)
- ACARS interface
- IP communications management
- ARINC 429 avionics interface (including label re-transmission)
- ARINC 717 input
- Airplane discrete interfaces
- Ethernet interfaces (fiber optic and quadrax)
- ARINC 818 HD video output (fiber optic)
- Front removable SD Card storage
- Front Panel Access for 1GB Ethernet, USB 3.0/2.0, and HDMI ports

Characteristics:

- Intel® Core™ i7 Server Subsystem Processor
- 8-16GB DDR3 RAM
- Up to 1TB Solid State Disk (SSD) storage
- 1x 10Gb fiber optic Ethernet rear port
- 4x 1Gb fiber optic Ethernet rear ports
- 3x 1Gb quadrax Ethernet rear ports
- 13x 10/100Mb quadrax Ethernet rear ports
- 2x 3Gb fiber optic ARINC 818 HD video rear ports
- Size: 2 MCU case per ARINC 600
  15.1" L x 2.27" W x 7.62" H
  (383 mm x 57 mm x 193 mm)
- Weight: 7.7 lbs / 3.5 kg
- Power: 69 watts max at 115VAC 400Hz
- Cooling: 11 kg/hr minimum air flow per ARINC 600