

1760 Routing Protocol Requirements

RATIONALE

The MIL-STD-1553 data bus was established over 30 years ago and is a basic part of the avionics architecture of numerous military aircraft. This bus is incorporated as a fundamental part of the aircraft-store interface defined in the standard for the Aircraft/Store Electrical Interconnection System MIL-STD-1760, which uses the majority of the definitions from MIL-STD-1553, but restricts certain applications. In recent years, the bus structure evolved from a single bus to hierarchical busses to distribute workload between avionic computers and to overcome the limitation of addressable remote terminals. However, neither MIL-STD-1553 nor MIL-STD-1760 define the methods by which information may be transferred through multi-layer, hierarchical topologies. Some initial work was carried out to incorporate a peeling protocol definition in MIL-STD-1760, but was suspended, as the approach being taken was considered inadequate following the introduction of intelligent store carriage systems. In addition, the NATO NIAG ALWI II study completed in 2004 also identified the need for routing functions "to be added to the existing MIL-STD-1760 to cope with intelligent carriage store systems".

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INTRODUCTION

It is intended to define a routing protocol or a family of routing protocols for a network layer service (OSI layer 3, see Figure 1) between hierarchical data buses (starting with MIL-STD-1553) within a MIL-STD-1760 Carriage Store. This document establishes the requirements for the preparation of appropriate routing protocols.

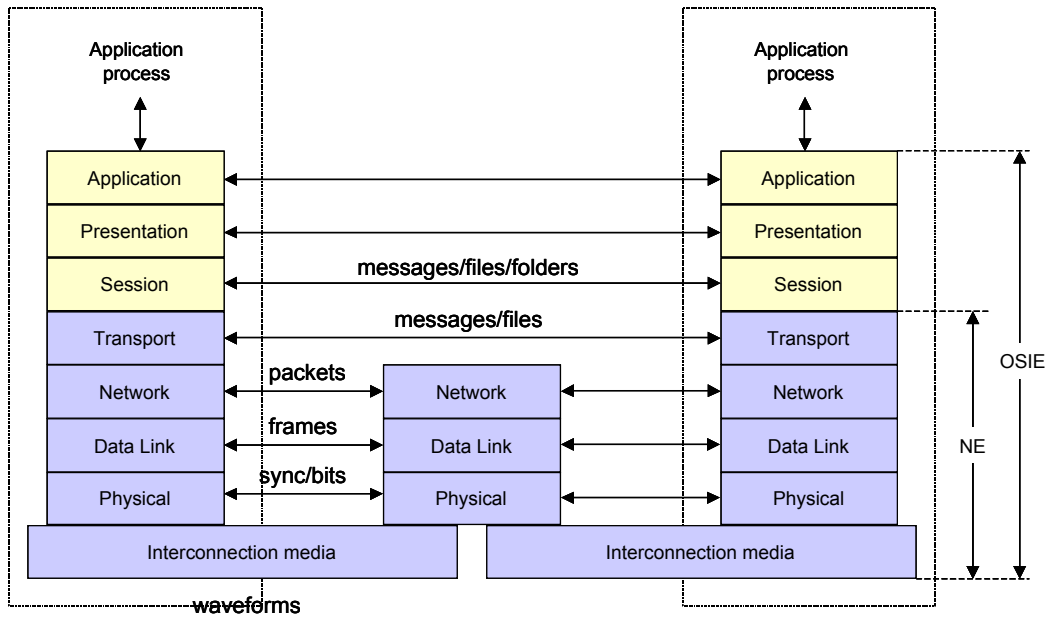
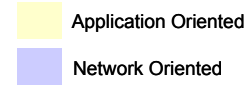


FIGURE 1 - OSI PROTOCOL LAYERS

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