Transmit Control Protocol (TCP)
Test Requirements

Technical Document

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INTRODUCTION

Overview

The purpose of this document is to specify requirements need by the DUT to perform the Transmission Control Protocol Test Specification. These document specifies the requirements and the affected test.

Abbreviations and Acronyms

ACK: Acknowledge segment
DUT: DUT
ISN: Initial Sequence Number
MSL: Maximum Segment Lifetime
MSS: Maximum Segment Size
PDU: Protocol Data Unit
RST: Reset segment
SYN: Synchronization segment
TCP: Transmit Control Protocol
TS: Testing Station
URG: Urgent segment

Commonly Used Terms

Connection - A pair of sockets used to communicate between two devices.

Socket - A pairing of addresses from both the transport layer and network layer. In this case a pairing of port and IP address. A socket may be simultaneously used in multiple connections.

Segment - The TCP's protocol data unit (PDU) including TCP control information and TCP data.

TCP Segments

Requirement: The DUT is required to transmit 10 segments to the Test Station.

Test: TCP.1.3, TCP.1.5

Opening Connections

Requirement: The DUT is required to open and accept connections on more then one specified socket.

Test: TCP.2.1

Unspecified sockets

Requirement: The DUT is required to accept connections on unspecified socket.

Test: TCP.2.1

Urgent Data

Requirements: The DUT is required to transmit Urgent Data after a connection is established.

Test: TCP.4.1

Windows Size

Requirements: The DUT is required to set the Window Size for the TCP connection.

Test: TCP.5.1.1

Specified Amounts of Data

Requirement: The DUT is required to transmit TCP packets with specified data fields.

Test: TCP.5.3, TCP.5.4.2

Specified Options

Requirement: The DUT must be able to be configured to receive and send MSS Option.

Test: TCP.6.6.1 and TCP.6.6.2

Keep-alives

Requirements: The DUT is required to turn keep-alives on and off.

Test: TCP.7.1

Idle Interval

Requirement: The DUT is required to change the idle interval from the default.

Test: TCP.7.2, TCP.7.3