Transmit Control Protocol (TCP)  
Test Requirements

Technical Document  
Revision 1.0

Last Updated: December, 2007

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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 than 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