

TCP Goodput Report

July 22, 2009
19:07:19

Device Tested:

AP Model:
AP SW Version:
WLAN Switch Model:
WLAN Switch Version:



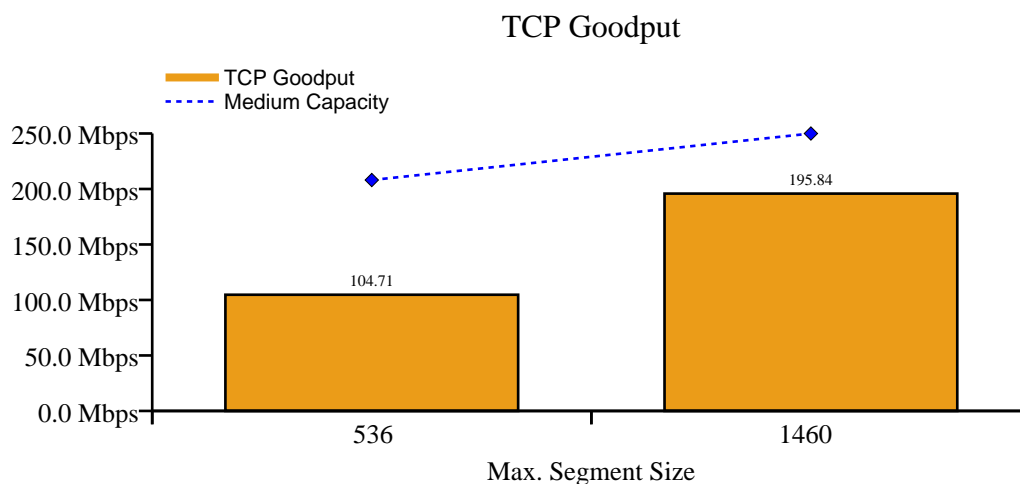
Overview

The TCP Goodput test measures the number of TCP payload bytes per second that the system under test (SUT) can transfer between its ports and the maximum segment size (MSS).

The TCP payload is the sum of the TCP segment bytes minus the TCP headers and options.

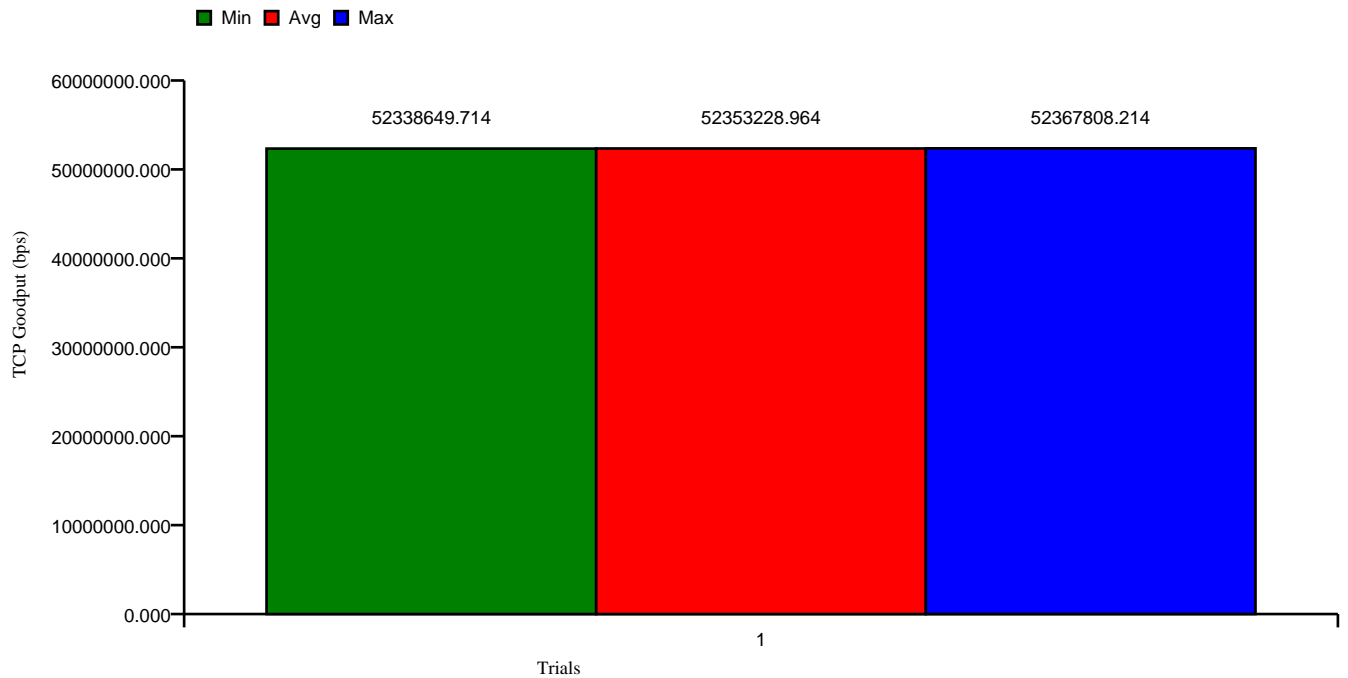
Results Summary

The following graph shows the TCP goodput performance of the SUT in Mbps for the specified TCP maximum segment size in bytes.

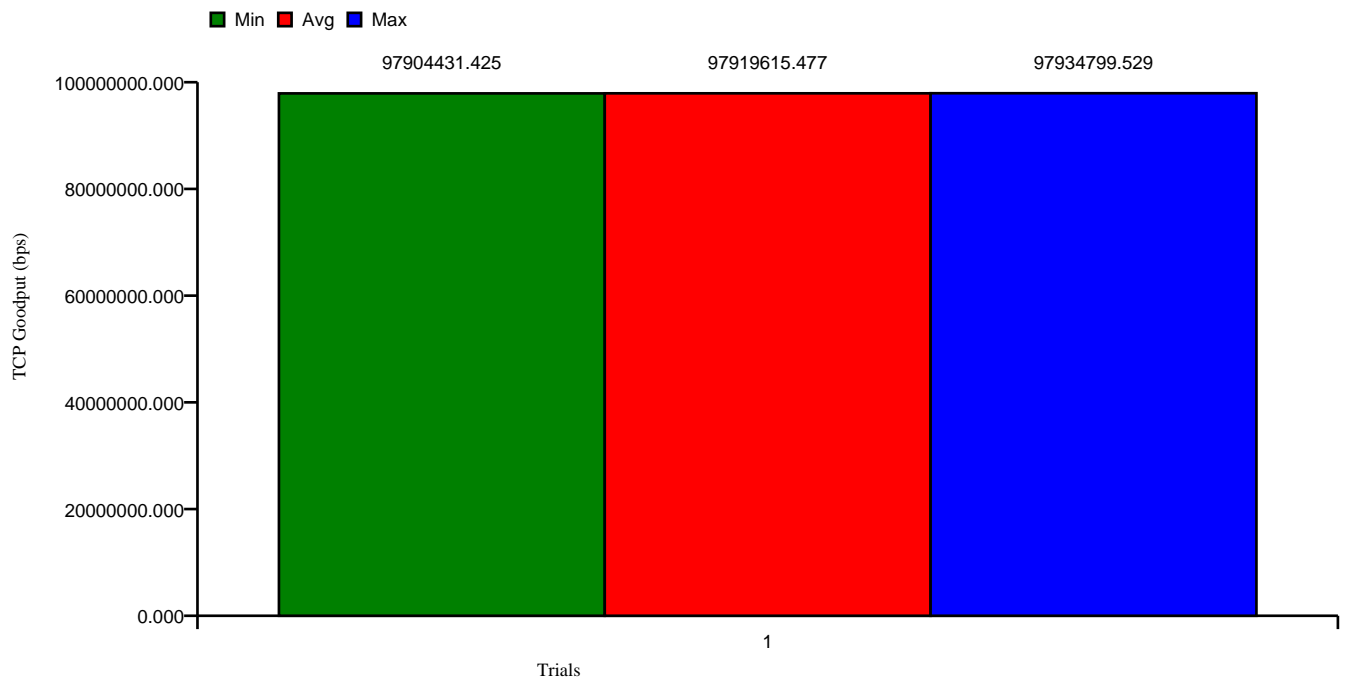


The following graphs show the minimum, maximum and average TCP goodput across all TCP sessions for each TCP maximum segment size.

Min, Avg & Max TCP Goodput - MSS: 536 bytes



Min, Avg & Max TCP Goodput - MSS: 1460 bytes



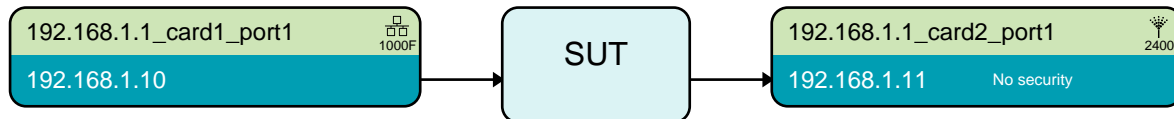
Methodology

The test associates clients with the SUT and generates unidirectional TCP traffic at twice the theoretical maximum 802.11 load. The test iterates through each element in the TCP maximum segment size list for the number of trials specified.

The results are reported separately for each maximum segment size and trial.

Test Topology

The following diagram shows the test topology. Each box indicates the port identifiers and IP addresses for the test clients; for wireless clients the security mode and channel ID is also shown. The arrows show the direction of the traffic.



This test used 2 ports.

Client Configuration

Client Group	PHY Type	PHY Rate (Mbps)	MCS	A-MPDU	Port
Group_001	Ethernet	1000	N/A	N/A	192.168.1.1_card1_port1
Group_002	11n	300.0	15	On	192.168.1.1_card2_port1

Configuration

Parameter	Value	Description
Maximum Segment Sizes	[536, 1460]	TCP MSS in bytes
Learning Time	2.0 sec	Transmission time (seconds) for initial learning packets, to allow the SUT to set up forwarding tables
Transmit Time	5.0 sec	Trial duration (seconds) - i.e., duration of test traffic
Settle Time	2 sec	Idle time after test traffic transmission completes
Aging Time	2 sec	Time allowed for the SUT to recover between iterations
Number of Trials	1	Number of times measurements are repeated
Num of Session per Client	2	Number of TCP sessions per client pair
TCP Window	65535	TCP Window Size

Detailed Results

The following table shows the detailed results for this test.

Trial	TCP MSS	TCP Goodput segments/sec	TCP Goodput kbits/sec	TCP payload sent kbytes	Theoretical Goodput segments/sec	Theoretical Goodput kbits/sec	L2 Frame Size	L2 OLOAD frames/sec
1	536	24418.5	104706.4	65441.3	48523.3	208067.8	594	24418.5
1	1460	16767.1	195839.2	122399.1	21401.6	249970.8	1518	16767.1

Access Point Information



The following table shows the SUT details. The received signal strength indication (RSSI) from the SUT is sampled on each port at the start of each trial and averaged over all of the trials.

Port Name	Type	RxAtt*	Chan	BSSID	SSID	Min RSSI	Avg RSSI	Max RSSI
192.168.1.1_card2_port1	80211n	off	3	00:1C:F0:6B:B1:B4	veriwave	-12.0 dBm	-11.0 dBm	-10.0 dBm

The RSSI is measured at the WaveBlade SMA connector. RSSI values should be between -25 dBm and -35 dBm for port types of 80211 and 80211n ports when the RX attenuation (RxAtt*) option is 'off'. For 80211n port types with attenuation 'on' the RSSI values at the port should be between -5 dBm and -15 dBm. If the RSSI is not in this range, modify the external attenuation to bring it into this range.

Other Information

Results Directory C:\Documents and Settings\Ron\VeriWave\WaveApps\Results\20090722-190636
WaveApps Version 4.2.1-WT-3.5, 2009.05.19.03
WaveTest Version 3.6.0, 2009.07.17.07