Test TCP Utility Commands

This module describes the Cisco IOS XR software commands to configure the Test TCP utility (TTCP) to measure TCP throughput through an IP path.

For detailed information about the TTCP utility see the *Using Test TCP (TTCP) to Test Throughput* module in the *System Monitoring Configuration Guide for Cisco ASR 9000 Series Routers*.

ttcp receive

To start the TTCP utility on the host, running as a receiver use the **ttcp receive source** command in EXEC mode.

ttcp receive [[**align**] | [**buflen**] | [**debug**] | [**format**] | [**fullblocks**] | [**host**] | [**multi**] | [**nofilter**] | [**nonblock**] | [**offset**] | [**passowrd**] | [**port**] | [**sockbuf**] | [**source**] | [**timeout**] | [**touch**] | [**transmit**] | [**udp**] | [**verbose**] | [**vrfid**]]

Syntax Description

align	(Optional) Aligns the start of buffers to this modulus. The default value is 16384.
buflen	(Optional) Indicates the length of buffers read from or written to the network. The default value is 8192.
debug	(Optional) Enable socket debug mode.
format	(Optional) Format for rate: k,K = kilo{bit,byte}; m,M = mega; g,G = giga.
fullblocks	(Optional) Displays the full blocks of output as specified by buflen.
host	(Optional) Host name or IP address.
multi	(Optional) Indicates the number of connections.
nofilter	(Optional) Indicates not to filter ICMP errors.
nonblock	(Optional) Indicates the use of non-blocking sockets.
offset	(Optional) Starts buffers at this offset from the modulus. The default value is 0.
password	(Optional) Indicates the MD5 password to be used for the TCP connection .
port	(Optional) Indicates the port number to send to or listen at. The default value is 5001.
sockbuf	(Optional) Indicates the socket buffer size.
source	(Optional) Source a pattern to or from the network.
timeout	(Optional) Stop listening after timeout seconds.
touch	(Optional) Access each byte as it is read.
transmit	(Optional) Indicates transmit mode.
udp	(Optional) Indicates to use UDP instead of TCP.
verbose	(Optional) Indicates that detailed statistics be printed.
vrfid	(Optional) Indicates the ID of the VRF to connect.

Command Default   No default behavior or values.

Command Modes   EXEC mode

Command History	Release	Modification
	Release 5.2.2	This command was introduced.

Usage Guidelines

TCP is a connection-oriented protocol, so you must have a receiver listening before a transmitter can connect. You must ensure that there is IP connectivity between the two devices involved in the test. First start up a TTCP receiver, and the transmitter. TTCP uses the time and the amount of data transferred, to calculate the throughput between the transmitter and the receiver.

Task ID	Task ID	Operation
	ttcp	Read

TTCP utility results at receiver end

This section displays the results using the **ttcp receive source verbose** command.

```
RP/0/0/CPU0:ios#ttcp receive source verbose
Tue Feb 25 06:57:39.935 IST
ttcp-r: thread = 1, buflen=8192, nbuf=2048, align=16384/0, port=5001  tcp
ttcp-r: socket
ttcp-r: accept from 5.1.1.3
thread 0: read 1460 bytes
thread 0: read 2920 bytes
thread 0: read 4380 bytes
thread 0: read 5840 bytes
thread 0: read 7300 bytes
thread 0: read 8192 bytes

thread 1: recv 8192 bytes

TTCP: +++ all threads terminated +++
ttcp-r: 8192 bytes in 0.21 real useconds = 37.91 KB/sec +++
ttcp-r: 8192 bytes in 0.00 CPU seconds = 8000.00 KB/cpu sec
ttcp-r: 7 I/O calls, msec/call = 30.87, calls/sec = 33.17
ttcp-r:
RP/0/0/CPU0:ios#
```

ttcp transmit

To start the TTCP utility on the host running as a transmitter use the **ttcp transmit source** command in EXEC mode.

ttcp   transmit[[**align**] | [**buflen**] | [**debug**] | [**format**] | [**host**] | [**multi**] | [**nbufs**] | [**nobuffering**] | [**nofilter**] | [**nonblock**] | [**offset**] | [**password**] | [**port**] [**receive**] | [**sockbuf**] | [**source**] | [**timeout**] | [**touch**] | [**udp**] | [**verbose**] | [**vrfid**]]

Syntax Description		
align	(Optional) Aligns the start of buffers to this modulus. The default value is 16384.	
buflen	(Optional) Indicates the length of buffers read from or written to the network. The default value is 8192.	
debug	(Optional) Enable socket debug mode.	
format	(Optional) Format for rate: k,K = kilo{bit,byte}; m,M = mega; g,G = giga.	
host	(Mandatory) Host name or IP address.	
multi	(Optional) Indicates the number of connections.	
nbufs	(Optional) Indicates the number of source buffers written to the network. The default value is 2048.	
nobuffering	(Optional) Indicates not to buffer TCP writes (sets TCP_NODELAY socket option).	
nofilter	(Optional) Indicates not to filter ICMP errors.	
nonblock	(Optional) Indicates the use of non-blocking sockets.	
offset	(Optional) Starts buffers at this offset from the modulus. The default value is 0.	
password	(Optional) Indicates the MD5 password to be used for the TCP connections.	
port	(Optional) Indicates the port number to send to or listen at. The default value is 5001.	
receive	(Optional) Indicates receive mode.	
sockbuf	(Optional) Indicates the socket buffer size.	
source	(Optional) Source a pattern to or from the network.	
timeout	(Optional) Stop listening after timeout seconds.	
udp	(Optional) Indicates to use UDP instead of TCP.	
verbose	(Optional) Indicates that detailed statistics be printed.	
vrfid	(Optional) Indicates the ID of the VRF to connect.	

Command Default No default behavior or values.

Command Modes

EXEC mode

Command History

Release	Modification
Release 5.2.2	This command was introduced.

Usage Guidelines

To use TTCP, start a copy of TTCP in receive mode at one place within the network, then start a second copy in transmit mode at another place within the network. The results of the transfer of data from the transmitter to the receiver indicate the approximate performance of the path between the source and destination. By selecting the source and destination at various points with the network, you can analyze critical portions of the path. You must ensure that there is IP connectivity between the two devices involved in the test.

Task ID

Task ID	Operation
ttcp	Read

TTCP utility results at the transmitter end

This section displays the results using the **ttcp transmit source verbose** command.

```
RP/0/0/CPU0:ios#ttcp transmit source nbufs 1 verbose host 5.1.1.2
Tue Feb 25 06:57:47.904 IST
ttcp-t: thread = 1, buflen=8192, nbuf=1, align=16384/0, port=5001  tcp  -> 5.1.1.2
ttcp-t: socket
ttcp-t: connect
thread 0: nsent 8192 bytes, has 0 buffers to send

thread 1: send 8192 bytes

TTCP: +++ all threads terminated +++
ttcp-t: 8192 bytes in 0.00 real useconds = 6006.01 KB/sec +++
ttcp-t: 8192 bytes in 0.00 CPU seconds = 8000.00 KB/cpu sec
ttcp-t: 1 I/O calls, msec/call = 1.36, calls/sec = 750.75
ttcp-t:
RP/0/0/CPU0:ios#
```