



SANGFOR

WAN Optimization (WANO)

Troubleshooting guide for slow access after Optimized



Change Log

Date	Change Description
May 16, 2019	Troubleshooting guide for slow access after Optimized

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1. Document Description

The purpose of this document is to provide guidance for troubleshooting on the slow access after Optimized.

2. Applicable Version

This document is applicable for slow access after Optimized on all WANO version.
The version included WANO 7.0 onwards to latest version.

3. Problem Scenario

Slow access after Optimized in this document is referring to the scenario that both Server side and Branch side Sangfor WANO has already built-up Acceleration Tunnel, has slower access to existing application or web although “Traffic Type” shows “Optimized”.



	Source IP	Source Port	Destination IP	Destination Port	Bandwidth Cha...	Line	Protocol	App Category	Application	Traffic Type	Details
1	192.168.20.3	49246	192.168.10.2	443	↑ - ↓ -	↑ Line1 ↓ Line1	TCP			Pass-through	Details
2	192.168.20.3	49240	192.168.10.3	21	↑ - ↓ -	↑ Line1 ↓ Line1	TCP	FTP	FTP_Download	Optimized	Details

Slow access after Optimized mainly divided into the following scenarios:

- Small packet length
- Insufficient Bandwidth

4. Troubleshooting Guide

4.1 General Scenario Troubleshooting Step

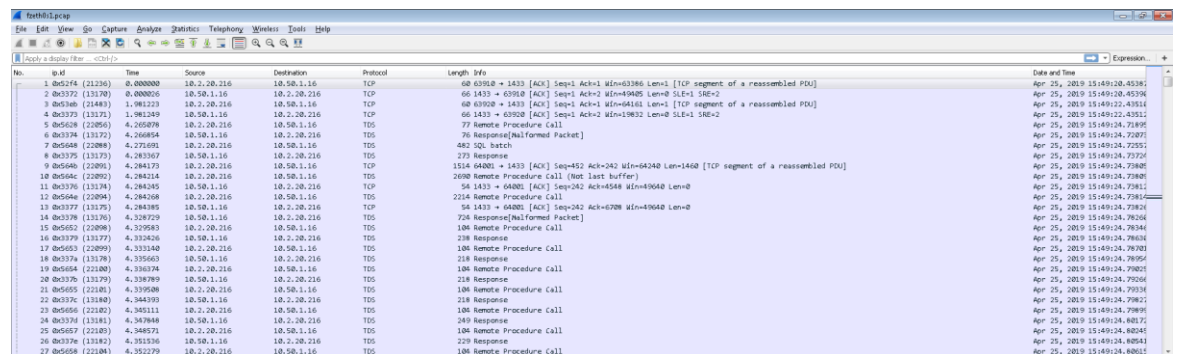
The following basic information need to be confirmed when slow access after Optimized:

1. Make sure both Sangfor side and Client side are able to ping to each other.
 - i. Navigate to [Maintenance] > [Web Console]
 - ii. Ping to peer side device IP
 - iii. Ensure it is able to Ping to each other
2. Make sure the Acceleration Tunnel is connected.

4.2 Small packet length

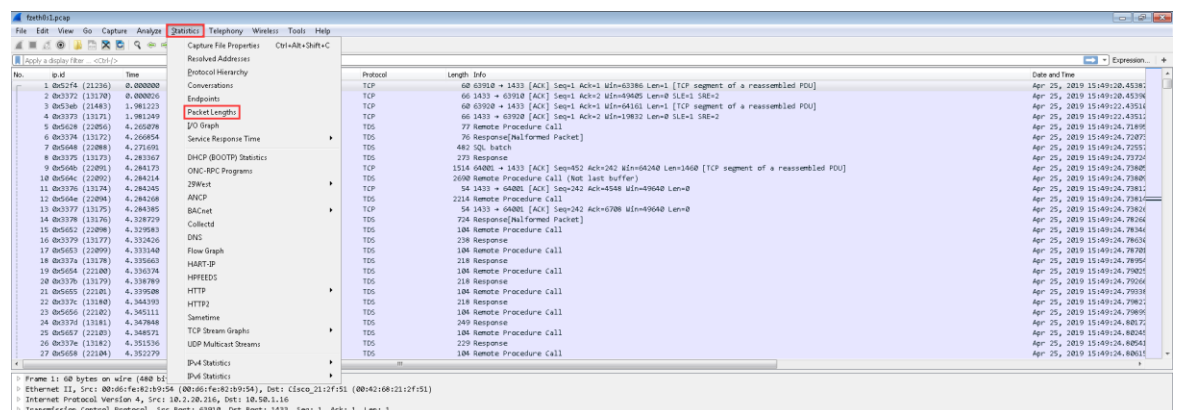
Sangfor WANO do not support to optimize small packet. Small packet is the packet length below 200.

1. Capture packet between Server and a test PC. Recommend to capture at least 10 thousands packet.
2. Open the packet with Wireshark.



No.	Id	Time	Source	Destination	Protocol	Length	Info
1	0x5254 (21236)	0.000000	10.50.1.16	10.2.20.216	TCP	60	63900 → 1433 [ACK] Seq=1 W=63900 Len=1 [TCP segment of a reassembled PDU]
2	0x372 (13170)	0.000000	10.50.1.16	10.2.20.216	TCP	66	1433 → 63900 [ACK] Seq=1 W=63900 Len=1 SLE=1 SRE=2
3	0x548 (21489)	1.981223	10.50.1.16	10.2.20.216	TCP	60	63900 → 1433 [ACK] Seq=1 W=63900 Len=1 [TCP segment of a reassembled PDU]
4	0x373 (13171)	1.981249	10.50.1.16	10.2.20.216	TCP	66	1433 → 63900 [ACK] Seq=1 W=63900 Len=1 SLE=1 SRE=2
5	0x548 (21489)	4.265878	10.50.1.16	10.2.20.216	TCP	77	Remote Procedure Call
6	0x374 (13172)	4.266854	10.50.1.16	10.2.20.216	TCP	76	Response[Malformed Packet]
7	0x548 (21489)	4.274591	10.50.1.16	10.2.20.216	TCP	482	SOI batch
8	0x375 (13173)	4.283367	10.50.1.16	10.2.20.216	TCP	273	Response
9	0x548 (21489)	4.284173	10.50.1.16	10.2.20.216	TCP	1514	64001 → 1433 [ACK] Seq=452 W=64001 Len=1408 [TCP segment of a reassembled PDU]
10	0x548 (21489)	4.284214	10.50.1.16	10.2.20.216	TCP	2600	Remote Procedure Call (Not last buffer)
11	0x376 (13174)	4.284245	10.50.1.16	10.2.20.216	TCP	54	1433 → 64001 [ACK] Seq=242 W=64001 Len=0
12	0x548 (21489)	4.284268	10.50.1.16	10.2.20.216	TCP	54	1433 → 64001 [ACK] Seq=242 W=64001 Len=0
13	0x377 (13175)	4.284385	10.50.1.16	10.2.20.216	TCP	77	Remote Procedure Call
14	0x378 (13176)	4.287229	10.50.1.16	10.2.20.216	TCP	77	Response[Malformed Packet]
15	0x548 (21489)	4.292983	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
16	0x379 (13177)	4.32426	10.50.1.16	10.2.20.216	TCP	238	Response
17	0x548 (21489)	4.331440	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
18	0x379 (13178)	4.335603	10.50.1.16	10.2.20.216	TCP	218	Response
19	0x548 (21489)	4.336374	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
20	0x379 (13179)	4.338959	10.50.1.16	10.2.20.216	TCP	218	Response
21	0x548 (21489)	4.339300	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
22	0x379 (13180)	4.344393	10.50.1.16	10.2.20.216	TCP	218	Response
23	0x548 (21489)	4.345111	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
24	0x379 (13181)	4.347848	10.50.1.16	10.2.20.216	TCP	249	Response
25	0x548 (21489)	4.348571	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
26	0x379 (13182)	4.351236	10.50.1.16	10.2.20.216	TCP	223	Response
27	0x548 (21489)	4.352279	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call

3. Go to [Statistic] > [Packet Length]



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1	0x5254 (21236)	0.000000	10.50.1.16	10.2.20.216	TCP	60	63900 → 1433 [ACK] Seq=1 W=63900 Len=1 [TCP segment of a reassembled PDU]
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19	0x548 (21489)	4.336374	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
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23	0x548 (21489)	4.345111	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
24	0x379 (13181)	4.347848	10.50.1.16	10.2.20.216	TCP	249	Response
25	0x548 (21489)	4.348571	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call
26	0x379 (13182)	4.351236	10.50.1.16	10.2.20.216	TCP	223	Response
27	0x548 (21489)	4.352279	10.50.1.16	10.2.20.216	TCP	106	Remote Procedure Call

4. A summary of packet length will produce. 97.98% belongs to packet lengths at 80-159, which is small packet.

Wireshark - Packet Lengths - fzeth0s1

Topic / Item	Count	Average	Min val	Max val	Rate (ms)	Percent	Burst rate	Burst start
Packet Lengths	30000	128.39	54	4150	0.1646	100%	1.5100	23.875
0-19	0	-	-	-	0.0000	0.00%	-	-
20-39	0	-	-	-	0.0000	0.00%	-	-
40-79	275	65.86	54	77	0.0015	0.92%	0.2100	33.478
80-159	29395	123.56	85	153	0.1613	97.98%	1.1300	23.876
160-319	147	238.91	162	314	0.0008	0.49%	0.3500	4.584
320-639	48	413.38	323	619	0.0003	0.16%	0.0400	4.476
640-1279	111	903.95	709	1029	0.0006	0.37%	0.2900	24.105
1280-2559	19	1604.84	1395	2214	0.0001	0.06%	0.0300	33.487
2560-5119	5	3127.40	2690	4150	0.0000	0.02%	0.0200	4.479
5120 and greater	0	-	-	-	0.0000	0.00%	-	-

Display filter: Enter a display filter ...

Copy Save as... Close

4.3 Insufficient Bandwidth

Slow access might be caused by insufficient bandwidth as well. Therefore it is important to ensure the Total Bandwidth and also to test during off-peak hour.

1. Speed test:

Place the file into the Server and a PC in order to test the maximum transmission speed.



conn_test_client.exe



conn_test_server.exe

Server side:

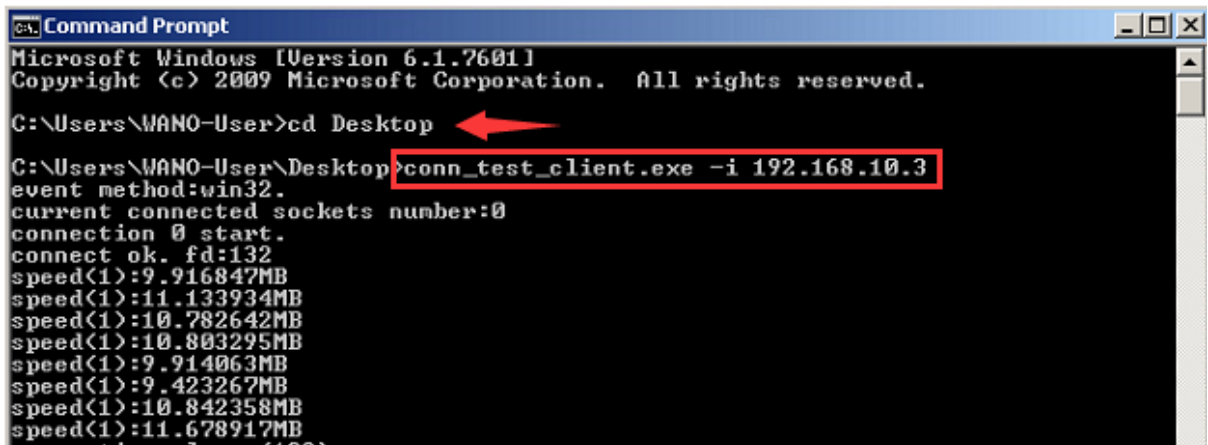
Double-click the file to execute it. Result will be as below,

```
C:\Users\Administrator\Desktop\conn_test_server.exe
listening on port 5555.
event method:win32.
```

Client side:

Execute Command Prompt, and navigate to the folder where the conn_test_client.exe placed.

Run the file with the command: conn_test_client.exe -i **Server IP**

A screenshot of a Windows Command Prompt window. The title bar says "Command Prompt". The text inside shows the Windows version (6.1.7601) and copyright information. The user is in the directory C:\Users\WANO-User and has navigated to the Desktop. A red arrow points to the command prompt. The command executed is "conn_test_client.exe -i 192.168.10.3", which is highlighted with a red box. The output shows the event method as win32, current connected sockets as 0, and connection 0 starting. It then displays a series of speed test results in MB/s: 9.916847, 11.133934, 10.782642, 10.803295, 9.914063, 9.423267, 10.842358, and 11.678917.

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\WANO-User>cd Desktop
C:\Users\WANO-User\Desktop>conn_test_client.exe -i 192.168.10.3
event method:win32.
current connected sockets number:0
connection 0 start.
connect ok. fd:132
speed(1):9.916847MB
speed(1):11.133934MB
speed(1):10.782642MB
speed(1):10.803295MB
speed(1):9.914063MB
speed(1):9.423267MB
speed(1):10.842358MB
speed(1):11.678917MB
```

2. Ensure sufficient bandwidth:

Before perform any testing, ensure the user environment has sufficient bandwidth. Data transmission speed is slow could be due to the total bandwidth was consumed by other users or servers that has higher priority. Therefore, it is suggested to perform testing with below options:

1. Test during low user traffic/idle time
2. Configure a guarantee channel for the test server and client

5. Collect Information

If the problem still unable to be resolve through the troubleshooting steps above, you can collect the below information and escalate the problem to Sangfor Technical Support with the Community Open a Case feature. Technical Engineer will contact you to provide assistance on resolving the issue.

Information need to be collect:

- i. Server Model and both sides firmware version.
- ii. Screenshot of the System Logs for both sides.
- iii. What troubleshooting step you had gone through.

Open a support case access link:

<http://community.sangfor.com/plugin.php?id=service:case>

6. Request Articles

If you have new document requirement, you can feedback to us with the feedback link below. We will provide the troubleshooting guide document based on the feedback.

Feedback Link

CMS: <http://192.200.19.22/request-articles/>

Sangfor Community: <http://community.sangfor.com/plugin.php?id=service:feedback>



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