

# Iperf Tool SOP

Revision Date	Revision	Description	Author
March/2018	V1.0	Initial release	ICG AE Jacky.Lin

# Abstract

- ❖ **This SOP explains how to use the Iperf tool (Open source third party tool) to measure the throughput in wireless application.**
- ❖ **Related products:**  
**EKI-6232, EKI-633x, EKI-136x-BE**
- ❖ **Requirement: Advantech Wi-Fi device ,Third party Tool\_Iperf , PC**
- ❖ **Appendix:**
  - **Command for printing help information**
  - **Command for exporting the result to the txt file**



# Download Iperf Program

# Download Iperf Tool

- Please download the iperf program from the following website
  - <https://iperf.fr/iperf-download.php#windows>
- Note: The command in different iperf version would be different. Please visit the official website for detail description. Here we will use the iperf 3.1.3 for example.

## Download iPerf3 and original iPerf pre-compiled binaries

Note that iPerf3 is not backwards compatible with iPerf2.

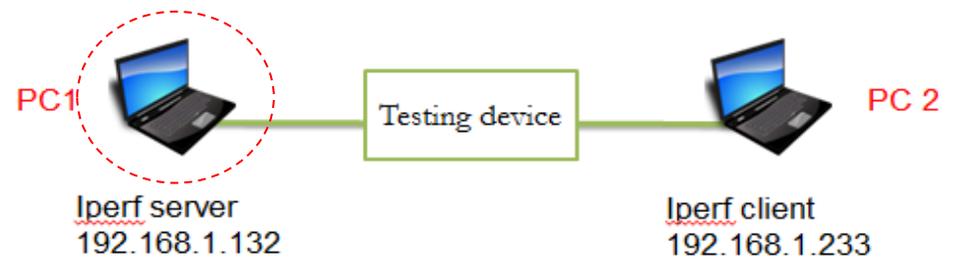


**Windows 64 bits** compiled by Vivien Guéant. ([sha256](#))

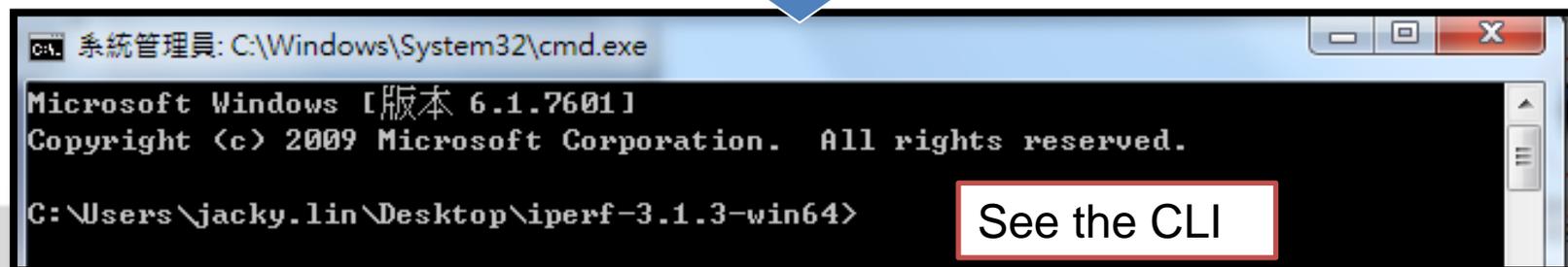
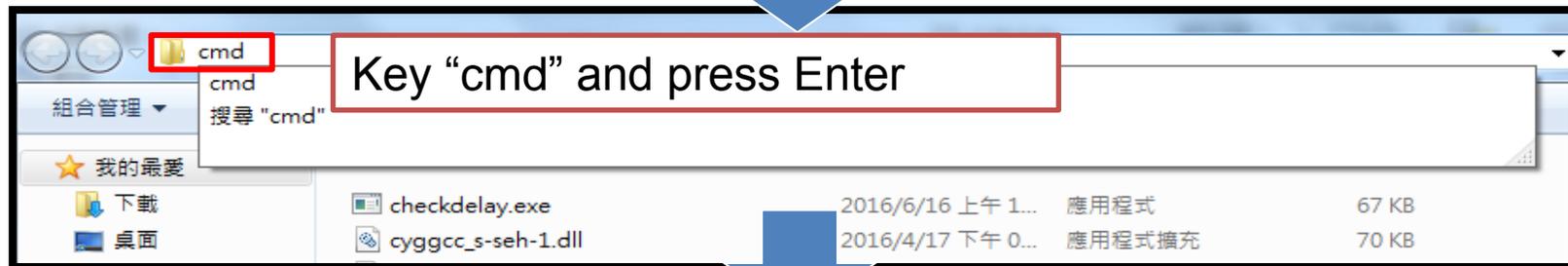
- [iPerf 3.1.3](#) (8 jun 2016 - 1.3 MiB for Windows Vista 64bits to Windows 10 64bits)
- [iPerf 3.1.2](#) (1 fev 2016 - 1.3 MiB for Windows Vista 64bits to Windows 10 64bits)
- [iPerf 3.0.12](#) (8 jun 2016 - 1.3 MiB for Windows Vista 64bits to Windows 10 64bits)
- [iPerf 3.0.11](#) (9 jan 2015 - 1.3 MiB for Windows Vista 64bits to Windows 10 64bits)
- [iPerf 2.0.9](#) (6 jun 2016 - 1.7 MiB for Windows Vista 64bits to Windows 10 64bits)
- [iPerf 2.0.8b](#) (17 sep 2015 - 1.6 MiB for Windows Vista 64bits to Windows 10 64bits)

# Iperf Server Configuration

# Execute cmd.exe

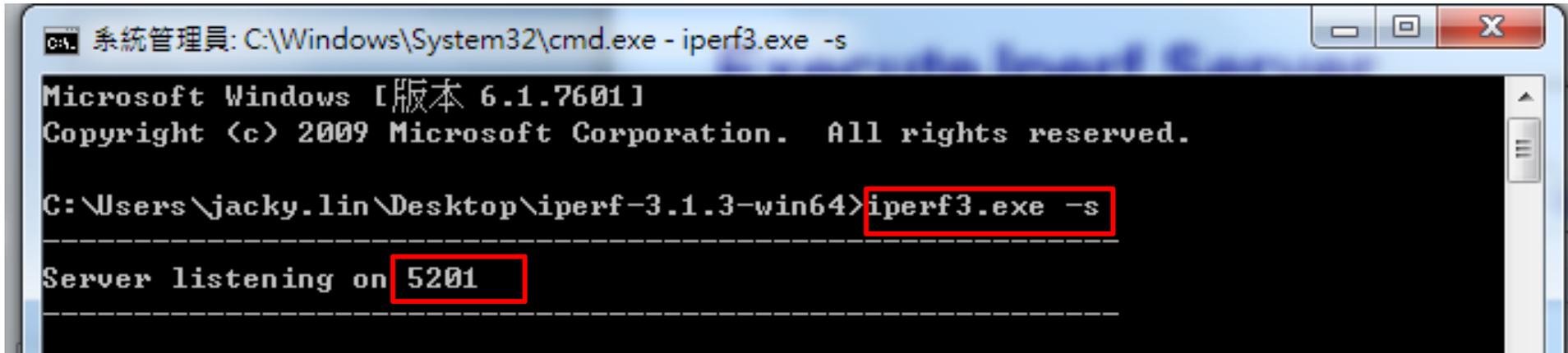


- Step 1 :Open the iperf folder on PC1 and Key “cmd” to execute the cmd.exe



# Execute Iperf Server

- Enter the command “**iperf3.exe -s**” and press “Enter”. Then, the server’s 5201 port will be opened.

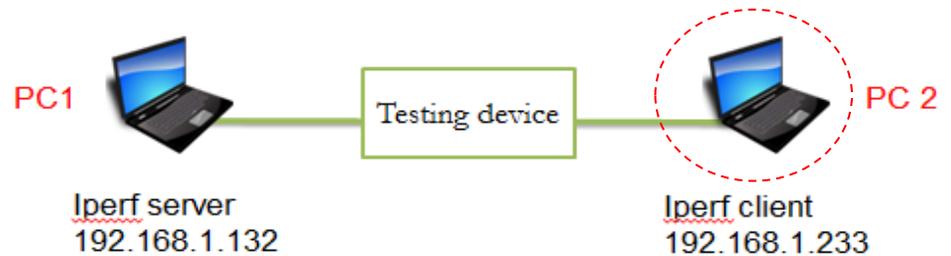


```
系統管理員: C:\Windows\System32\cmd.exe - iperf3.exe -s
Microsoft Windows [版本 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

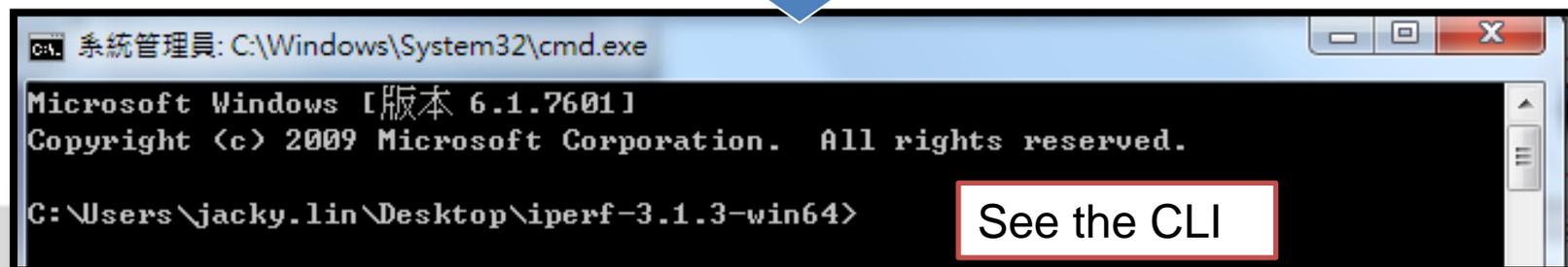
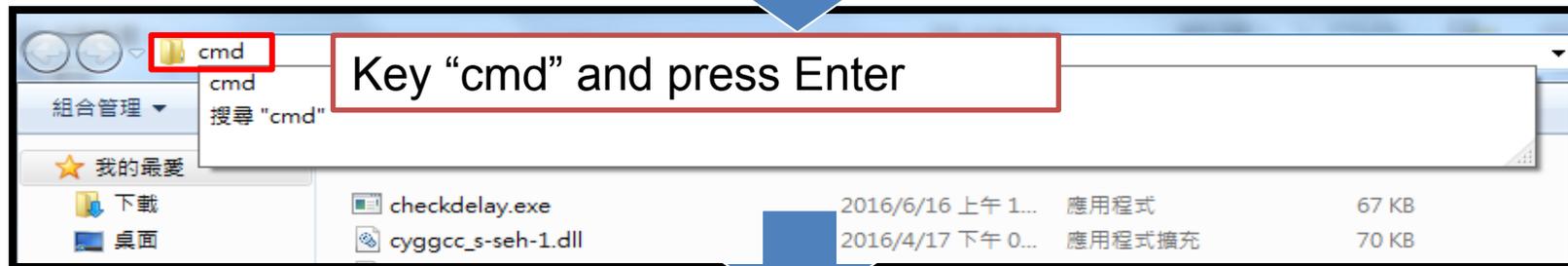
C:\Users\jacky.lin\Desktop\iperf-3.1.3-win64>iperf3.exe -s
-----
Server listening on 5201
-----
```

# Iperf Client Configuration

# Execute cmd.exe



- Step 1 :Open the iperf folder on PC2 and Key “cmd” to to execute the cmd.exe



# Execute Iperf Client

- Enter the command “**iperf3.exe -c server IP -i 1 -t 30 -P 5 -w 128k**”. Then ,press Enter.
- Common used command
  - **-i** :record time on the CLI (Ex. **-i 1**=> record every 1s)
  - **-t** :testing period(Ex. **-t 30**=> run the test for 30s)
  - **-P**: TCP session (Ex. **-P 5**=> run 5 TCP session simultaneously)
  - **-w** : TCP slide window size (Ex. **-w 128k**=> 128k TCP slide window)



The screenshot shows a Windows command prompt window titled "系統管理員: C:\Windows\System32\cmd.exe". The window displays the iperf3 homepage information: "iperf3 homepage at: http://software.es.net/iperf/" and "Report bugs to: https://github.com/esnet/iperf". Below this, the command "C:\Users\jacky.lin\Desktop\iperf-3.1.3-win64>iperf3.exe -c 192.168.1.132 -i 1 -t 30 -P 5 -w 128k" is entered. A red box highlights the command text, and a white box with the text "Enter the command" is positioned below it.

Note : Different parameters will affect the testing result. Users need to define the parameters in their scenario by themselves. For detail parameter description, you may check the information in appendix “see all command”.

If you just run the test for knowing roughly throughput, you can refer the above parameters.

# Check the result

# Check the result on Iperf client

```
C:\Users\jacky.lin\Desktop\iperf-3.1.3-win64>iperf3.exe -c 192.168.1.132 -i 1 -t 30 -P 5 -w 128k  
Connecting to host 192.168.1.132, port 5201
```

```
[ 41] local 192.168.1.52 port 51991 connected to 192.168.1.132 port 5201  
[ 61] local 192.168.1.52 port 51992 connected to 192.168.1.132 port 5201  
[ 81] local 192.168.1.52 port 51993 connected to 192.168.1.132 port 5201  
[101] local 192.168.1.52 port 51994 connected to 192.168.1.132 port 5201  
[121] local 192.168.1.52 port 51995 connected to 192.168.1.132 port 5201
```

Iperf client build up 5 TCP sessions

```
[ ID] Interval          Transfer          Bandwidth  
[ 41] 0.00-1.00 sec      768 KBytes      6.29 Mbits/sec  
[ 61] 0.00-1.00 sec      768 KBytes      6.29 Mbits/sec  
[ 81] 0.00-1.00 sec      768 KBytes      6.29 Mbits/sec  
[101] 0.00-1.00 sec      768 KBytes      6.29 Mbits/sec  
[121] 0.00-1.00 sec      768 KBytes      6.29 Mbits/sec
```

```
[SUM] 0.00-1.00 sec    3.75 MBytes     31.5 Mbits/sec
```

Throughput Summary for 5 TCP session from 0-1s

```
[ 41] 1.00-2.00 sec      640 KBytes      5.24 Mbits/sec  
[ 61] 1.00-2.00 sec      640 KBytes      5.24 Mbits/sec  
[ 81] 1.00-2.00 sec      640 KBytes      5.24 Mbits/sec  
[101] 1.00-2.00 sec      640 KBytes      5.24 Mbits/sec  
[121] 1.00-2.00 sec      640 KBytes      5.24 Mbits/sec  
[SUM] 1.00-2.00 sec    3.12 MBytes     26.2 Mbits/sec
```

```
[ ID] Interval          Transfer          Bandwidth  
[ 41] 0.00-30.00 sec    19.8 MBytes     5.52 Mbits/sec  
[ 41] 0.00-30.00 sec    19.6 MBytes     5.48 Mbits/sec  
[ 61] 0.00-30.00 sec    19.5 MBytes     5.45 Mbits/sec  
[ 61] 0.00-30.00 sec    19.4 MBytes     5.42 Mbits/sec  
[ 81] 0.00-30.00 sec    19.5 MBytes     5.45 Mbits/sec  
[ 81] 0.00-30.00 sec    19.4 MBytes     5.41 Mbits/sec  
[101] 0.00-30.00 sec    19.6 MBytes     5.49 Mbits/sec  
[101] 0.00-30.00 sec    19.4 MBytes     5.43 Mbits/sec  
[121] 0.00-30.00 sec    19.6 MBytes     5.49 Mbits/sec  
[121] 0.00-30.00 sec    19.4 MBytes     5.44 Mbits/sec  
[SUM] 0.00-30.00 sec    98.0 MBytes     27.4 Mbits/sec  
[SUM] 0.00-30.00 sec    97.2 MBytes     27.2 Mbits/sec
```

Throughput Summary for 5 TCP session from 0-30s

# Appendix

# Command for printing help information

- “**iperf.exe -help**” to see all command

```
C:\Users\jacky.lin\Desktop\iperf-3.1.3-win64> iperf3.exe -help
Usage: iperf [-s|-c host] [options]
       iperf [-h|--help] [-v|--version]

Server or Client:
  -p, --port #          server port to listen on/connect to
  -f, --format [kmgKMG] format to report: Kbits, Mbits, KBytes, MBytes
  -i, --interval #      seconds between periodic bandwidth reports
  -F, --file name       xmit/recv the specified file
  -B, --bind <host>    bind to a specific interface
  -U, --verbose         more detailed output
  -J, --json            output in JSON format
  --logfile f          send output to a log file
  -d, --debug          emit debugging output
  -v, --version         show version information and quit
  -h, --help           show this message and quit

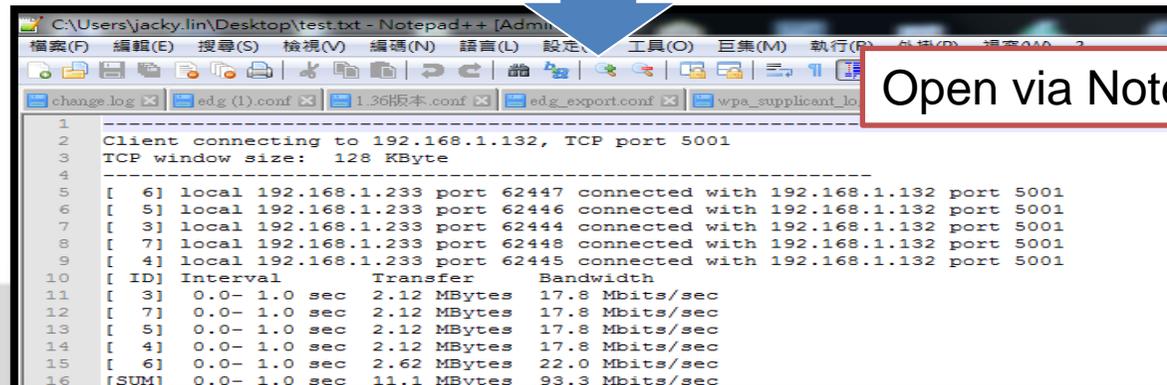
Server specific:
  -s, --server         run in server mode
  -D, --daemon         run the server as a daemon
  -I, --pidfile file   write PID file
  -1, --one-off        handle one client connection then exit
```

# Command for exporting the result to the txt file

- Step 1 :You can add “>>test.txt” in the CLI on PC2 (iperf client) for saving the result as txt file
- Step 2: Find the test.txt in the iperf folder & Use Notepad++ to open it

```
C:\Users\jacky.lin\Desktop\iperf-3.1.3-win64>iperf3.exe -c 192.168.1.132 -i 1 -t 30 -P 5 -w 128k>>test.txt
```

add “>>test.txt” command





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