

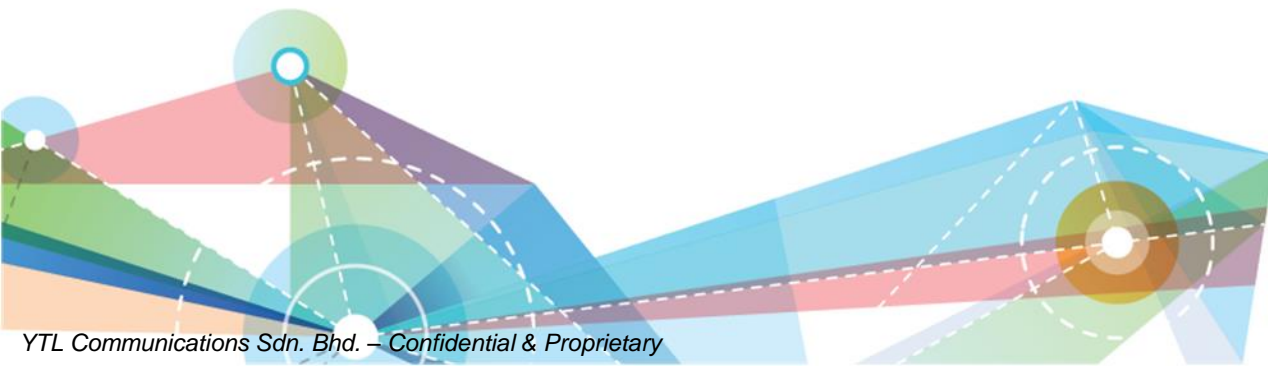
Amazing things happen when you
SAY YES

yes

**1BestariNet Ookla
Speed test for
troubleshooting and
analysis On OCPE
Connectivity**

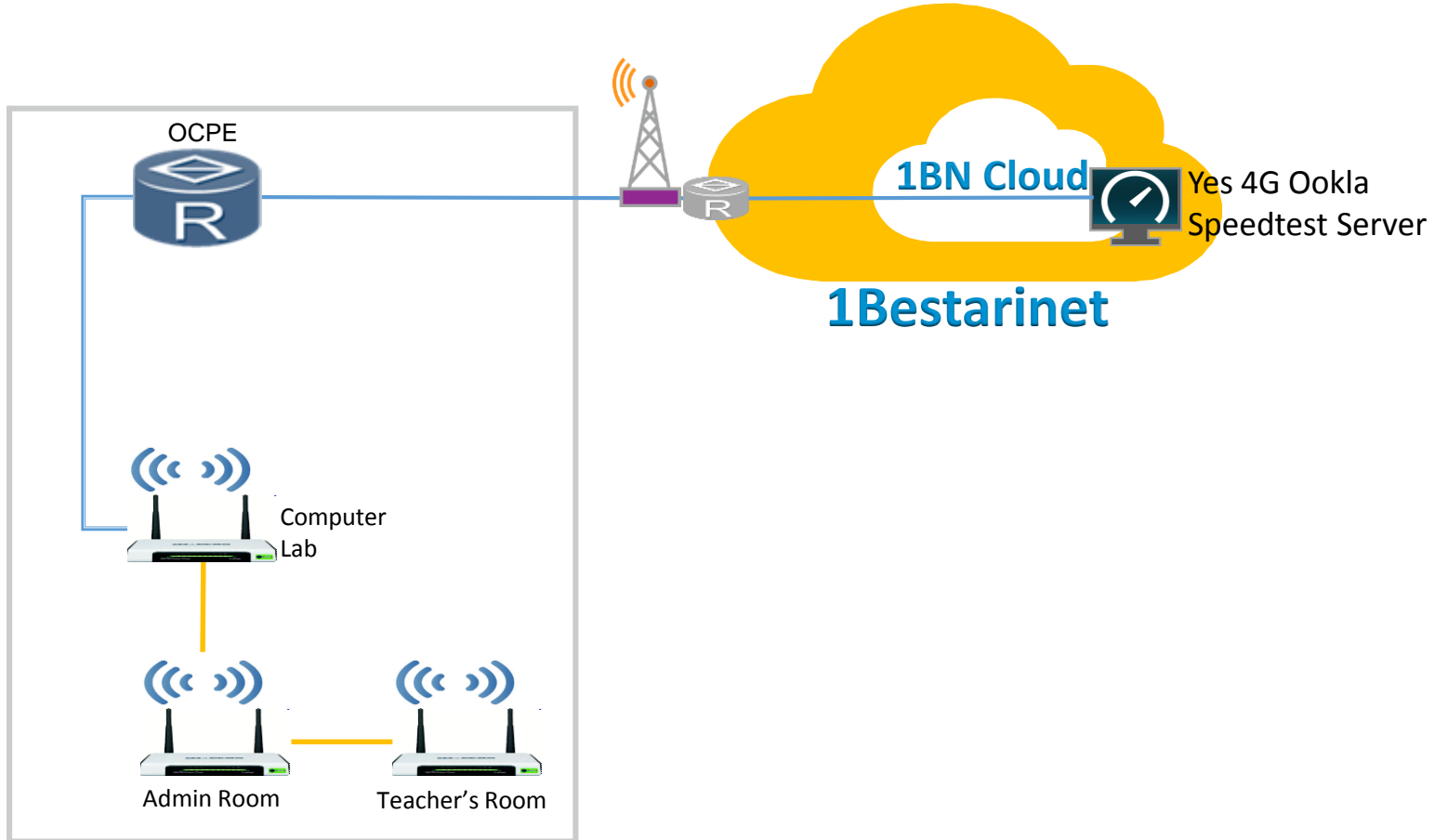
Date : Nov 2017

www.yes.my





Test Topology For OCPE





Testing Scenarios For OCPE Bandwidth Schools (1 of 2)

Scenario	School	BW (Mbps)	Admin	Teacher	Lab1	Lab2	Lab3
1	School A	6	O A1	O B1	O C1		

OCPE - Throughput Test

Brief	Conduct speed test to verify the download and upload speed for OCPE in the 6Mbps schools
Elements	OCPE (C1)
Prerequisites/ Assumptions	Disconnect the LAN (RJ45) cable on OCPE which connected to AP(s) and connect the “client” laptop to OCPE. This is to ensure that we are stop performing any other tasks on network that may use Internet connection (this is to provide accurate reading and use its full resources during the speedtest)
Testing Tools Requirements	Laptop connected to OCPE LAN port
Time	30 minutes
Topology/test illustration	Click the link below or open browse to access the following website then press “GO”
Procedure	Login to below websites to perform speed test a) http://speedtest.ytlcomms.my/ b) http://www.speedtest.net/ then select Kuala Lumpur (MY); Hosted by Yes 4G
Expected Result	Approximately to achieve average total of 6Mbps with combination of download and upload speed



Testing Scenarios For OCPE Bandwidth Schools (2 of 2)

Recommended and Minimum Requirement for “Client” System

Operating System (OS)	Windows desktop “Client” software (32bit/64bit) Windows 10 (recommended), Windows 8 and Windows 7 IMPORTANT: Windows Vista and Windows XP Home / Pro are not supported by Microsoft anymore, we therefore advise against using them
Processor Client machine	Intel 2.4GHz Intel Core 2 Duo processor (minimum)
Memory Client machine	Recommended at least 1GB RAM for the Client machine
Recommended web browsers	<ul style="list-style-type: none">• Firefox 3.6 or newer• Internet Explorer 8 or newer• Safari 4 or newer• Chrome 10 or newer



Testing Procedures at Schools

Pre-Testing Steps:

1. Inform Headmaster and school's ICT Head that for the duration of the testing, there will be no internet connectivity as WiFi and LAN connectivity to all the Computer Lab (C), Admin Room (A) and Teacher Room (T) will be disconnected.
2. Contact MOE Help Desk (018-799-8787) to inform that all 3 WiFi Access Points (APs) for C, A, T will be disconnect for throughput test.
3. Physical disconnect OCPE LANs cable from the first AP.
4. Verify all the school WiFi and LAN connectivity to all 3 APs at C, A, T are disabled.

Testing Steps:

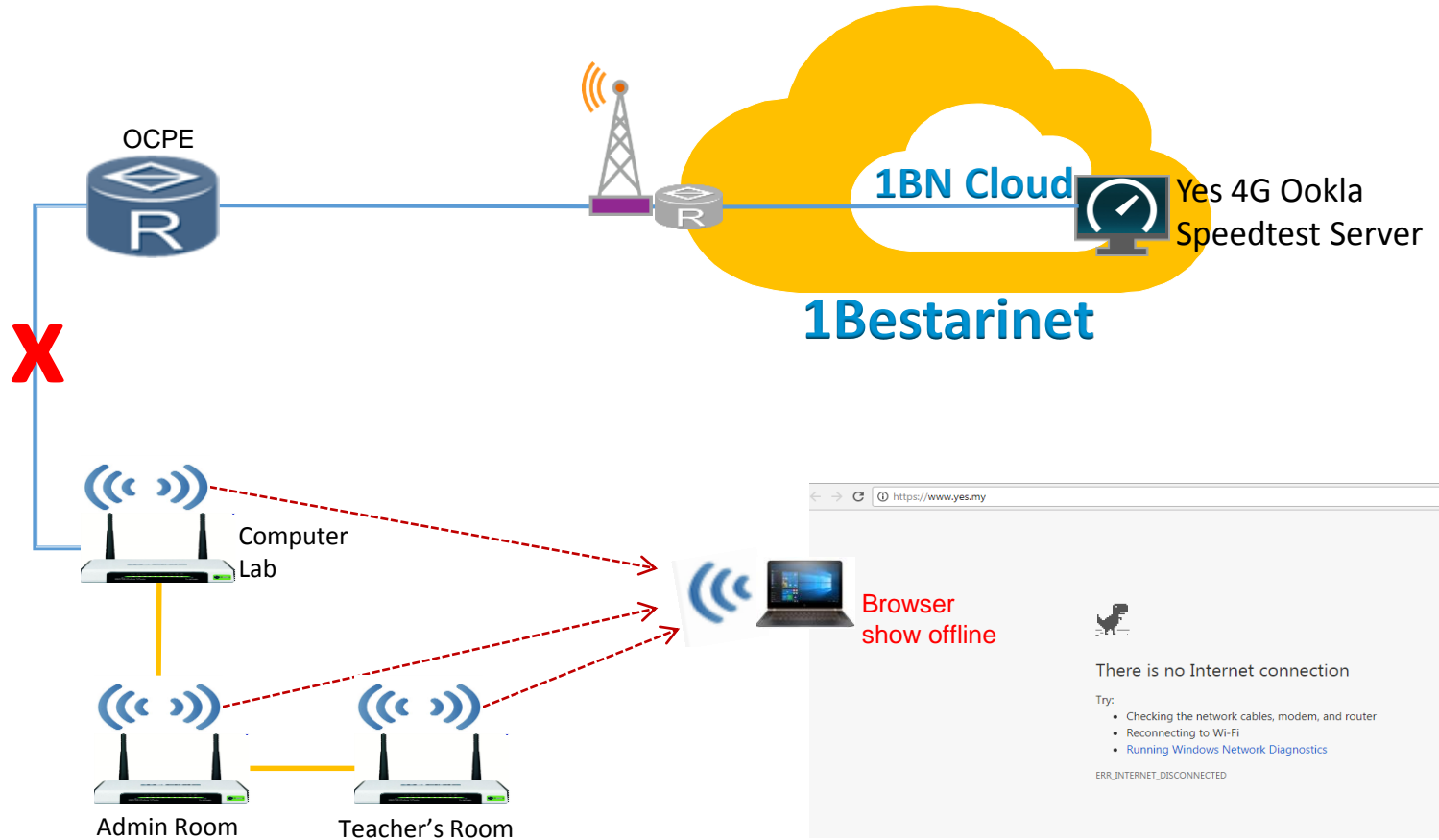
1. Connect a "client" laptop to the OCPE via an Internet (RJ45) LAN cable. Laptop should not have any communication software or other software which can consume internet running in the background. Hence, it is recommended that newly imaged laptops are used with only the Windows and MS Office software installed for recording the results.
2. Start executing as per test procedures.

Post-Testing Steps:

1. Re-connect OCPE LAN cables to appropriate first AP.
2. Contact MOE Help Desk (018-799-8787) to inform all 3 APs has reconnect.
3. Verify WiFi and School LAN has been turned back on and is functioning for all 3 APs.
4. Confirm with school ICT Head that all Internet services via for WiFi and school LAN is functioning back to normal stage.

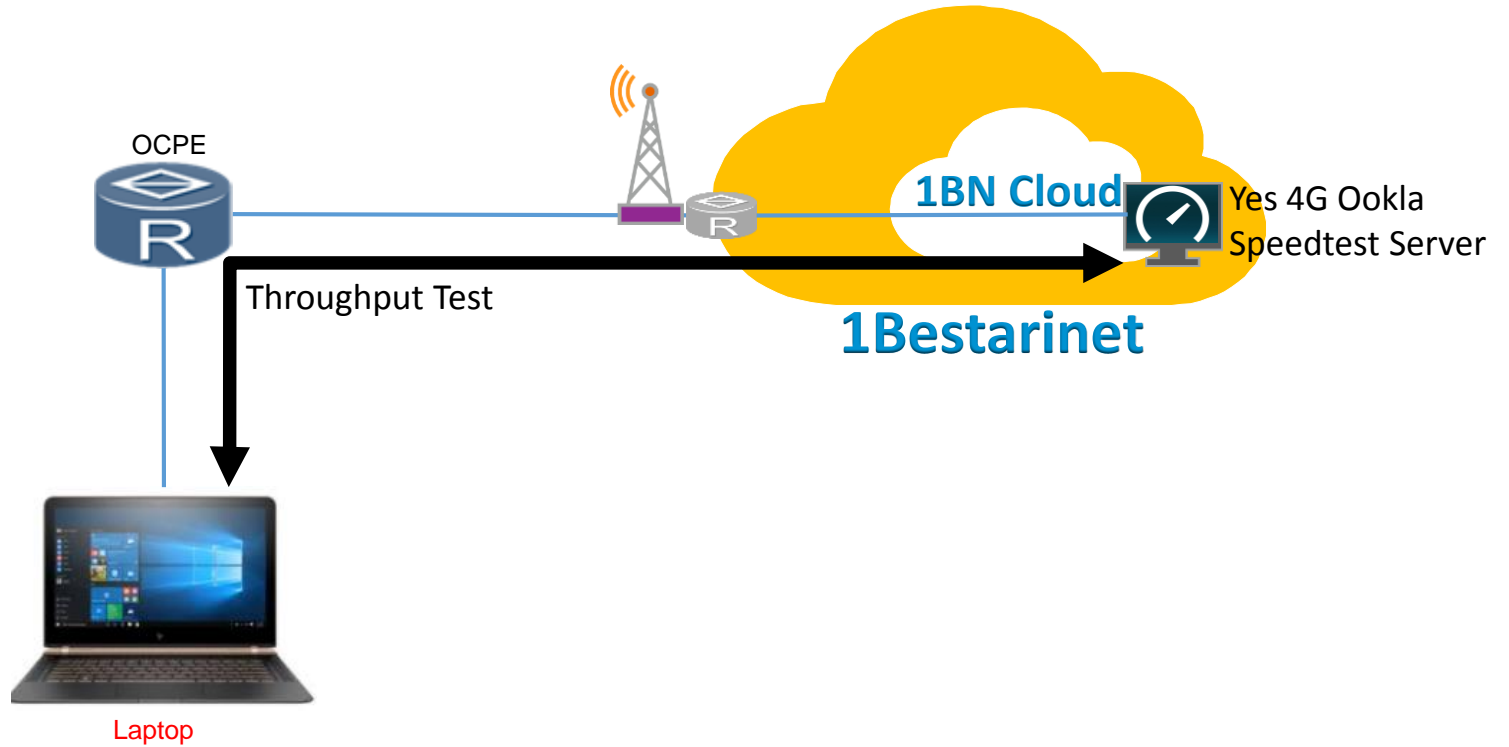


Pre-Test Topology





Testing Topology





Ookla Speed Test Information

Test Metric	Test Frequency	Number Of Test Sampling	Prerequisites/ Assumptions	Expected Results
Throughput Test	Every 5 minutes	10 samplings	<p>Recommended web browsers:-</p> <ul style="list-style-type: none">a) Firefox 3.6 or newerb) Internet Explorer 8 or newerc) Safari 4 or newerd) Chrome 10 or newer <p>Login to below websites to perform speed test:-</p> <ul style="list-style-type: none">a) http://speedtest.ytlcomms.my/b) http://www.speedtest.net/ <p>then select Kuala Lumpur (MY); Hosted by Yes 4G</p>	Capture speed of Bandwidth (DL/ UL Mbps)





1Bestarinet Throughput Reporting

- **Throughput** - Measurement of speed for downlink and uplink directions.
- **Average** - Average of all samples for downlink and uplink for the total bandwidth shall be taken to summarize the bandwidth available for the school

Key Performance Indicator	Direction	Sample Size (Iterations)	Results
Throughput	Download	10	Average
	Upload	10	Average
Avg. Total Throughput			Sum of Averages





Ookla Test Execution

Ookla Test Steps:

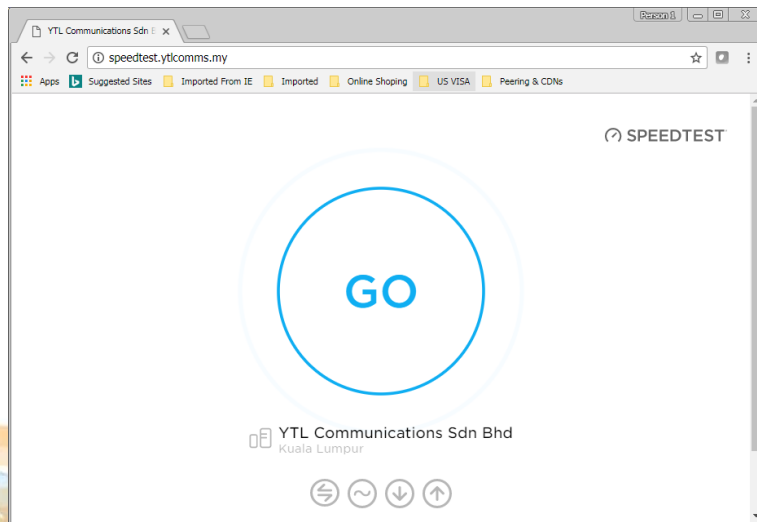
Step 1: Open recommended web browsers as below:-

- a) Firefox 3.6 or newer
- b) Internet Explorer 8 or newer
- c) Safari 4 or newer
- d) Chrome 10 or newer

Step 2: Login to below websites to perform speed test:-

- a) <http://speedtest.ytlcomms.my/>
- b) <http://www.speedtest.net/> then select Kuala Lumpur (MY); Hosted by Yes 4G

Step 3: Click “GO” button





Ookla Test Execution - Continue

Step 4: Capture the test result via print screen function for 10 times

The screenshot shows a web browser window with the URL `speedtest.ytlcomms.my`. The page displays the following test results:

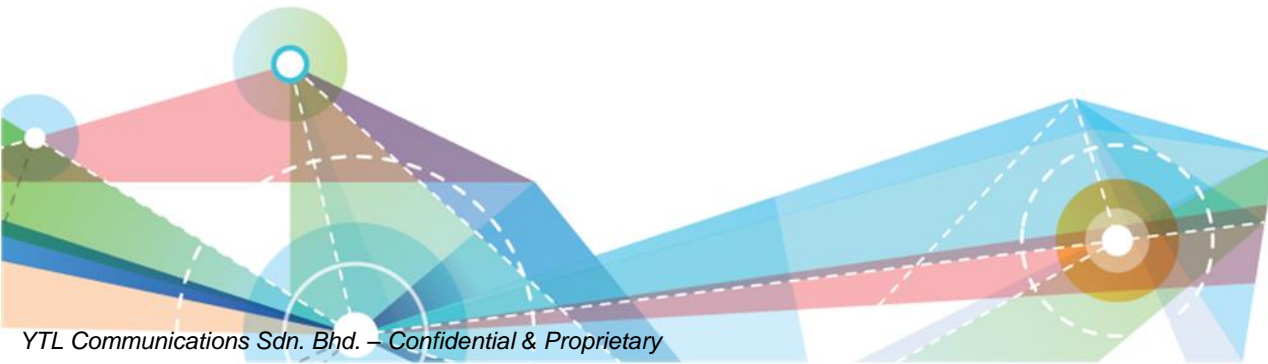
Metric	Value
PING	2 ms
DOWNLOAD	6.7 Mbps
UPLOAD	1.3 Mbps
JITTER	1 ms

A large blue circle with the word "AGAIN" inside is prominently displayed, indicating that the test failed. Below the test results, the website identifies the user as "YTL Communications Sdn Bhd" from "Kuala Lumpur". There is a "COPY LINK" button and social media icons for Twitter and Facebook. At the bottom, the IP address "Yes 203.158.29.45" is shown. A small footer note states: "All trademarks of Ookla, LLC, including Speedtest®, are used under license."

Amazing things happen when you
SAY YES

yes

Thank You



www.yes.my