

IPv6

Meets the torture test!

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World IPv6 Day

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Waverley College & Wollondilly Anglican College



Why a torture test?

- **School networks include unexpected complexities...**

Why a torture test?

...

- They tend to be large
- They are heavily utilised: large payloads by lots of simultaneous users
- Their users are smart experimenters with time on their hands and may be bored so looking for something to do!

Waverley College

- Year 10, Software Development Class
- Students well informed of v6
- Network staff: highly motivated
- Unusual network architecture:
 - multi-layers of NAT
 - intrusive proxy

IPv4

ISP

ISP NAT

Waverley

Local NAT



So what happened on the day...



Design Animations Slide Show Review View

Set Up Slide Show Hide Slide

Record Narration Rehearse Timings Use Rehearsed Timings Set Up

Resolution: Use Current Resolution

Show Presentation On: Use Presenter View Monitors

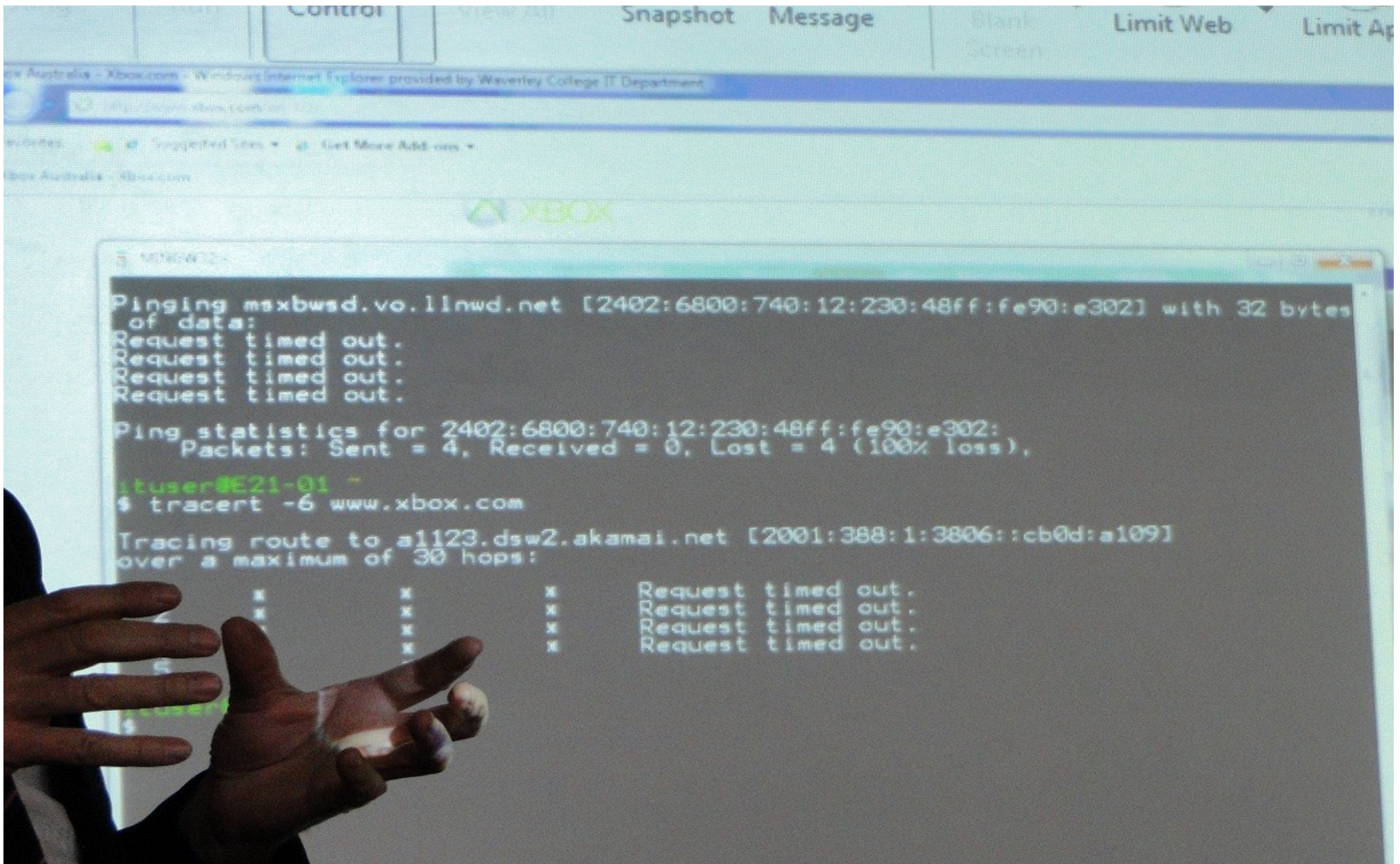


World IPv6 testing - E21 Periods 1 and 2

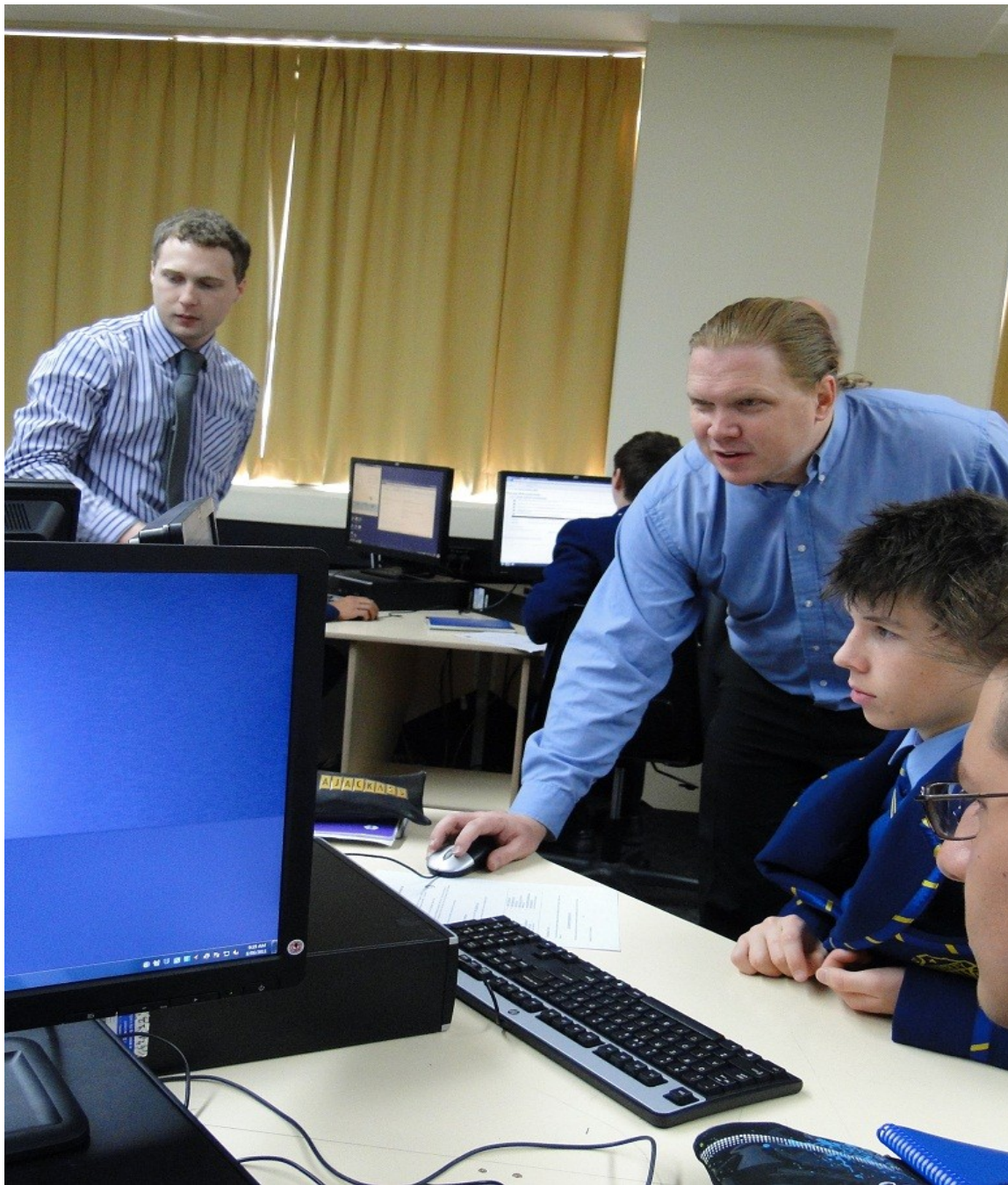
to add notes

175%









```

of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
Ping statistics for 2402:6800:740:12:230:48ff:fe90:e302:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

ituser@E21-01 ~
$ tracert -6 www.xbox.com

Tracing route to a1123.dsw2.akamai.net [2001:388:1:3806::cb0d:a109]
over a maximum of 30 hops:

  0  *          *          *          Request timed out.
  1  *          *          *          Request timed out.
  2  *          *          *          Request timed out.
  3  *          *          *          Request timed out.

ituser@E21-01 ~
$ tracert www.youtube.com

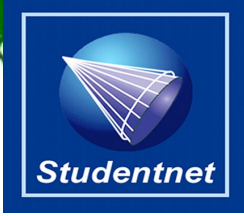
Tracing route to youtube-ui.l.google.com [74.125.237.45]
over a maximum of 30 hops:

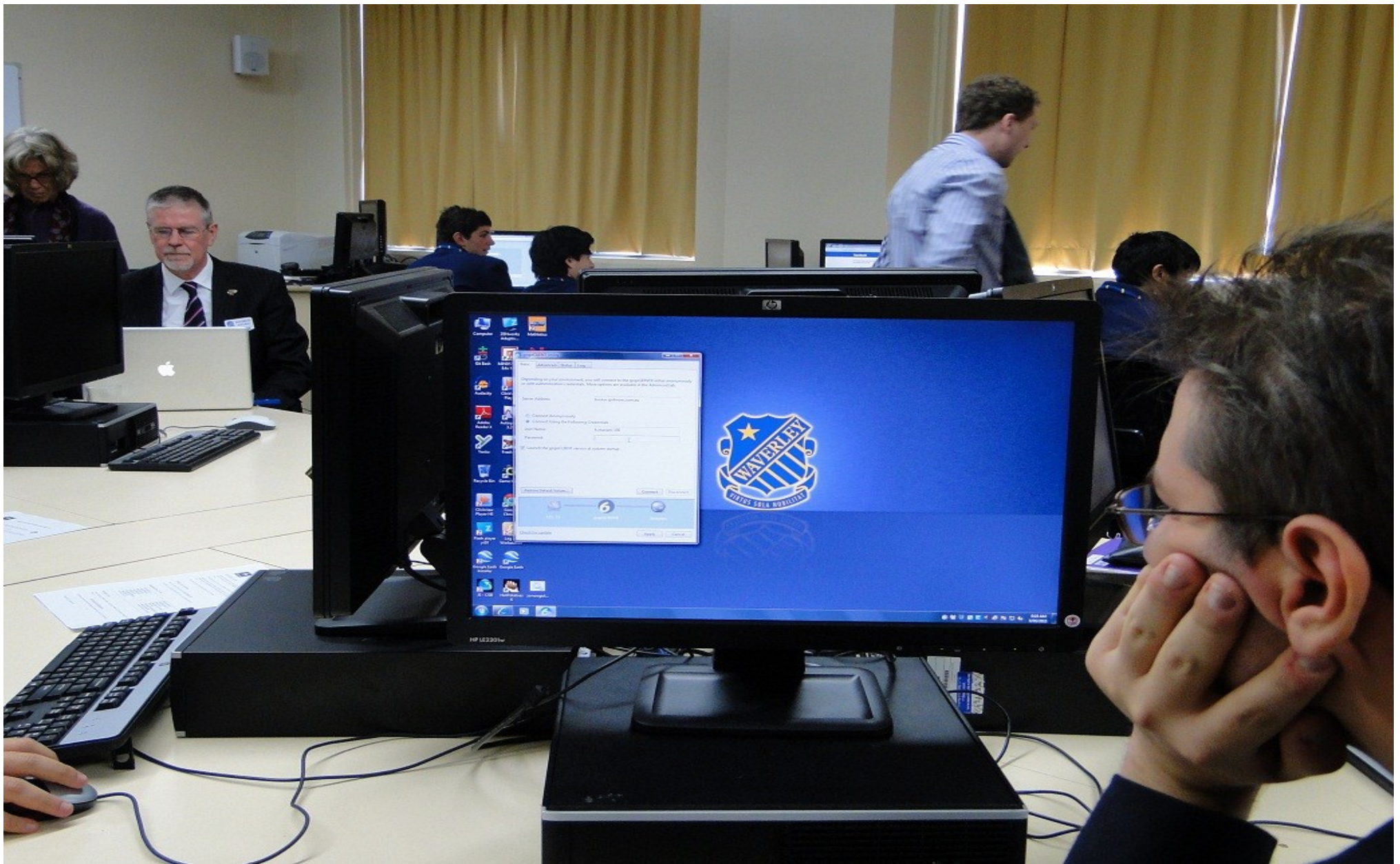
  0  2 ms      2 ms      3 ms      10.50.255.254
  1  <1 ms     <1 ms     <1 ms     10.20.1.222
  2  1 ms      1 ms      1 ms      192.168.90.5
  3  1 ms      1 ms      1 ms      192.168.90.1
  4  2 ms      1 ms      2 ms      vll12.sw1.nsw.netfilter.com.au [124.158.16.241]
  5  2 ms      1 ms      1 ms      gi0-1-5.rt1.nsw.netfilter.com.au [124.158.18.2]
  6  2 ms      1 ms      1 ms      as15169.sydney.pipenetworks.com [218.100.2.97]
  7  2 ms      1 ms      1 ms      66.249.95.232
  8  2 ms      1 ms      1 ms      72.14.237.51
  9  2 ms      1 ms      1 ms      74.125.237.45
 10  2 ms      1 ms      1 ms      74.125.237.45

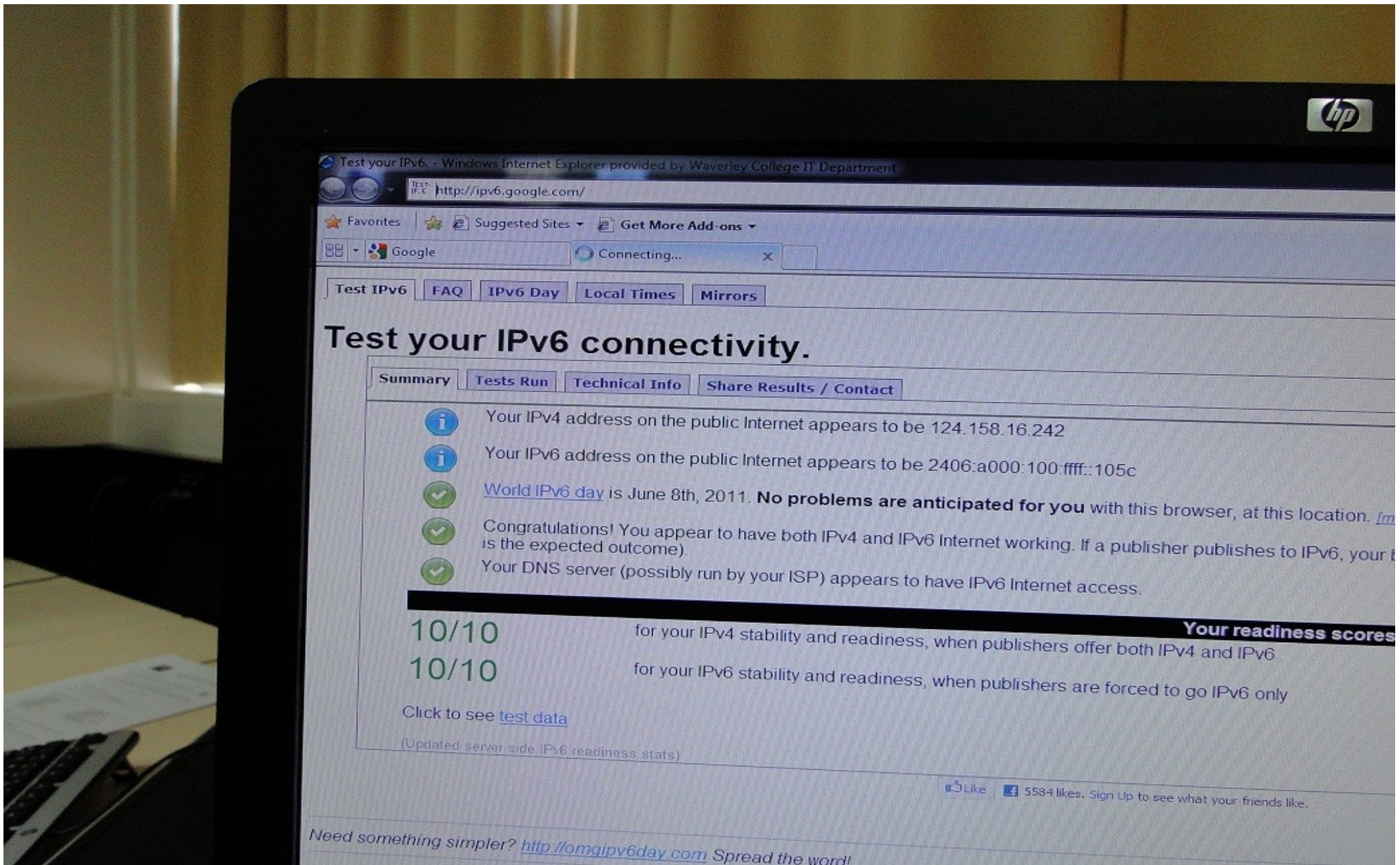
Trace complete.

ituser@E21-01 ~
$

```









What did they do?

The Waverley students visited their normal sites:

- Search (eg Google)**
- Social Networking (eg Facebook)**
- Online Browser Games**

What were the results?

Generally everything worked at the technical level

BUT...

At the user level the experience was not quite the same.



Wollondilly Anglican College

- Fast growing semi-rural, co-educational
- Year 6 Primary
- Very independent, self-sufficient network
- Line of Sight wireless connection
- No ISP NAT











Wollondilly Favourites

- **Google**
- **YouTube**
- **Facebook**
- **Sesame Street Online**





**Many thanks to the Staff &
Students of
Waverley College
&
Wollondilly Anglican College**

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Thank you

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