

MEASURING IPV6

Using Google Analytics

A Contribution to World IPv6 Day, 8 June 2011

Emile Aben, RIPE NCC
Geoff Huston, APNIC
George Michaelson, APNIC



RIPE
NCC



Google Analytics

Adds a javascript element to your web page that allows you to track web client behaviours

```
<script type="text/javascript">

    var _gaq = _gaq || [];
    _gaq.push(['_setAccount', 'UA-0000000']);
    _gaq.push(['_trackPageview']);

    (function() {
        var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
        ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') +
                '.google-analytics.com/ga.js';
        var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(ga, s);
    })();
</script>
```

Adding IPv6 tests

IPProtoTest.js is an additional javascript element added to the analytics part of your web page

The javascript code performs a set of tests on the client to determine their IPv6 capability

Results are added to your Google Analytics report

```
<script type="text/javascript">
...google analytics code...

// enable the IPProtoTest library and feed google analytics events
if ('http:' == document.location.protocol) {
  var ipproto_user = '1';
  (function() {
    var iga = document.createElement('script'); iga.type = 'text/javascript'; iga.async = true;
    iga.src = 'http://labs.apnic.net/ipprototest.js';
    var is = document.getElementsByTagName('script')[0]; is.parentNode.insertBefore(iga, is);
  })();
}

</script>
```

The IPv6 Tests

The client attempts to load 5 1x1 gif images as a silent background task:

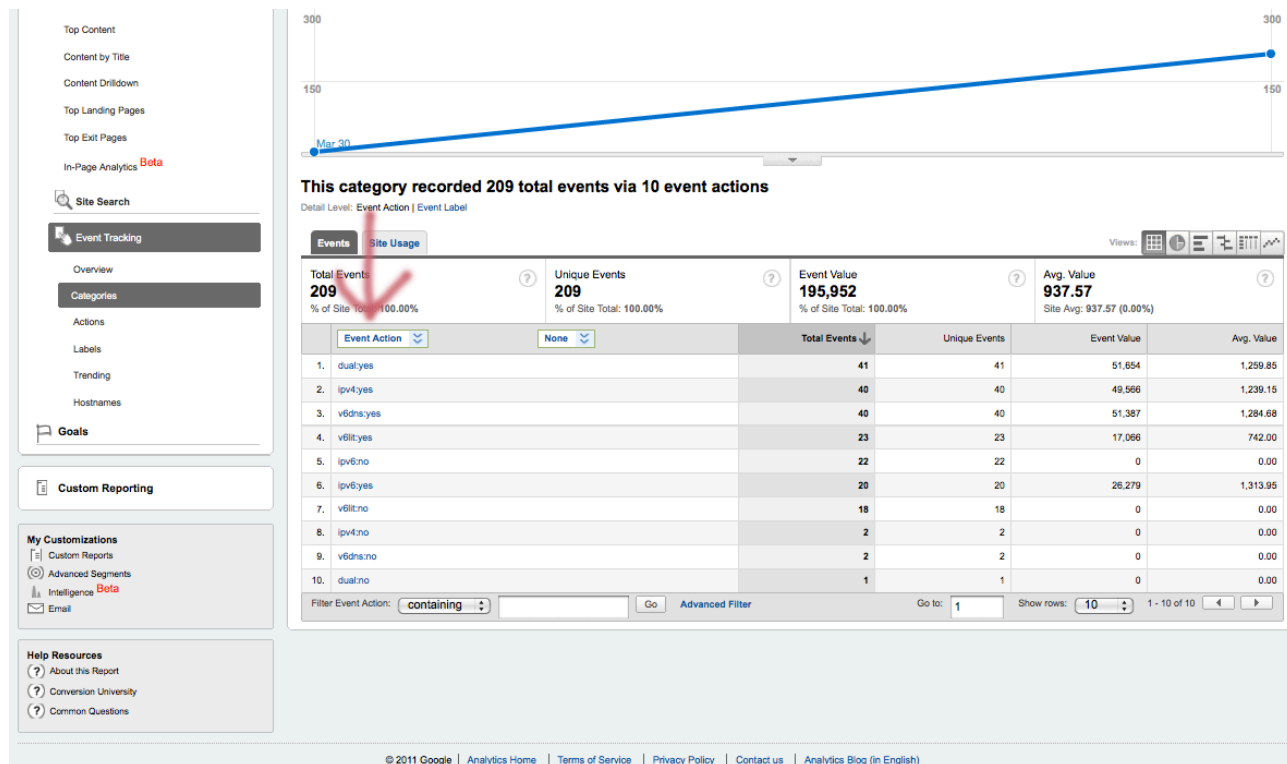
- IPv4 only URL
- IPv6 only URL
- Dual Stack URL
- IPv6 DNS URL
- IPv6 Literal URL (No DNS)

Each test is timed, and the script passes the results back to analytics as a set of “events”

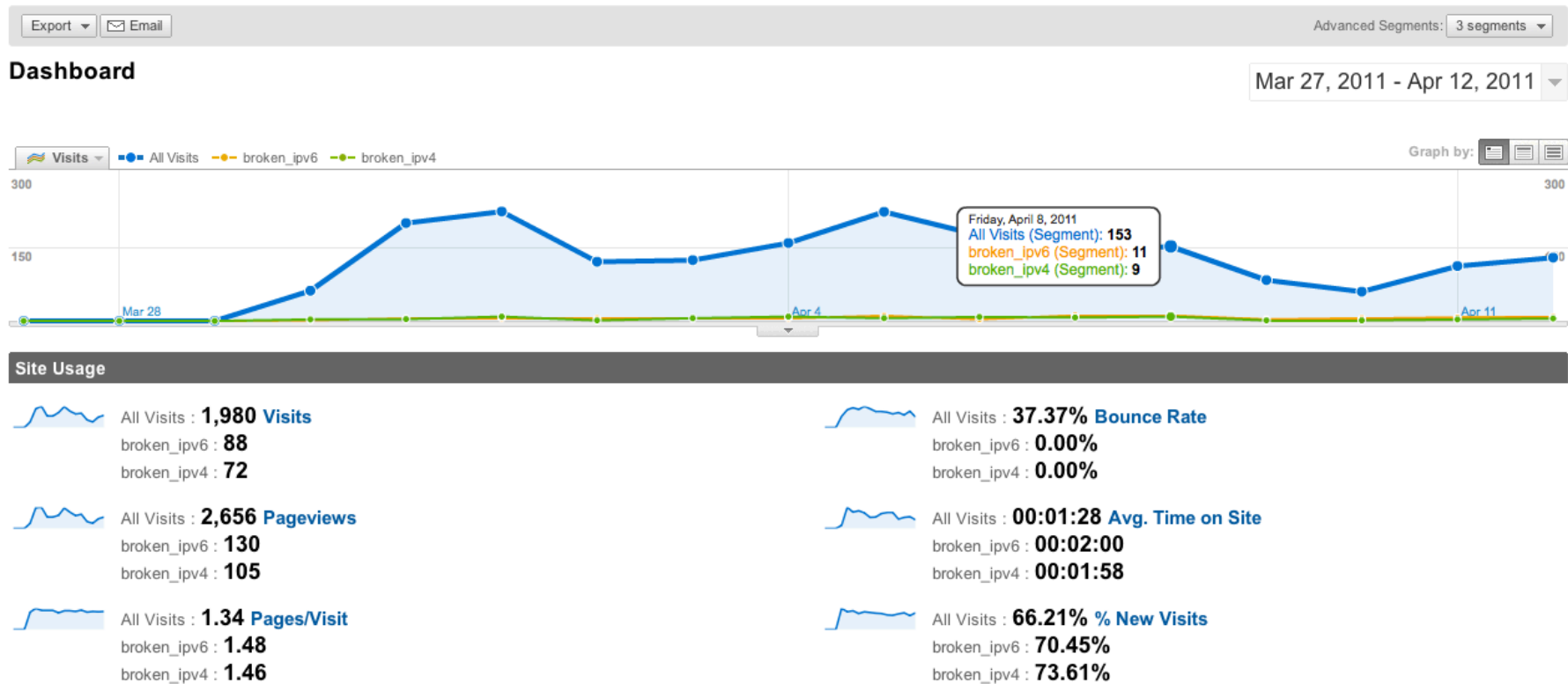
Reporting

Using the Events Tracker, Analytics can report on:

- the number of clients who can pass / fail each of these tests
- the number of clients with each combination of test outcomes
- the relative retrieval times between IPv4 and IPv6



Reporting Example



For more information...

Cooked:

<http://labs.apnic.net>

Raw:

<https://sourceforge.net/projects/ipprototestjs/>



RIPE
NCC



APNIC