

Response to ACCC's document : “**Broadband performance monitoring and reporting in the Australian context - Consultation paper 14 August 2013**”

Response authored by Mal Kelly (Connect Pacific Pty Ltd) as representative for CIQUAL (UK) Limited (incorporated in Australia as CIQUAL (Aust) Pty Ltd) and James Skinner (CIQUAL Ltd UK)

Contact: Mal_kelly@ciqua.com , +61 413 208 744

Testing methodology

1. Do you agree that a probe-based testing methodology would be the most reliable and accurate approach for the Australian context?

Probe based technology will give a proxy of the user experience but don't fully reflect the end user experience and may not accurately reflect the networks impact on the user experience.

2. If you consider an alternative approach preferable, what approach do you prefer and why?

Customer Experience Measurement software (CEM) installed on the end user device is our recommended approach. This allows the testing to be as close to the customer as possible and is network and access technology agnostic.

*CEM truly measures the **Real Customer Experience** and not simply idle time network performance of a test probe.*

The use of CEM software has the ability to passively measure the customer's actual experience as well as using synthetic active tests in the same manner as the probe based technology.

Passive measurements have the distinct advantage that they are being made under load conditions and more likely at peak times where as “idle time” active tests may not capture the true “busy” performance.

Being a client based technology, CEM can be installed on PC's, laptops and mobile devices such as smart phones, tablets and iPads and embedded into modems. This is the key advantage of a CEM approach as the customers view of a particular service provided by a service provider is judged at the end device and not at the entry point to the premise.

The performance measured by the CEM software will be influenced by the device specification and applications in use and if you wish to truly wish to measure real customer experience it is vital that it does take these factors into consideration. CEM software will also report the class and specification of device in use without reporting and customer sensitive data which will allow the identification and measurement of specification or class performance issues which wouldn't be detected by HW probing.

As SW clients are significantly cheaper and simpler to deploy with no inherent HW support costs it would be possible to deploy a greater number thus statistically removing the influence of any device factors on the headline numbers.

For example:

- 1) *If a particular service provider supplied a Wi-Fi router as part of their service and this device had particularly poor performance then this would be detected by CEM SW but not by fixed probes.*
- 2) *If a service provider's service did not work as well with a certain revision or class of devices due to network configuration then this would impact the customer experience and quality of service yet would not be detected by a hardware probe based approach.*

We have seen examples where probe based measurements are giving "all green lights" in the service provider's network operation centers yet customer are complaining in droves of poor service and cancelling contracts. In this category of cases often the service provider will blame the customer's device or configuration but often this is not accurate. In a recent case similar to this within weeks of deploying CEM software to a very small sample of customers we were able to confirm to the service provider that there was indeed a quality of service issue and direct that service provider to a network element issue which had not been detected by their extensive probing system and would not have been detected by probes based on the customer premise.

CEM software based probing with over the wire (and air) configuration is lower cost, far simpler to deploy and does not suffer from the inherent support and maintenance burdens associated with hardware probe based technologies.

Services

3. What services should be included in the ACCC's proposed performance monitoring and reporting program? In particular:

a) Do you agree that the ACCC should monitor ADSL, HFC and NBN-based broadband services?

Yes. We advocate testing any/all access networks where service providers make contestable claims on performance - including wireless access networks (3G, LTE)

b) Do you agree that the ACCC should monitor small business broadband services?

Yes. Small Business (more than large business) as well as consumers would derive value from such a service.

c) Are there any other services which you consider should be included in the proposed program? In your response, please outline reasons.

Yes. As above, we contend that the wireless access services should also be benchmarked as more businesses are moving to Wireless broadband to support their workforce in business critical use cases.

Regions

4. How should the ACCC determine which regions to monitor as part of any program? In particular:

- a) How many Australian cities do you consider should be monitored as part of the proposed program? How could these be determined by the ACCC?

All major cities (capitals) and regional centers in excess of 50,000 as an approximation. The determination on how far to go into regional centers could be based on numbers of registered SME's in that centre served by more than one service provider as well as cost of penetration of a CEM solution.

b) Would you consider State or Territory regions which encompass rural and regional areas outside of each major city would be sufficient to provide information to consumers living in these areas on the performance of broadband services? For example, a Victorian rural/regional delineation which encompasses services outside of metropolitan Melbourne.

As above, yes.

Internet service providers

5. How should the ACCC determine which ISPs to monitor for ADSL and NBN-based services? For example:

a) Should the ACCC monitor the largest ISPs by total market share in the Australian fixed-line broadband market?

Yes.

b) Should the ACCC monitor the largest ISPs by market share for each technology?

Yes.

c) Should the ACCC monitor the largest ISPs by market share for each region?

Yes. This is valid sampling.

6. If you consider that another approach to determining which ISPs to monitor is preferable, what is it and why do you prefer that approach?

7. Should the ACCC monitor all providers of HFC in Australia, or limit testing to the two major networks operated by Telstra and Optus?

At this stage of HFC presence in Australia, it should be limited to Telstra and OPTUS as the 2 owners of the HFC assets.

Speed tiers

8. Do you agree the ACCC should test both ADSL 1 and ADSL2+ services?

Both ADSL 1 and ADSL 2+ should be subject to testing to ensure that consumers are provided with enough information to assess investment decisions (eg. Working to a budget)

9. Should the ACCC test specific speed tiers for HFC and NBN-based services or should it test services falling within particular speed ranges? Please explain if and why you

prefer a particular approach.

As above in 8 all offered “speed based” packages should be subject to testing.

Sample size

10. What is the minimum number of probes which would be required to provide robust results on the broadband performance likely to be experienced by consumers acquiring a particular ISP package or offering in a particular region (i.e. per sample set)?

A valid statistical sample, if distributed proportionally on market share and technology type is 10% of the total market. Depending on the cost, however, a smaller sample size will still deliver valid indications to consumers about expectations on technology type, service provider and region.

The use of CEM SW based strategy would greatly reduce cost so would allow ACCC to deploy a greater number of “probes” and would also allow the sample locations to be widened.

11. Which of the variables (ISP, geographic region, speed tier or size of each ‘sample set’) is most important and why?

ISP is most important and they are the major determinant of the access technology, service/product specification, network design and interconnection with the internet and peering partners.

Metrics

12. What information regarding download and upload data transfer rates (or ‘speeds’) would be most useful for ISPs and for consumers? In particular:

- a) Do you agree that the ACCC should monitor both peak and off-peak data transfer rates?

Time of day measurement is valid as busy periods will determine expected speeds and hence set expectations for consumers.

Passive measurement within CEM allows for busy period and full load measurements whilst not impacting the end users actual service.

b) What is the daily peak or ‘busy’ period for demand on broadband bandwidth in Australia?

For mobile broadband, in inner city areas, the peak is 5:30 to 7:30pm. For cable and ADSL services, except for corporate and government, the busy period is the early evening and another spike after “dinner”.

c) To what extent are ‘burst’ speeds available for consumers in Australia and should they be accounted for in the ACCC’s proposed testing program?

Any and all claims by a service provider on speed or other performance KPI’s need to be contestable.

Burst speeds must be taken in to account during testing to ensure that they do not

artificially increase the resultant measurements. Burst speeds can sometimes inflate the performance of short duration active tests whereas passive measurements based on real customer experience will not be impacted by burst speeds artificially,

13. What additional quality of service parameters should the ACCC monitor so as to obtain rich and meaningful information regarding the performance of broadband services in Australia? In your response, please state each factor which you consider should be tested and why.

*Speed / throughput is an important measure of expected performance to the end consumer. However, with usage volumes moving away from browsing to video and gaming, **Latency** and **Loss** are arguably just as important in determining user experience. As an extension, if the broadband service is delivered wirelessly (fixed or mobile), other factors such as signal strength and Radio Access bit error rate will also be an indicator of customer experience.*

In addition, consumer subjective feedback (e.g. in the form of a simple questionnaire); which could be deployed and collect over the network using the CEM SW; would also put context to machine originated measurements.

Reporting

14. What do you consider is the best approach to reporting on broadband performance in Australia? In particular:

a) How often should the ACCC report on the results of its broadband performance testing?

Collection of data should be continuous. Reporting should provided on a weekly basis if reporting can be, in most cases, be automated. If reporting automation can not be relied upon (i.e. human analysis is required) it may be more cost effective to run fortnightly/monthly.

CEM measurements are typically less than 1% of the overall consumed/produced volume of a typical monthly quota.

b) Do you agree that the ACCC should provide detailed observations, commentary or analysis on the results of testing?

ACCC should report facts based on measurements and methodologies that are documented and available to all consumers and service providers. Any analysis should be limited to facts (e.g. Sample size is too small to provide meaningful results, outages in certain geographies have skewed results etc.)

15. To what extent would industry (e.g. ISPs) value access to the raw data collected by any testing program and want to have access to it?

Raw, anonymised, data could be valued by service providers. As an example, companies such as OOKLA charge for performance data collected by them.

It maybe also be worth considering providing individual service providers with raw data relating to their own performance as this could provide very useful in helping them improve their service.

