



MEDIA LAB



THE UNIVERSITY OF  
**WAIKATO**  
*Te Whare Wānanga o Waikato*

28 October 2005

Chris Abott  
Commerce Commission  
PO Box 2351  
Wellington

Dear Chris,

## **TelstraClear Bitstream Application**

### **Commission Statement for Consultation**

I am writing in response to the Commission's statement of 12 October 2005, seeking comment on the revised technical parameters of the bitstream access service.

MediaLab and the WAND Group welcome the Commission's consultation statement and particularly the clear definitions of the proposed technical parameters that it provides. It is our understanding that the consultation statement is intended as an addendum to the original Draft Determination of 21 April 2005.

The Draft Determination specified that network measurements were to be taken to ensure consistency between the key technical parameters of the two services. The key technical parameters and how they should be measured were specified in Appendix A.

During the Draft Determination consultation phase there was much discussion and movement in the positions of the parties regarding both the technical parameters of the regulated bitstream service and whether any measurement of the key technical parameters should be required. MediaLab and the WAND group have withheld detailed comment on measurement aspects of the proposed service while these technical parameters are in a state of change. Now that technical parameters appear to be stabilising we believe it is time to revisit the measurement aspects of the Draft Determination to ensure that a robust, reliable and transparent measurement regime is enacted.

MediaLab and the WAND Group acknowledge that during the consultation phase both Telecom and TelstraClear have stated that ongoing measurement of the key service parameters is not required. While we do not desire to force a measurement regime on any of the parties involved, MediaLab and the WAND Group believe that the Draft Determination would be lacking a significant component if it did not contain a robust, reliable and transparent measurement methodology. Much of the basis for such a methodology can be found in the Draft Determination and it would prudent to include it in the final determination regardless of whether there is a requirement for regular measurement and reporting to take place.

MediaLab and WAND Group provided the Commission with a detailed submission on 20 May 2005. This submission covered a number of aspects of the measurement regime specified in the Draft Determination that MediaLab and the WAND Group believe need strengthening. Given the similarity between the technical parameters specified in the Draft Determination and the Consultation document currently issued by the Commission, the issues raised in our May submission are still relevant. In particular the Draft Determination contained very little detail on the statistical framework that would be used to interpret the measurement results. This is a significant omission that will need to be rectified.

MediaLab and the WAND Group wish to highlight the following recommendations from our May submission:

- The measurement regime should utilise round-trip tests for the key parameters of Latency, Delay Variation (Jitter), Loss and Throughput.
- The measurement regime should be based on active measurement techniques.
- That a range of packet sizes should be included in the measurement regime.
- The measurement regime should include measurements of how the services handle congestion.
- Throughput tests should be conducted using the TCP protocol and must be of sufficient duration to ensure that the full available bandwidth is measured.
- All measurements should be conducted at the IP layer (OSI layer three).
- The IETF standards should be used instead of the ITU standards when defining the key service parameters.
- A robust statistical framework must be used to analyse the measurement results and draw conclusions. An example of such a framework is provided in Section 4 of the MediaLab and Wand submission.

Please refer to our May submission for the detailed explanations and rationale behind each of these recommendations.

MediaLab and the WAND group thank the Commission for the opportunity to assist with the Determination and remain willing to provide further network measurement expertise if requested by the Commission.

Yours Sincerely

Matt Brown  
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MediaLab Limited