



Fixed line access prices using the ACCC's fixed line services model

A REPORT PREPARED FOR THOMSON GEER

December 2014

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Executive summary	iii
1 The task	1
1.1 Background	1
1.2 Instructions	1
2 Methodology	3
2.1 Data sources	3
2.2 Steps	3
3 Results	5
3.1 Results with unsmoothed service prices	5
3.2 Results with smoothed service prices	8
Attachment: Letter of instruction	10

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Figures

Figure 1: Estimate of nominal service prices for a Final Access Determination period running to 2016/17	5
Figure 2: Unsmoothed prices – price changes implied	8
Figure 3: The impact of price smoothing across services	9

Tables

Table 1: Estimate of nominal service prices for a Final Access Determination period running to 2016/17	7
Table 2 Estimate of nominal service prices for WADSL	7
Table 3: Smoothed prices	9

Executive summary

Frontier Economics (Frontier) was asked by Thomson Geer, lawyers acting for iiNet, to prepare forecast prices for the declared fixed line telecommunications services using the Australian Competition and Consumer Commission's (ACCC's) fixed line services model (FLSM).

These estimates of prices are to be based on 'rolling forward' the ACCC's existing FLSM for a further three years. This retains the current methodologies while incorporating new forecasts of costs and demand.

This exercise demonstrates that, based on Telstra's own forecasts of costs and demand, prices for the declared fixed line services would be expected to fall significantly over the next three years.

If a price reduction was smoothed across different services, and prices were then fixed for the following two years of the three-year regulatory period, the result would be a uniform 16.9 per cent reduction in prices.

This short report contains a description of our methodology and further details of these results.

1 The task

1.1 Background

The ACCC is currently conducting a public inquiry into making a final access determination (FAD) for each of the following fixed line services:

- the Unconditioned Local Loop Service (ULLS);
- the Line Sharing Service (LSS);
- the Wholesale Line Rental Service (WLR);
- the Local Carriage Service (LCS)
- the Fixed Originating Access Service (FOAS);
- the Fixed Terminating Access Service (FTAS); and
- Wholesale ADSL Service (WADSL),

(the Declared Services).

The FADs will include the primary price terms for each of the Declared Services for the next regulatory period.

In 2011, the ACCC made a FAD for each of the Declared Services except WADSL which was not a declared service at that time (the 2011 FADs). The ACCC made the primary prices included in the 2011 FADs by using its fixed line services model (the Original FLSM). In 2013, the ACCC made a FAD for the WADSL (the WADSL FAD). The ACCC used an updated version of the Original FLSM (the Updated FLSM) to make the primary prices for the WADSL in the WADSL FAD.

In response to the current public inquiry, Telstra has provided the ACCC with Telstra's Fixed Services Forecast Model which provides demand, capital expenditure and operational expenditure forecasts from 2014/15 to 2018/19. Telstra has also made submissions that seek amendments to be made to the approach to cost allocation and declining demand that was adopted in the Original FLSM and Updated FLSM.

1.2 Instructions

We have received a letter of instruction from lawyers acting for iiNet. This letter indicates that iiNet wishes to know:

- a. What final pricing outputs for the Declared Services would be determined by the Updated FLSM for a new regulatory period from 2014/15 to 2016/17 if Telstra's Fixed Services Forecast Model is used in conjunction with the Updated FLSM without any methodological changes being made to how the

Updated FLSM deals with cost allocation and declining demand (the FLSM Roll Forward).

- b. If the output prices for the Declared Services that result from the FLSM Roll Forward increase or decrease at different rates for each Declared Service, is there a way to 'smooth' (i.e. achieve a fixed rate increase or decrease for each service) the outputs across each of the Declared Services in a manner that would not lead to any under or over recovery by Telstra as compared to a scenario where no 'smoothing' was done?

Our instructions also ask us to document and explain the methodology adopted to address the above questions, as well as any relevant assumptions that are made over and above any assumptions already used in the Updated FLSM.

In the following sections of this note, we document our methodology and the results from the FLSM.

2 Methodology

2.1 Data sources

In accordance with the request, we have used confidential versions¹ of Telstra's demand and cost forecasting model and the ACCC's FLSM to estimate the fixed line access prices from 2014/15 to 2016/17:

- Telstra's demand and cost forecasting model, ***Fixed Services Forecast Model v1 05.xlsx***, provides demand, Capex and Opex forecasts from 2014/15 to 2018/19, and
- The ACCC's building block model (the Updated FLSM) contains the cost allocation and price setting calculations.

These spreadsheets contain the following necessary information to update and roll forward the existing FLSM model.

There are two other updated data inputs which we source separately:

- We adopt the same inflation forecasts as were used for the period 2011-14 (2.55%)²
- We use Telstra's estimates of its real and nominal weighted average cost of capital, nominal cost of debt, and value of gamma (imputation credits) from its 3 October 2014 submission.³

2.2 Steps

We have taken the following steps to extend the building block model to 2016/17, while maintaining the ACCC's core methodology:

1. Extend the model period to 10 years (tab *B. Dimensions & Results* cell E11)
2. Extend the total Band SIO forecasts at 0% growth from the 2009/10 values (tab *D. Geo Cost-based pricing* range I43:M47)
3. Input the Opex forecasts by asset class for 2014/15 to 2018/19 from the forecasting model (tab *F. Opex allocations*, ranges K28:O47 and K50:O69).

¹ Both models contain information considered confidential to Telstra.

² Using Telstra's forecast of 2.5%, which underlies its WACC estimate, would result in only trivially small differences in prices.

³ See page 81. Note that we do not endorse the use of this value, but note that it is likely to better reflect current circumstances than the WACC used in the 2013 version of the model.

- In Telstra's forecasting model, the direct and indirect Opex forecasts are reported separately. Moreover, the indirect forecast is reported as a total and is not allocated across the asset classes.
 - Therefore, prior to inputting the forecasts into the building block model, we allocated the indirect costs to each asset class using allocation factors equal to the proportion of the asset class' direct costs to total direct costs. The sum of the direct and allocated indirect costs is then inputted into the building block model in the ranges referred to above.
- 4. Input the Capex forecasts by asset class for 2014/5 to 2018/19 from the forecasting model (tab 3. *Assets, Disposals and Opex* range M64:Q95)
- 5. Input the post-NBN demand forecasts for the declared fixed line services from 2014/15 to 2018/19 from the forecasting model (tab 5. *Service demand* range M11:Q15)
- 6. Extend the data to calculate WADSL prices, including tab. *I WADSL Allocation Factor Calc*, including factors driven by changes in WADSL SIOs and use of transmission equipment.
- 7. Use the WACC proposed by Telstra to provide a return on capital, and to use the nominal cost of debt and gamma in tax calculations (tab 6. *Revenue requirement*, tab 10. *Tax liabilities*, tab 11. *Cash Flow Analysis* and tab G. *Revenue Disaggregate*)
- 8. Extend the results range for the nominal service prices (tab 8. *Dimensions & Results*)

We describe further steps required to smooth the prices across different services in Section 3.2.

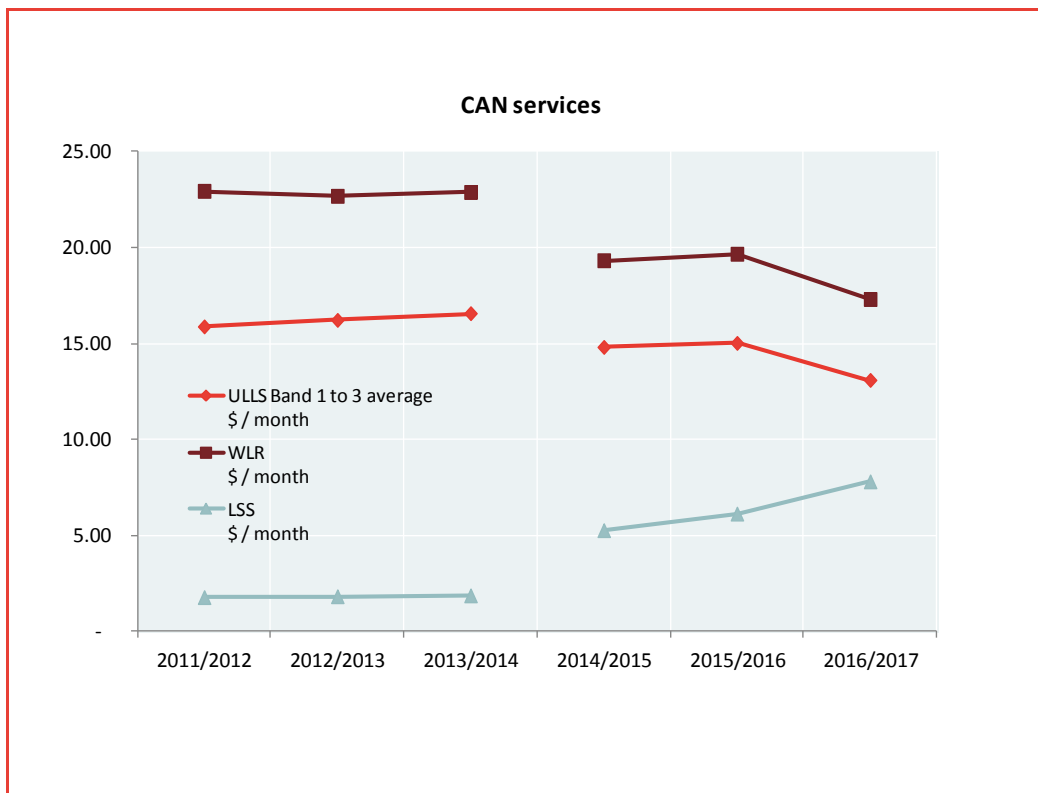
3 Results

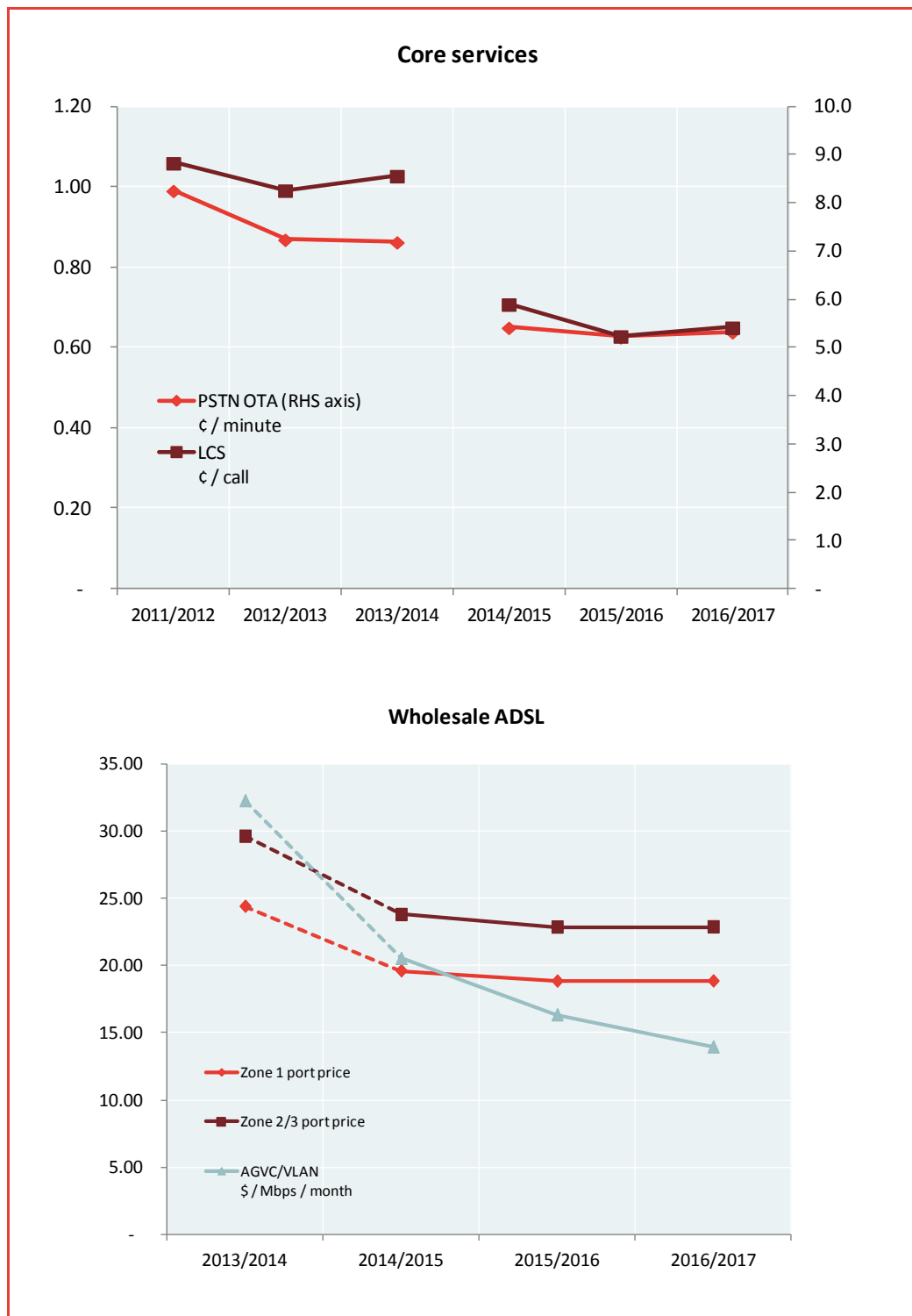
3.1 Results with unsmoothed service prices

Figure 1 and Table 1 present the nominal fixed service access price forecast extended to 2016/17 (i.e. for a further three year regulatory period). It indicates that, if the ACCC's methodology was adopted for the forecast period:

- ULLS and WLR prices would decline both initially from 2013/14 to 2014/15 and over time.
- LCS and PSTN OTA prices would initially drop, but then remain relatively constant from 2014/15 onwards.
- LSS prices would increase initially and over time.
- Wholesale ADSL prices would decline initially and over time.

Figure 1: Estimate of nominal service prices for a Final Access Determination period running to 2016/17





Source: Frontier Economics analysis

Table 1: Estimate of nominal service prices for a Final Access Determination period running to 2016/17

Years	ULLS Band 1 to 3	ULLS Band 4	WLR	PSTN OTA	LCS	LSS
	\$ / month	\$ / month	\$ / month	¢ / minute	¢ / call	\$ / month
2011/2012	15.87	47.45	22.94	0.99	8.84	1.75
2012/2013	16.21	48.18	22.69	0.93	8.80	1.80
2013/2014	16.56	48.95	22.88	0.92	9.10	1.85
2014/2015	14.80	44.98	19.32	0.65	5.90	5.25
2015/2016	15.01	45.56	19.66	0.63	5.24	6.11
2016/2017	13.08	39.09	17.30	0.64	5.42	7.79
Average 2012-14 (Current FAD price)	16.21	48.19	22.84	0.95	8.91	1.80
Average 2015-17	14.30	43.21	18.76	0.64	5.52	6.38

Source: Frontier Economics analysis

Table 2 Estimate of nominal service prices for WADSL

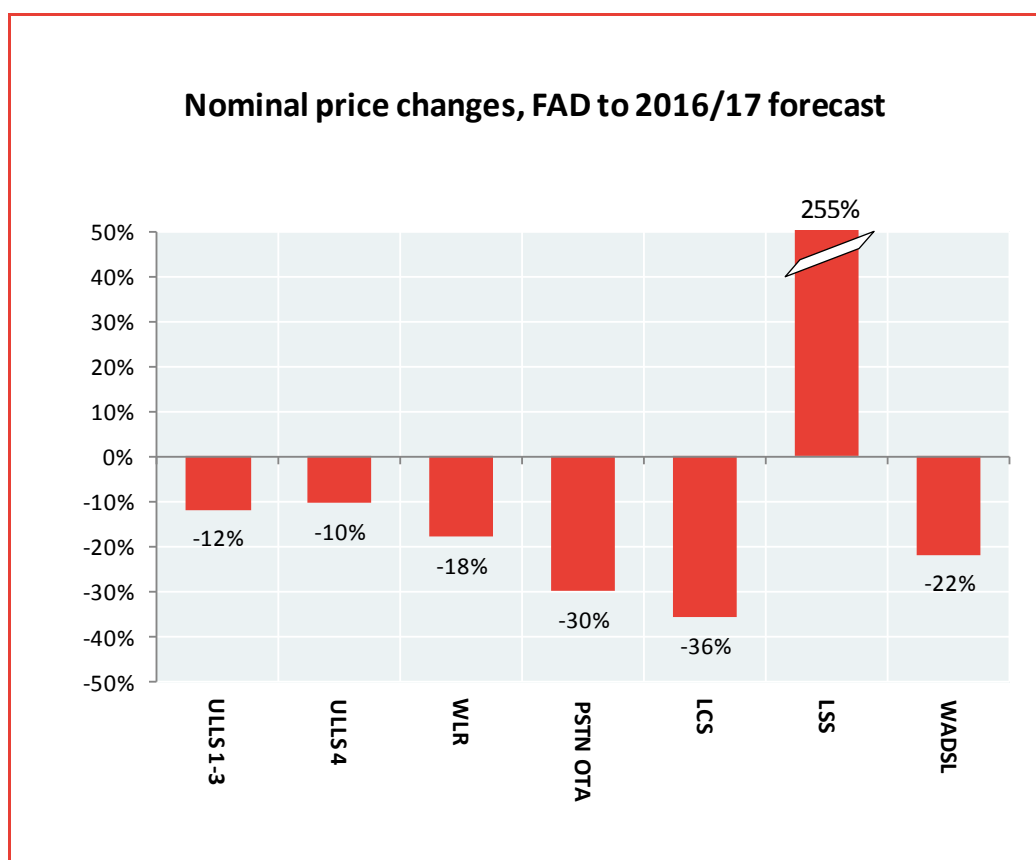
Years	WADSL Zone 1 port price \$ / month	WADSL Zone 2/3 port price \$ / month	AGVC/VLAN \$ / Mbps / month
2013/2014 (Current FAD price)	24.43	29.64	32.29
2014/2015	19.62	23.81	20.54
2015/2016	18.85	22.88	16.34
2016/2017	18.86	22.89	13.95
Average 2015-17	19.11	23.19	16.94

Source: Frontier Economics analysis

The following Figure shows the price changes in graphical form, if we assume that the ACCC sets new prices for the period to 2016/17 by setting prices at the average over the three year FAD period. This was consistent with the ACCC's approach in 2011.

This Figure demonstrates that the changes across services are likely to be different, with larger price falls for PSTN OTA and LCS services, and a significant increase in LSS prices.

Figure 2: Unsmoothed prices – price changes implied



Source: Frontier Economics analysis

3.2 Results with smoothed service prices

The second question we are asked is, if there are differences in the rate at which the output prices for the Declared Services that result from the FLSM Roll Forward increase or decrease, is there a way to 'smooth' (i.e. achieve a fixed rate increase or decrease for each service) the outputs across each of the Declared Services?

This can be readily achieved in a manner that would not lead to any under or over recovery of cost by Telstra.

To achieve this result, we undertook the following steps:

- Calculate the net present value (NPV) of revenues earned over the period 2015-2017 using the prices calculated in the FLSM and quantities inputted into the FLSM for those years. This involved discounting the nominal revenues earned in the FY2016 and FY2017 years by Telstra's WACC.
- Determine a price change that would need to apply to all services in the first year, with no price changes in the subsequent two years, so that the NPV of revenues is exactly the same as the unsmoothed case. This could be solved

numerically, but equally can be readily performed using a simple ‘goal seek’ function in Excel (i.e. as the price change that sets the difference between the two NPV figures to zero).

The price change that achieves this requirement is -16.9%.

That is, if each service price was reduced by 16.9% in 2014/15, and then held constant in nominal terms in 2015/16 and 2016/17, Telstra would expect to earn the same revenue in net present value terms as if the unsmoothed prices were used over the same period.⁴

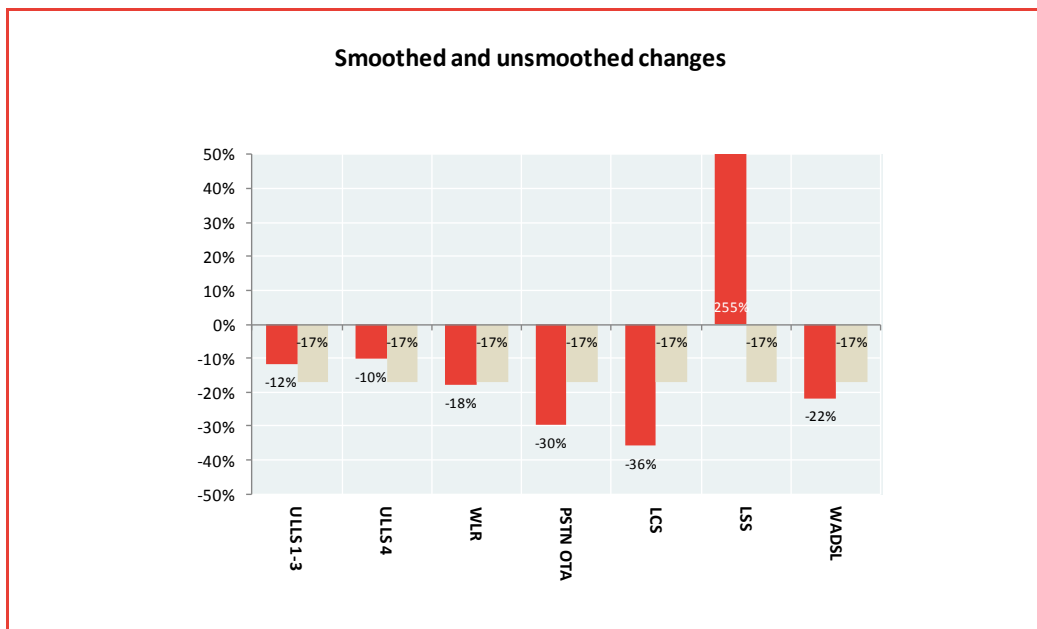
The resulting prices are shown in the following table. A comparison of the smoothed and unsmoothed changes follows in Figure 3.

Table 3: Smoothed prices

	ULLS 1-3	ULLS 4	WLR	PSTN OA	LCS	LSS	WAD SL
FAD prices	16.2	48.2	22.8	0.95	8.9	1.8	34.8
Prices 2015-2017	13.5	40.0	19.0	0.79	7.4	1.5	28.9
Change - FAD price	-17%	-17%	-17%	-17%	-17%	-17%	-17%

Source: Frontier Economics analysis

Figure 3: The impact of price smoothing across services



Source: Frontier Economics analysis

⁴ Note this ignores any effects related to elasticity of demand, including own-price and cross-price elasticities. These effects are generally ignored on the basis that elasticities of demand are low.

Attachment: Letter of instruction

THOMSON GEER LAWYERS

Level 20, 385 Bourke Street
Melbourne VIC 3000 Australia

GPO Box 524 Melbourne VIC 3001
DX 428 Melbourne

T +61 3 9670 6123
F +61 3 9670 5670

Our ref GXP:1358374999

10 December 2014

Mr Warwick Davis
Frontier Economics
By email to: warwick.davis@frontier-economics.com.au

Dear Warwick

Cost model outputs – request for report

We act for iiNet Limited (iiNet).

As you are aware, the Australian Competition and Consumer Commission (ACCC) is currently conducting a public inquiry into making a final access determination (FAD) for each of the following fixed line services:

- the Unconditioned Local Loop Service (ULLS);
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(the Declared Services).

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In response to the current public inquiry, Telstra has provided the ACCC with Telstra's Fixed Services Forecast Model which provides demand, capital expenditure and operational expenditure forecasts from 2014/15 to 2018/19. Telstra has also made submissions that seek amendments to be made to the approach to cost allocation and declining demand that was adopted in the Original FLSM and Updated FLSM.

iiNet wishes to know:

1. What final pricing outputs for the Declared Services would be determined by the Updated FLSM for a new regulatory period from 2014/15 to 2016/17 if Telstra's Fixed Services Forecast Model is

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2

used in conjunction with the Updated FLSM without any methodological changes being made to how the Updated FLSM deals with cost allocation and declining demand (**the FLSM Roll Forward**).

2. If the output prices for the Declared Services that result from the FLSM Roll Forward increase or decrease at different rates for each Declared Service, is there a way to 'smooth' (i.e. achieve a fixed rate increase or decrease for each service) the outputs across each of the Declared Services in a manner that would not lead to any under or over recovery by Telstra as compared to a scenario where no 'smoothing' was done?

We would be grateful if Frontier Economics could provide us with a report that addresses the above questions. Could you please ensure that the report clearly documents and explains the methodology adopted to address the above questions and any relevant assumptions that are made over and above any assumptions already used in the Updated FLSM.

Yours sincerely



Graham Phillips
Partner
T +61 3 9641 8639
M +61 411 646 770
E gphillips@tglaw.com.au

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Frontier Economics Pty Ltd 395 Collins Street Melbourne Victoria 3000

Tel: +61 (0)3 9620 4488 Fax: +61 (0)3 9620 4499 www.frontier-economics.com

ACN: 087 553 124 ABN: 13 087 553 124