On The Proposed Retail Service Determination

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About the Author:

John de Ridder is a former Chief Economist of Telstra, Australia's largest telecommunications services provider. He led its team on the world's first costing of the community service obligation and its debates on how competition should be introduced to Australia. Then he was the first commercial manager of its inaugural interconnect unit; leaving this unit to join a new corporate pricing division after the first commercial interconnect with Optus had been completed. In the pricing division, he had visibility from the 'chinese wall' of all fixed, mobile, retail and wholesale pricing. His final two years in Telstra were back in wholesale with a focus on mobile and data pricing.

Since leaving Telstra in 2002, he has consulted to a range of national and international private and public sector clients. He wrote a report for the OECD on broadband take-up and re-wrote the competition and price regulation module of the ITU's ICT Regulation Toolkit.

In the Pacific region, he has been a long-term consultant to the government-owned telecommunications entities in Papua New Guinea, as well as a consultant on competition and broadband pricing to government and industry in Fiji, the Solomon Islands and the Cook Islands.

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Summary

The lack of movement in retail pricing since the availability of the Coral Sea Cable is disappointing. In my view, this inertia reflects the lack of competition.

In the absence of competition, regulators have been known to introduce price caps to induce price falls. But there are several problems with this:

First, the incumbent sets the 'price umbrella' for the industry. For a smart incumbent, it can be used to set the maximum fall in prices that it needs to deliver. I played this game at Telstra.

Second, it is not easy to manage any price control regime. The incumbent can play this game better than the regulator. My experience is certainly to that effect.

Third, it is a poor substitute for vigorous competition which can not only drive prices down further and faster than any price control regime but also meet the needs of customer segments better than any imposed price regime.

Happily, judging by its initial pricing, Vodafone looks like it will bring real competition to the market.

While NICTA should not try to influence pricing directly, it can and should use its powers to promote competition. It should do this with another Retail Service Determination for voice calls.

Responses to NICTA's Questions

The NICTA Discussion Paper of March 2022¹ raises the following questions:

Question 1: Do you agree with the approach that NICTA is taking to voice and data services for the purposes of this public inquiry, that it considering retail voice as a single service, with retail mobile data and retail fixed data as separate services? Please state your reasons including your reasons for any alternative approach that you consider should be adopted.

Yes. In the short term, NICTA should consider voice as a separate market because it is a material part of communications revenues and is still a source of anti-competitive behaviour.

In the longer term, voice and data will merge. Where voice calls are placed through apps such as WhatsApp the distinction between on-net and off-net disappears: a byte is a byte.

Also, as operators focus more on data, they tend to bundle calls into the service and make them free. In fact, Digicel's bundles already include unlimited on-net and off-net calls². As well as calls, as part of preventing price discrimination, an operator with significant market power should be required to include off-net calls in bundles that include calls; even if it does so currently.

Question 2: Do you agree that the retail regulation criteria in Section 158 of the Act are satisfied in the case of retail <u>voice service</u>? Please state your reasons.

 $^{{}^{1}\,\}underline{\text{https://www.nicta.gov.pg/download/public-consultation-into-whether-a-recommendation-should-be-made-to-the-minister-for-a-retail-service-determination-for-voice-and-data-services/}$

² https://www.digicelgroup.com/pg/en/bundles.html accessed 24 May 2022

Yes. This was established in the first Retail Service Determination (RSD) for Digicel n 2012. That

Destination	Rates (PKG)
Calls Digicel to Digicel	0.40 / Minute
Calls to local fixed line	0.80 / Minute
Calls to other local operator mobile	0.80 / Minute
SMS	0.35
Data	0.30 / MB

Determination was upheld on appeal and nothing has changed. In fact, it has got worse.

In 2012 NICTA imposed a 40% limit on the difference between off-net and on-net prepaid voice pricing by Digicel. That RSD lapsed five years later and today that differential is 100% as shown in the table here³.

In December 2012, the ICT Appeals Panel upheld NICTA's RSD and said that a differential of up to 40% should not be allowed. Any difference should be cost justified. NICTA accepted that any difference should be cost justified in its July 2018 attempt to renew the RSD, adding that "this pricing principle be applied without limitation to all pricing, including pre-paid cards, fixed-fee service bundles and to "free" or zero-rated charges that apply only to on-net calls."

The proposed new RSD was rejected by the Minister in October 2018. It needs to be revisited.

Digicel is the only operator with significant market power in the market for retail voice services. Other operators should not be subject to ex-ante retail voice pricing constraints⁴.

A third Public Inquiry for another voice RSD is the place to canvass details (e.g. term of Determination).

Question 3: Do you agree that Digicel has a substantial degree of power in the market for retail mobile <u>data services</u>? Do you consider that the other retail regulation criteria in Section 158 of the Act are satisfied in respect of retail mobile data services? Please state your reasons.

Yes. However, even if Digicel has significant market power in mobile data, it is not clear how it could use this to seek an unfair competitive advantage or how any RSD for mobile data would curtail anti-competitive behaviour.

Digicel's competitive advantage comes from its scale. All retail operators acquire international



connectivity over
DataCo's submarine
cables and wholesale
pricing provides larger
discounts for larger
purchases of
international
bandwidth. For
example, in this extract
from DataCo's

³ From https://www.digicelgroup.com/pg/en/my-digicel/rates.html accessed 18 May 2022

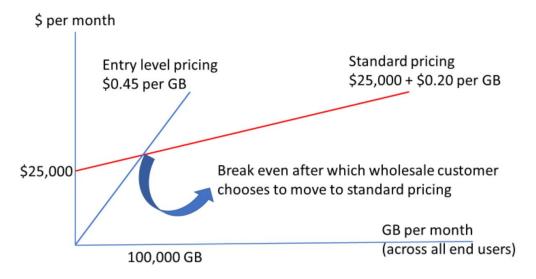
⁴ For information only, Vodafone has a 20% differential between on-net and off-net voice calls https://vodafone.com.pg/personal/prepaid/rates/standard-rates

Reference Interconnection Offer⁵, up to 500Mbps the cost of wholesale internet is PGK 270/Mbps versus PGK 251/Mbps (about 7% less) for 2,000Mbps with bigger discounts for larger capacities.

NICTA could encourage DataCo to follow the Solomon Islands⁶ in offering wholesale international 'traffic pricing' because this would help promote competition.

Traffic Pricing: Traditional bandwidth pricing assumes scarcity. It divides up the fixed bandwidth of an international transmission pipe in defined fractions. Each buyer is guaranteed a throughput speed (Mbps, megabits per second). The larger the purchased capacity, the lower the cost per Mbps.

With traffic pricing the buyer is charged for the volume of traffic. Speed is not rationed – it costs no more to provide a 10Gbps port than a 1Gbps port when capacity on a fibre cable is abundant. The Entry level version has only a fee per GB; with no monthly recurring fee. The Basic version has a lower charge per GB with a fixed monthly charge.



Traffic pricing lowers entry barriers because there is no need to commit to any level of capacity. In fact, capacity and speed will be unconstrained. There is no congestion on the international link. With volume pricing, every byte is profitable - you pay only for what you use. It is simple as you do not have to forecast the number of users and the speeds they want. The only constraints on speed will be in the access networks and customer devices.

Question 4: Do you consider that Telikom has a substantial degree of power in the market for retail fixed data services? Do you consider that the other retail regulation criteria in Section 158 of the Act are satisfied in relation to retail fixed data services? Please state your reasons.

I think Telikom is more likely to be a price taker than a price maker. Although Telikom has a monopoly of fixed data services, this is probably a small part of the total market and fixed and mobile data services. Telikom's fixed broadband services appear to be copper based as they do not seem to have the advantage over mobile broadband services that one might expect: the fastest speed is 50Mbps (Velocity Xtreme) which is what can, I think, be achieved on 4G and the largest monthly data allowance is 500GB (Velocity Xtreme) for K2,250 versus Vodafone's prepaid 500GB for K500 over 30 days.

which is very helpful to new entrants. See https://deridder.com.au/volume-pricing-a-world-first-on-cable/

⁶ In the Solomon Islands, wholesale pricing offers both bandwidth pricing (as in PNG) and also traffic pricing;

⁵ https://www.nicta.gov.pg/download/dataco-png-submission-2/

Given the relative size of the fixed and mobile markets and the apparently high degree of substitutability, Telikom fixed data pricing is probably constrained by mobile data pricing. This seems to be reflected in the price points below taken from the appendix to this report.

Data		Price	Term	Excess or top-up
2GB	Bmobile prepaid	K12	7 days	Excess 17t/mb
3GB	Digicel prepaid	K15	1 day	Apps**
5GB	Vodafone	K10	7 days	K10 for 8GB
20GB	Telikom Blazer	K100	Post paid	10t/Mb***
20GB	Telikom prepaid	K95	30 days	17t/Mb
20GB	Bemobile prepaid	K110	30 days	

Notes:

- ** The 3GB is for 'any use'. In addition, up to 7 apps (e.g. music streaming, news, TV, radio and podcasts) with another 1GB attached to each can be downloaded (and used within one day).
- *** The extract from the Telikom site in the appendix below states the Blazer excess rate is 0.1t/GB; which must be a typing error. At that rate it is equivalent to only 1K/GB which would lose it money.

Question 5: Do you agree with NICTA's preliminary conclusions that, in respect of price and quality terms and conditions of service, the retail regulation criteria in Section 158 of the Act are not met or are unlikely to be met for retail <u>voice and data</u> services? Please state your reasons.

I agree. The ability to bundle voice and data is not unique.

Question 6: Do you agree with each of the <u>conclusions</u> [the retail price study has its own <u>questions</u>; addressed further below] of the retail price study as set out above? If not, which do you disagree with? Please state your reasons.

- 1. Standard tariffs for voice and data services have remained unchanged since 2018 and in most cases considerably longer.
 - Agree. But note that the study correctly seeks to establish how much business is conducted under standard tariffs. This will show how important (or not) standard tariffs are in the market.
- 2. Multiple tariff bundles for data only services and for mixed voice and data services have been introduced by all operators over the study period, mostly on a short term or promotional offer basis.
 - Agree but note that changes to standard tariffs are less reversible than promotions leading to enduring reductions in prices.
- 3. Bundles are the new norm for voice and data service provision, and it is in this area that service competition plays out in PNG. This is a global trend as well.

 Agree and this confirms answer to Question 5 above.
- 4. The value of mobile bundles both mixed and data only has improved materially over the past 3 years, with value measured against the yardstick of the static standard tariffs.

 Agree. But if NICTA continues to measure value by re-pricing bundles at standard tariffs, this will only encourage service providers not to change standard tariffs. Bundles and promotions come and go and (deliberately) makes prices hard to compare.

- The value of fixed data bundles for residential and business customers has improved since 2018.
 Agree.
- The affordability of mobile data bundles and of fixed data bundles have improved since 2018.
 Agree.
- 7. The price of most data bundles in PNG measured in terms of price per GB of capacity is materially above the price of equivalent bundles in other Pacific nations.

 Agree. But there may be some confusion between capacity and traffic. At the wholesale level, capacity is measured in Megabits per second (Mbps) or Gigabits per second (G). At the retail level data allowances are set in terms of traffic volume, Gigabytes (GB).

Question 7: Do you wish to make any comments or observations in relation to new entry and change of ownership in relation to the retail service markets under discussion? In particular, do you consider that these are relevant matters for NICTA to take into account in considering regulatory intervention in these markets? Please state your reasons.

Retail price caps are a last resort in the absence of competition. They have limitations:

First, the incumbent sets the 'price umbrella' for the industry. For a smart incumbent, it can be used to set the maximum fall in prices that it needs to deliver. I played this game for Telstra.

Second, it is not easy to manage any price control regime. The incumbent can play this game better than the regulator. My experience is certainly to that effect.

Third, it is a poor substitute for vigorous competition which can not only drive prices down further and faster than any price control regime but also meet the needs of customer segments better than any imposed price regime.

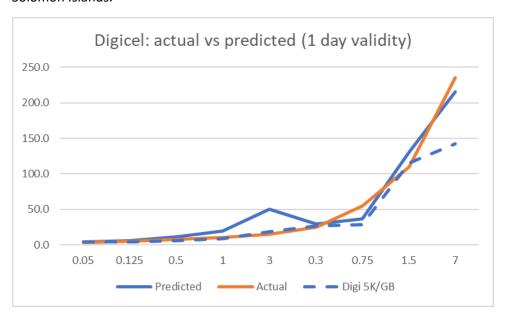
It is true that the retail market has seen a lack of competition. That changed on 22nd April 2022, with the long anticipated new entrant, Vodafone, making its entrance with a flurry of advertisements. Vodafone's initial pricing is significantly below Digicel; the incumbent with most of the market.

How do we know that Vodafone's pricing is below Digicel? We can do that by making standardised comparisons. Mobile prepaid pricing includes a data cap and a days of validity limitation ('use it or lose it'). Plans may also include voice minutes (only on-net for Vodafone) and a number of SMS. It is hard to compare prices across the mobile carriers because none of the offers are exactly the same for these parameters. But we can focus on the two main value parameters, data and duration of offer, to make comparisons across standardised offers.

To estimate how much each of these parameters contributes to the price, we can use regression

	Plan	GB	Days	analysis. The estimates from such an analysis are striking; as shown in this table ⁷ . The implicit price of
Vodafone	Kombo	1.42	1.03	data in Digicel's bundles is 15 Kina per Gigabyte.
	Koneckt	0.96	1.01	Vodafone's data is the cheapest at less than 2 Kina per GB.
	Top-ups	0.72	0.85	Just taking the Digicel estimates above, we can plot
Digicel	Bundles	15.46	3.59	actual price versus predicted price in the chart
bmobile	Data	4.72	0.36	below. The horizontal axis shows only GB but the impact of days duration is included in the price. All
	MOA	9.07	0.79	but the last 4 data points are for 1-day validity. The last four include 7 and 30 days validity.

The chart also shows as a dotted line, what the predicted price of Digicel bundles would be if the implicit price of data was 5 Kina per GB. This is one third of its current level and similar to the incremental price of data set by the entrant in the Solomon Islands.



As noted above, we can compare prices across operators using hypothetical plans constructed using the regression estimates above. In the case of Vodafone, only the Koneckt (mobile internet data plans) result is used. For bmobile, the mobile data plan estimates are used.

The following charts compare the cost of plans with 1, 7 and 30 day validity. The vertical axis is Kina and the horizontal axis is GB. The highest (blue) line in each chart is for Digicel. The middle (grey) line is bmobile. The lowest (red) line is for the new entrant, Vodafone.

Even with the hypothetical cut in the retail price of data discussed above, Digicel (dotted blue line) is still more expensive than both bmobile and Vodafone.

⁷ All the source data was taken from company websites on 22nd April 2022. See the appendix to this submission for the price data. If website data does not match what is actually offered in the market, it is poor practice and does not contribute to a well-informed, functioning competitive market. For operators with significant market power, it should be mandatory.



The government of PNG has been concerned about the lack of movement in retail pricing since the launch of the Coral Sea Cable. Vodafone's entrance looks like it will shake things up.

Question 8: Do you agree that the retail regulation criteria in Section 158 of the Act are satisfied in relation to a retail service determination to prohibit on-net/off-net price discrimination of retail voice calls, or, at least, retail mobile voice calls? Please state your reasons.

Yes. As noted by NICTA and above in answer to Q1, price discrimination is still a major issue. An operator with significant market power should not be allowed to discriminate between the price of on-net and off-net calls. Including only on-net calls in bundles should not be allowed under an RSD.

Question 9: Do you agree that no action needs to be taken in relation to the price or other terms of low usage voice or data service offers or bundles at this time? Please state your reasons.

Agree only because we do not yet know enough about how many customers see affordability as an issue. In the answer to Study 5 below, the ITU suggests what low users might need.

Pricing Study Questions

The NICTA pricing study appended to the Discussion Paper set out its own questions:

Study 1. [For network operators only] What proportion of minutes, SMS and data MB are currently billed at standard tariffs?

Agree that volumes and revenues would inform any proposed voice RSD inquiry following this consultation.

Study 2. Do you agree that it is reasonable to expect some reduction in standard tariffs over time, even if the reductions are not as great as can be obtained by customers migrating to bundled offers?

Yes.

Study 3. Do you agree that the number and frequency of changes in tariff bundles is a sign of healthy competition in the PNG telecommunications market?

Yes. But, we know from the analysis in answer to Question 7 above that Digicel is <u>not</u> price competitive. Frequent changes in bundles and promotions may be only creating the illusion of competitiveness. It is interesting to note that the number of Digicel's tariff changes in Figure 2.1 is similar to the number of tariffs withdrawn.

Study 4. Please comment on this analysis of the value of tariff bundles. Do you agree that the market seems to be providing bundles to suit each segment of users – from large to small - without the need for regulatory intervention?

Agree that it shows an improvement <u>over time</u> even though the 'yardstick' (standard tariffs) has not changed over time. As shown above in the response to Question 7, it is also possible to compare prices across operators <u>at a point in time</u>.

It is not clear to me that all segments are served. See next point.

Study 5. Please comment on this analysis of the affordability of data-only tariff bundles.

The study has done a good analysis of the affordability of fixed data bundles and finds that there is a problem of affordability. This finding is supported by separate analysis by the ITU. The table below reports the percent of GNI in PNG and the Solomon Islands (PNG's partner with the Australian Government in CS2) for two of the baskets that it estimates⁸.

The affordability target set by the United Nations Broadband Commission for Sustainable Development – is to bring the cost of entry-level broadband services below 2 per cent of monthly GNI per capita by 2025 (note baskets have been revised). PNG and the Solomon Is. are still a long way from achieving the ITUs' definition of affordability.

	ICT Baskets as percent of GNI					
Е	Basket 1 = Data only	,, 2GB				
Е	Basket 2 = 70 voice	mins + 20 SMS	+ 500 MB			
				2019	2020	2021
	PNG	Basket 1		10.41	10.69	18.77
		Basket 2		19.24	4.07	12.07
	Solomon Is	Basket 1		16.6	11.97	8.85
		Basket 2		22.58	12.76	11.12

The ITU's baskets are not universal standards – each country is different. We do not know how many customers see affordability as an issue. And we do not know what basic level of service would be essential in PNG; only how it might be measured as affordable. If we did know these things and no retail operator was providing a suitable service, NICTA could explore whether this could be addressed by way of an RSD or through a licence condition imposed on any or all retail providers.

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⁸ https://www.itu.int/en/mediacentre/backgrounders/Pages/affordability.aspx

Vodafone's plans look like they may be close to the ITU's 2% of GNI benchmark⁹.

Study 6. Do you agree that, with CS2 now providing the operators with access to vastly increased international capacity at much lower unit costs, the effective price per GB should fall rapidly towards the internationally agreed affordability target? If not, please explain your answer and suggest an alternative affordability target for PNG.

Agree that it is disappointing that retail prices have not fallen further since the launch of CS2.

In the Solomon Islands, the regulator encouraged new entrants by persuading the sub cable operator (SISSC) to offer wholesale pricing based on traffic (GB); as well as traditional bandwidth (Gbps) wholesale pricing. There are two new entrants that could not have got going without this new pricing. The first, Pacific Vaizeds, offers a simple residential plan at SBD 690 pm (about Kina 300) which includes 30GB (extra at SBD10/GB; about Kina 4.4/GB) and unlimited speeds¹⁰.

It is a pity that the study did not include information on changes to the wholesale price of international capacity. But note that if, say, the international connectivity is 25% of input costs then a 40% reduction in the wholesale cost of international connectivity could only be expected to reduce retail prices 10%.

Study 7. Please comment on this regional benchmark of data-only tariff bundles.

I know that Fig 2.7 is based on Digicel markets. But it would be good to include the Solomon Islands which also benefited from CS2.

Study 8. Do you agree that, with CS2 now providing the operators with access to vastly increased international capacity at lower unit costs, the effective price per GB of data should now fall rapidly towards the Regional benchmark level? If not, please explain your answer and suggest an alternative benchmark for PNG.

Yes. On my analysis above, which can identify the effective/implicit retail cost of data for both bundles and data only plans, the target should be 4 to 5 Kina per GB.

Study 9. Please comment on the proposal to adopt a "wait and see" regulatory approach in anticipation of a significant fall in voice and data tariffs now that CS2 is operational. What is appropriate timeframe for this approach?

Agree that "wait and see" is appropriate because the new entrant, Vodafone, has commenced service since the Discussion Paper was issued and its initial pricing promises to trigger price falls by the other retail providers.

Study 10. To what level should NICTA expect retail prices to fall, relative to international benchmarks and broadband affordability targets?

	See	answer	to	Study	8	above
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JdR

27th May 2022

⁹ Monthly GNI per capita in PNG is Kina 798 based on US\$ 2,720 pa and US\$1 = Kina 3.52 and using https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=PG

¹⁰ https://pacificvaizeds.com/

Appendix – Prices

The following data was taken from company websites on 22nd April 2022.

https://vodafone.com.pg/personal/prepaid/Plans/combo-packs Trupela Kombo plans below.

*777# Vodafone PNG Kombo Plans					
Name	Price (Kina)	Data	On-Net Mins	On-Net SMS	Expiry
1Day Kombo Plan	К3	600 MB	50	250	24 Hours
1Day Kombo Plan	K5	800 MB	100	500	24 Hours
3Day Kombo Plan	K8	2GB	100	750	3 Days
7Day Kombo Plan	K15	3GB	200	1000	7 Days
30Day Kombo Plan	K50	20GB	500	2000	30 Days
30Day Kombo Plan	K100	50GB	1500	5000	30 Days
30Day Kombo Plan	K200	115GB	2000	6000	30 Days
30Day Kombo Plan	K300	180GB	2500	7000	30 Days
30Day Kombo Plan	K500	335GB	3000	8000	30 Days

https://vodafone.com.pg/personal/prepaid/Plans/mobile-internet Prepaid below

	*777# Konekt Mobile Internet Data Plans				
Plans	Price (Kina)	Data Allocation	Expiry		
1Day Data Plan	К3	1GB	24 Hours		
7Day Data Plan	K10	5GB	7 Days		
30Day Data Plan	K50	30GB	30 Days		
30Day Data Plan	K100	75GB	30 Days		
30Day Data Plan	K200	170GB	30 Days		
30Day Data Plan	K300	270GB	30 Days		
30Day Data Plan	K500	500GB	30 Days		

Vodafone top-ups:

	Vodafone PNG Mobile Broadband Plans	
TopUp (Kina)	Data (GB)	Expiry
10	8	7 Days
15	11	7 Days
20	15	14 Days
35	25	30 Days
50	40	30 Days
100	100	30 Days
200	230	30 Days
300	360	30 Days
500	670	30 Days

Digicel Prime Bundle pricing https://www.digicelgroup.com/pg/en/bundles.html



https://www.digicelgroup.com/content/dam/digicel-redesign/documents/png/PNG-Digicel-Prime-Bundles-FAQs-v4.pdf says

- Applicable to all Prime 1TOK bundles containing data (there are 7 apps):
- Only 1Day Prime 1TOK bundles worth K3 and K5 will receive Prime Bundles data allocation of 300MB per app, per day excl. PlayGo (i.e.TV). Validity matches the Prime 1TOK bundles validity.
- Only 1Day Prime 1TOK bundles worth K8, K10 & K15 will receive Prime Bundles data allocation of 1GB per app, per day incl. PlayGo. Validity matches the Prime 1TOK bundles validity.

Bmobile pricing https://www.bmobile.com.pg/data

3G & **4GLTE** CHEAP MOBILE DATA PLANS

















https://www.telikompng.com.pg/index.php/fixed-broadband/fixed-broadband-plans (accessed 26 May 2022) on fixed line and fixed wireless services

Post-paid plans are now grouped into Blazer and Velocity Plans. Blazer plans are basically data plans for individuals, businesses, Government, Schools, etc. The velocity plans are unlimited plans for customers that want continuous connectivity and financial freedom.

Our New Xtreme Post-paid Internet plans include:

BLAZER PLAN	PRICE	Excess Rate/Mb
BlazerXtreme 20GB	K100	0.10t
BlazerXtreme 50GB	K250	0.10t
BlazerXtreme 100GB	K500	0.10t
BlazerXtreme 200GB	K950	0.10t
BlazerXtreme 500GB	K2,250	0.10t

VELOCITY PLAN	PRICE
Velocity <i>Xtreme</i> 1Mbps	K1,000
Velocity <i>Xtreme</i> 5Mbps	K4,900
Velocity <i>Xtreme</i> 10Mbps	K9,750
Velocity <i>Xtreme</i> 25Mbps	K24,000
VelocityXtreme 50Mbps	K47,500

Our **New** Prepaid Internet plans are:

DATA PLANS	PRICE	VALIDITY
1GB	K5	1 Day
2GB	K10	7 Days
10GB	K50	14 Days
20GB	K95	30 Days
50GB	K230	30 Days
100GB	K450	30 Days
200GB	K875	30 Days

- Prepaid Out of Bundle rate is 17t/Mb
- Prepaid internet plans are applicable to the following prepaid services: Fixed Line (ADSL/ADSL2+), Fixed Wireless Broadband, GPON & WiMAX.
- The new internet rates are effective as of July 1st, 2019.