



Economic Analysis of the IP CTS Rate Methodology

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November 4, 2013

Introduction

Since 2007, the Commission has used a weighted average of state TRS rates to calculate the Multi-state Average Rate Structure (“MARS”) compensation rates for traditional TRS, Speech-to-speech, Captioned Telephone Service (“CTS”) and Internet Protocol CTS (“IP CTS”). Hamilton has supported the continued use of MARS for these services because it: a) is administratively efficient; b) is based on competitively bid intrastate rates ;) c) provides regulatory certainty to the industry; and d) provides reasonable cost reimbursements to TRS providers.

The Commission in its Report and Order and Further Notice of Proposed Rulemaking, released August 26, 2013, seeks comment on whether modifications should be made to the current methodology for IP CTS, including whether an entirely different methodology would be more appropriate.³ The Commission seeks to adopt a methodology that is consistent with the principle that the process is designed to fairly compensate providers for their “reasonable” actual costs of providing service and that will result in predictability for the providers. Given there has been increasing demand for IP CTS and declining demand for CTS, the Commission is concerned that the costs for providing the two forms of captioned telephone service may be diverging. The Commission therefore seeks comment on whether the MARS rate, which reflects an average of

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³ *In the Matter of Misuse of Internet Protocol (IP) Captioned Telephone Service, CG Docket 13-24; In the Matter of Telecommunications Relay Services and Speech-to-Speech Service for Individuals with Hearing and Speech Disabilities, CG Docket No. 03-123, Report and Order and Further Notice of Proposed Rulemaking, August 26, 2013 (“IP CTS Report and Order and FNPRM”), at para. 120.*

the per-minute intrastate rates established by the various states using competitive bidding processes, reflect the reasonable costs of providing IP CTS.

The Commission notes that although the TRS Fund administrator has calculated a proposed rate of \$1.7877 for the 2013-14 Fund year based on the CTS MARS calculation, aggregated provider submitted cost data results in a cost per minute calculation of \$1.4826 for IP CTS. This is the first year and only year in which cost data for IP CTS has been requested. The reliability of the cost information submitted to the TRS Fund administrator should be called into question, particularly in light of the significant changes in the costs that are imputed in the various per-minute IP CTS cost categories from 2011 to 2014.⁴For example, of the nine cost categories shown as being used to calculate the IPCTS per minute rate, six are shown to have significant absolute and/or percentage changes from 2011 to 2014. The “Other” cost category decreased from \$1.2818 in 2011 to a projected rate of \$.5534 in 2014. The “Indirect” cost category decreased from \$.2983 in 2011 to \$.1375 in 2014. The “Marketing” cost category decreased from \$.2103 in 2011 to \$.0847 in 2014. The “Outreach” cost category decreased from \$.1087 in 2011 to \$.0659 in 2014. The “Depreciation” cost category decreased from \$.0553 in 2011 to \$.0303 in 2014. **The “CA Related” cost category increased from \$.0616 in 2011 to \$.5015 in 2014.**⁵ Given these significant changes and based on the fact that 2013 was the first year IPCTS providers submitted cost data to the TRS Fund Administrator, cost data in subsequent years should be submitted and analyzed to test the accuracy of data submitted in 2013 if the Commission decides to move away from a MARS rate calculation.⁶ Thereafter, the FCC may have more reliable information from the TRS Fund Administrator on which to base its decision on whether moving from a CTS MARS rate calculation would result in any material change in the rate.

Of additional concern were the unusually steep increases in the growth of IP CTS minutes in 2012 and the impact that such increases had on TRS Fund outlays.⁷ Given the unprecedented

⁴*In the Matter of Telecommunications Relay Services and Speech-to-Speech Service for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, *In the Matter of Structure and Practices of the Video Relay Service Program*, CG Docket No. 10-51, Interstate Telecommunications Relay Services Fund, Payment Formula and Fund Size Estimate, Rolka Loube Saltzer Associates LLC, May 1, 2013, Exhibit 1-4.

⁵ This unreliable result is especially problematic given the relative importance of “CA Related” cost in the provision of IP CTS service.

⁶For example, it is routine for provider cost data to be revised and updated one year after the initial data is submitted to the TRS Fund Administrator, based on information that was unavailable at the time of the original data submission and numerous other factors. Because this was the first year that IP CTS cost data was submitted to the Administrator, Hamilton believes that the revised data reported next year may differ significantly from the original data submitted by providers in February 2013.

⁷ IP CTS Report and Order and FNPRM at Footnote 14.

growth in minutes, the Commission, on January 25, 2013 issued its IP CTS Interim Order, which prohibited practices which the Commission found were causing the sharp increase in IP CTS usage.⁸ Thereafter, call data submitted by providers to the TRS Fund administrator indicated that usage of IP CTS was no longer climbing.⁹ Although it is not possible to confirm from the data that is public record, this unprecedented growth in minutes caused by questionable marketing practices may have resulted in some volatility in some of the cost categories which will likely diminish once the growth pattern of IP CTS has again stabilized as a result of implementation of the new rules.

Given the unreliability of the cost and demand data used in calculating the \$1.4826 rate for IP CTS, we believe the Commission correctly agreed to adopt the IP CTS MARS calculation of \$1.7877 on an interim basis, at least until the impact of the new IP CTS rules becomes clearer.

As explained below, we believe the MARS-based rate is very close to the IP CTS rate that would be calculated using a price cap formula,¹⁰ when such formula correctly initializes the rate and accurately reflects both inflation and efficiency. We conclude that the close approximation between the IP CTS rate that would be developed under the price cap methodology and the IP CTS rates developed under MARS validates the continued use of MARS for calculating the IP CTS per-minute rate. When compared with the price cap approach, the MARS approach continues to demonstrate superior qualities in terms of the ease of annual adoption, the assuredness of being grounded in competitive rates instead of price cap proxies, and the predictability of a rate methodology that has worked successfully for more than five years.

The Costs of Providing CTS and IP CTS Are Virtually the Same

As an initial matter, there is no reason to believe that the cost of IP CTS varies in any significant way from CTS. The only difference between the services is that the IP CTS consumer can use an existing voice telephone line and a broadband Internet connection whereas a CTS consumer must

⁸*In the Matter of Misuse of Internet Protocol (IP) Captioned Telephone Service, CG Docket 13-24; In the Matter of Telecommunications Relay Services and Speech-to-Speech Service for Individuals with Hearing and Speech Disabilities, CG Docket No. 03-123, Order and Notice of Proposed Rulemaking, January 25, 2013.* The Commission found that the expansion in usage to have been precipitated in large part by new referral programs that offered monetary rewards for the referral of customers who signed up for installation of the provider's IP CTS end user equipment. In the same Order, the Commission prohibited referrals for rewards programs. In addition, the Commission adopted new registration processes for new IP CTS users.

⁹ IP CTS Report and Order and FNPRM at Footnote 14.

¹⁰ According to 47 C.F.R 61.45(b), adjustment to prices are calculated as $PCI_t = PCI_{t-1} [1 + w(GDPPI - X) + Z/R]$; Assuming no exogenous change then: $PCI_t = PCI_{t-1} [1 + (GDPPI - X)]$, where GDPPI= Government determined price inflation factor, X= Productivity factor, t = Year, P_t = Price in year t.

use one or two voice telephone lines. The provider continues to send to the consumer the text of what the other party is saying. In either case, specialized equipment is necessary.¹¹ The speech-to-text technology is the same for both services and the costs of the technology are the same for both services. Communications Assistants (CAs) for both services are interchangeable, with a CA handling both CTS and IP CTS calls during his or her work shift. Thus, the CA's work flow and wages are the same for IP CTS and CTS. In addition to the labor costs being the same, the call center facilities and support expenses are also the same. It is therefore unreasonable to conclude that there is any significant difference in the costs for providing CTS and IP CTS. Given the lack of any substantive cost difference between the two services, it is therefore reasonable to continue using MARS to establish the IP CTS rate annually.

Sorenson's Price Cap Formula Is Flawed

Sorenson claims that using a price cap formula guarantees a real decrease of 0.5 percent per year.¹² The price cap formula referred to by Sorenson lacks citation to any rationale grounded in reality, especially in light of the fact that Sorenson acknowledges this decrease will occur even though the largest component of IP CTS costs are communications assistant wages and benefits.¹³ Decreasing the rate at an arbitrary, predetermined percentage in no way accomplishes the Commission's goal to set the rates as close as possible to the providers' reasonable costs of providing the service. Sorenson does not provide any data to demonstrate any claim that the IP CTS rates based on the MARS formula is not an accurate reflection of the reasonable cost of providing IP CTS service.

Analyzing the Price Cap Approach Correctly

If the Commission is to rationally consider the possible implementation of a price cap methodology for IP CTS, it is imperative that its formula's inputs are correct and based on facts. We would recommend a rate calculation as follows:

One must first start with the suggested use of data from the years 2008, 2009 and 2010 to calculate an initial rate.¹⁴ Instead of using a simple average of the rates for those years, as Sorenson did,¹⁵ the average of the three years should be *weighted* by the number of minutes,

¹¹*In the Matter of Telecommunications Relay Services and Speech-to-Speech Service for Individuals with Hearing and Speech Disabilities, Internet-based Captioned Telephone Service*, CG Docket No. 03-123, Declaratory Ruling, January 11, 2007, at para.14.

¹²*In the Matter of Telecommunications Relay Services and Speech-to-Speech Service for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123, Petition for Rulemaking, February 20, 2013 (the "Sorenson Petition"), at p. 6.

¹³*Id.*

¹⁴Sorenson Petition, at p. 9.

¹⁵*Id.*

which results in a weighted average rate of \$1.6800. In order to calculate the rate for 2011, this weighted average rate must be adjusted for inflation for at minimum between the years of 2010 and 2011. According to the GDP Price Index, inflation was 1.845% during that time period.¹⁶This adjustment for inflation results in a rate of \$1.7110 for 2011. This rate would then be used as a starting point to apply the price cap formula.

Based on the 47 C.F.R. § 61.45(b) price cap formula, adjustment to prices from one year to another are calculated as:

$$PCI_t = PCI_{t-1} [1 + w(GDPPI - X) + Z/R];$$

Assuming no exogenous change then w, Z, and R do not apply and the formula is simplified to:

$$PCI_t = PCI_{t-1} [1 + (GDPPI - X)],$$

Where; GDPPI= Government determined price inflation factor,

X= Productivity factor,

t = Year,

P_t = Price in year t.

The productivity factor is intended to capture the difference in productivity between the telecommunications industry and the average firm in the entire economy. In general, in the recent past the telecommunications industry has achieved higher labor productivity than the US economy as a whole. Therefore when using the productivity data for the entire telecommunication industry, the above formula yields prices that increase at a lower rate than the rate of inflation as measured by the GDP Price index.

In the case of IP CTS, the largest component of cost is that of labor. The cost of labor makes up about 80-85% of the total cost of providing this service, which is much higher than the share of labor cost of an average business. Due to the heavily labor intensive nature of this service, very limited opportunities exist for further efficiencies in terms of automation. In fact, IP CTS could

¹⁶<http://research.stlouisfed.org/fred2/series/GDPCTPI>.

serve as an example of the Baumol Effect¹⁷ (also known as the Baumol’s cost disease) in Economic Theory. In some labor intensive sectors that rely heavily on human interaction or activities, there is little or no growth in productivity over time, but wages still rise in response to rising compensation in the economy as a whole. As with Baumol’s classic example of a string quartet, it still takes the calling party and the called party in a CTS call the same amount of time to talk as it did 10 years ago even though the technologies used in the process may have changed. Therefore, when adjustments are made for efficiencies in the formula above, instead of using the productivity index specific to the telecommunications industry, a productivity adjustment that is more reflective of the nature of providing IP CTS service should be applied. Efficiencies that are achieved in the telecommunication industry in general are simply not achievable in providing IP CTS service. Productivity growth in providing this service is likely to be most similar to productivity increases in the call center industry. However, the Bureau of Labor Statistics does not collect productivity data specific to the call center industry. It is arguable that productivity in delivering IP CTS service is not increasing at a faster rate than productivity growth in the general economy. On the contrary, it is most likely to be increasing at a slower rate. In that case, the X factor in the formula above should add to the GDP inflation measure rather than take away from it. This would result in a price that grows at a somewhat higher rate than the rate of inflation in the general economy. However, due to the lack of specific data, for the purposes of the illustrative rate calculation here we assume the same productivity growth for delivering IP CTS service as for the entire economy.¹⁸ Then the X factor in the formula above should be 0.

Using this assumption, the formula above needs to be modified as follows:

$$PCI_t = PCI_{t-1}(1 + GDPPI),$$

Substituting the calculated rate for 2011 and inflation data¹⁹ into the equation, the rate for 2012 can be calculated as follows:

$$PCI_{2012} = 1.7110(1.01942),$$

$$PCI_{2012} = 1.7442$$

Similar adjustments for the year 2013 would result in the most current price:

¹⁷ Heilbrun, James (2003). “Baumol Cost Disease” A Handbook of Cultural Economics. Edward Elgar.

¹⁸If the Commission were to pursue this price cap methodology, consideration should be given to identifying the differences in productivity which would be associated with a highly labor intensive industry compared to the average among industries which drive the GDP and introduce an X factor into the formula which would take into account that difference.

¹⁹<http://research.stlouisfed.org/fred2/series/GDPCTPI>

$$PCI_{2013}=1.7442(1.01698),^{20}$$

$$PCI_{2013}=1.7738$$

This rate of \$1.7738, which was calculated applying the price cap formula to an average initial rate that avoids the effects of the price “jump” of 2011, is not surprisingly very close to the proposed MARS rate of \$1.7877. This calculation above should therefore serve as further evidence to validate the continued use of MARS.

Conclusion and Recommendation

Given the unreliable cost and demand data used by the TRS Administrator in calculating an IP CTS cost per minute, the lack of record on the actual data to be used that would represent the IP CTS industry in the price cap formula, and the positive attributes of MARS as previously presented, Consortia recommends the continued use of MARS to calculate the IP CTS rate annually.

²⁰*Id.*