Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Advancing IP Interconnection	)	WC Docket No. 25-304
	)	
Accelerating Network Modernization	)	WC Docket No. 25-208
	)	
Call Authentication Trust Anchor	)	WC Docket No. 17-97

COMMENTS OF NTCA–THE RURAL BROADBAND ASSOCIATION

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Table of Contents

Executive Summary

Clear but "light-touch" rules of the road that create an orderly transition in how voice service provider networks interconnect are necessary to care for important statutory and public policy objectives. Today, time-division multiplexing ("TDM") interconnection takes place pursuant to a well-understood policy framework that aims to promote the seamless exchange of voice calls (including public safety traffic) that is reliable and of a service quality consumers demand. Thus, even as reform is essential to incent a technical transition to much-needed all-Internet Protocol ("IP") interconnection, any forbearance from provisions of the Communications Act of 1934, as amended (the "Act") must be paired with a new clearly articulated framework that safeguards going forward the reliability and quality of voice calls across the nation.

Better definition of new light-touch rules of the road for interconnection in IP is particularly important for rural consumers and the smaller providers that serve millions of them. Rules governing TDM interconnection today ensure a shared dispersal of interconnection costs that helps to keep voice rates more affordable in rural areas by avoiding the foisting of interconnection costs on rural markets and small competitors. Eliminating these rules without any clear plan for alternative "rules of the road" will likely mean that the efficiencies to be gained from an all-IP interconnection environment will not accrue fairly to the benefit of all participants in the exchange of voice traffic; instead, such efficiencies will almost certainly accrue mostly or only to the larger providers who will seek at every turn to "shed" burdens by transferring costs and obligations to smaller and rural operators (or relegating them to dubious second-tier service quality). Thus, a TDM interconnection "sunset" date as proposed by the

NPRM should be a goal and not a mandate, and it must be paired with a "sunrise" date that provides a clear indication of what comes next in the transition to IP interconnection.

This roadmap should proceed from a declaration that Voice over Internet Protocol ("VoIP") service is an interstate "telecommunications service." This classification should in turn be followed by the establishment of a *light-touch* regulatory backstop to regulate IP interconnection for the exchange of such voice traffic pursuant to sections 251(a) and 201 of the Act. With respect to classification, based upon the plain language of the Act, providers of VoIP services offer for a fee directly to the public the ability to transmit information that does not undergo a net protocol conversion in all-IP environment, and thus VoIP is a telecommunications service as defined by the Act. Moreover, a litany of orders have tacked carrier obligations onto otherwise unclassified VoIP services, in effect blurring any meaningful distinction one could argue exists between VoIP and TDM voice services.

The Commission should also consider that, in the wake of *Loper Bright*, classifying VoIP as a "telecommunications service" would provide the sturdiest statutory foundation for adopting, implementing, and enforcing a light-touch framework governing IP interconnection. Rather than creating uncertainty by cobbling together sections from the Act, classifying VoIP as a telecommunications service places it squarely within sections 251(a) and 201 of the Act rather than relying upon stretched readings, statutory "bank shots," and dubious assertions of ancillary authority.

This classification of VoIP should be paired with forbearance from rate regulation at the federal and state level (although the classification as an interstate telecommunications service should foreclose intrastate rate regulation in any event). Similar to the forbearance granted decades ago in the interstate interexchange marketplace, the Commission here can forbear from

rate regulation (and other regulations as appropriate) in the retail voice services market while retaining the ability to step in should a dispute in the wholesale interconnection marketplace threaten the seamless exchange of calls.

With respect to a "light-touch" framework, this should include a clear default interconnection architecture from which parties can depart upon agreement. This framework should be based on what has worked in achieving important public policy objectives, while setting aside what may be unnecessary or outdated in an all-IP environment. Most importantly, this pared-down basic framework should operate as a default only in the absence of an agreement otherwise between the parties, along with preservation of "good faith" negotiating provisions found in section 251 of the Act and the ability to turn to the Commission in the event of a dispute.

More specifically, the Commission should first establish a general presumption that all parties will offer the ability to interconnect physically in IP at a minimum of one default location in each state where it seeks to originate or terminate calls. To address special universal service considerations with respect to cost and affordability of service, the Commission should establish an additional "rural transport rule" for physical interconnection specifically with carriers that have universal service obligations. As an alternative, providers not wishing to interconnect physically at these default locations should be required to assume the financial responsibility for any transport to and from them. Establishing default interconnection points in this manner (while leaving flexibility to depart from them) and resting this light-touch framework upon a sound statutory foundation offers the most legally sustainable and promising means of promoting IP interconnection while serving other important statutory and public policy objectives.

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I. INTRODUCTION

NTCA–The Rural Broadband Association ("NTCA")[1] hereby submits these comments in response to the Notice of Proposed Rulemaking[2] released by the Federal Communications Commission ("Commission") in the above-captioned proceedings. The *NPRM* seeks comment generally on the current state of time-division multiplexing ("TDM") and Internet Protocol ("IP") interconnection for voice services.[3] The *NPRM* seeks more specific comment on whether obligations applicable to ILECs found in sections 251(c)(2) and (c)(6) of the Communications Act of 1934, as amended ("the Act"), undermine a TDM-to-IP interconnection transition.[4]

[1] NTCA is an industry association composed of approximately 850 community-based companies and cooperatives that provide advanced communications services in rural America and more than 400 other firms that support or themselves are engaged in the provision of such services. NTCA's incumbent local exchange carrier ("ILEC") members are "rural telephone companies" as defined in the Telecommunications Act of 1996 (the "1996 Act"), and these entities are referred to herein as "RLECs" in the context of interconnection and the exchange of voice traffic.

[2] *Advancing IP Interconnection*, WC Docket No. 25-304, *Accelerating Network Modernization*, WC Docket No. 25-208, *Call Authentication Trust Anchor*, WC Docket No. 17-97, Notice of Proposed Rulemaking, FCC 25-73 (rel. Oct. 29, 2025) ("*NPRM*").

[3] *Id*., ¶¶ 17-29.

[4] *Id*., ¶ 30.

Finally, the *NPRM* proposes that the Commission utilize authority granted by section 10 of the Act to forbear from sections 251(c)(2) and (c)(6) of the Act to spur greater exchange of voice traffic in IP.[5]

II. CLEAR BUT LIGHT-TOUCH "RULES OF THE ROAD" ARE NEEDED TO INCENT AN INDUSTRY-WIDE TRANSITION TO IP INTERCONNECTION AND PROMOTE IMPORTANT STATUTORY AND OTHER PUBLIC POLICY OBJECTIVES.

A. IP interconnection for the direct exchange of VoIP traffic is at a nascent stage, due largely to the lack of clear rules of the road for doing so.

The *NPRM* seeks comment on the current state of interconnection arrangements across the voice services industry, both in TDM and IP.[6] While NTCA understands that there may be a handful of "one-off" agreements in the marketplace for the direct exchange of voice traffic in IP, NTCA members are not aware of the widespread and common availability of such agreements at scale or in a generally transparent manner. Indeed, NTCA members report *asking* for direct IP interconnection at various locations in provider networks (or even via public Internet routing in instances of emergency), only to be told by some of those otherwise likely to beg the Commission for relief here to ostensibly facilitate IP interconnection that such interconnection is in fact unavailable today for a vague mix of technical and/or regulatory reasons.

Thus, it strains credibility to contend that the most significant barrier to widespread use of IP interconnection is the prospect of onerous rules applying to the exchange of such traffic. To the contrary, even as "onerous" rules would of course be of concern, NTCA submits that the primary reason for the nascent and sporadic use of IP interconnection arrangements to date is *the*

[5] *Id*., ¶ 32.

[6] *Id*., ¶¶ 17-29.

absence of any "rules of the road" to provide certainty in this marketplace – and the apparent desire of certain providers to ensure that there will be few, if any, rules to govern such traffic exchange before they make this leap. To be clear, this does not mean that the precise rules that apply today to interconnection in TDM must be grafted onto IP networks, nor does it mean that waves of new rules must be adopted and imposed atop IP interconnection. Evolution is clearly needed to help regulations keep pace with technology, or at least not get in the way of technological change. But a complete vacuum of rules to govern the exchange of data has significant implications for important public policy considerations, including effective competition and universal service. The absence of any light-touch rules or regulatory backstops at all or effective mechanisms to enforce them undermines certainty and operates as a substantial deterrent to a migration to IP interconnection.

As background, TDM interconnection operates pursuant to long-standing and well-defined legal and operational constructs. The physical locations where TDM interconnections take place – as well as the relative apportionment of financial and operational responsibility among the parties – are well known to all. The TDM interconnection market is also transparent, with providers having reliable insight via published information and public databases into where such connections can be made, how routing will occur, and the baseline terms and conditions for the exchange of calls. Critically, as to the financial responsibility for interconnection, many of the costs of voice traffic exchange today between rural providers and other operators of all sizes are a *shared responsibility* – this is consistent with the long-standing notion that universal service cannot be achieved if the costs of connecting rural America fall back primarily or entirely upon rural consumers and the smaller operators that serve millions of them. Under today's constructs, this means that these small operators are generally not responsible for most of the costs of

transporting voice calls to and from locations beyond well-established network edges and/or meet points.[7] This shared apportionment of costs in turn contributes to the affordability of voice rates in these rural areas by mitigating potentially substantial costs of routing, transit, and transport to distant points of interconnection and the substantial burdens of managing multiple shifting interconnection arrangements on a "one-off" basis between rural areas and the rest of the world.

At the same time, even as this well-understood baseline may provide certainty and even comfort operationally, it is clear that the IP evolution must occur (and is already occurring in RLEC and many other networks). TDM equipment is becoming outdated, spare parts are hard to find, and skilled technicians who understand the workings of TDM networks are perhaps scarcer still. For these reasons, NTCA applauds the Commission for seeking to chart a course that will facilitate an orderly transition in how provider networks interconnect, and the comments here are intended to help develop a roadmap that ensures this transition achieves its promise technically while also caring for important statutory and other public policy objectives that are implicated in interconnection frameworks.

As discussed in Section II. B., *infra*, the interconnection of networks and exchange of traffic in IP will come through a mix of different arrangements, and flexibility in structuring such

[7] More specifically, NTCA's RLEC members typically subtend tandem switching facilities owned by upstream carriers. These facilities are most often TDM and represent each RLEC's connection with the rest of the world, where voice traffic destined for other providers in the same local or extended calling area, and interexchange carriers as well, is handed off by the RLEC. RLECs are generally responsible only for the costs of transporting voice calls between a point at or near their network edge (either a local central office or an agreed upon "meet point") and these tandem facilities. This creates the shared financial responsibility under which rural providers are not responsible for the transport to and from far-flung locations, but assume responsibility for distribution and delivery in many of the highest-cost areas to serve nationwide. In the absence of this cost-sharing construct, rural providers would be forced to pass along significant costs to a limited number of end users in very rural communities, thereby putting at risk the affordability of voice service in these rural communities.

arrangements is important. This is why, even as clear rules of the road and regulatory backstops are important, overly prescriptive rules are unnecessary and unwarranted. Unfortunately, there is little to no transparency or insight today into how costs will be apportioned between RLECs and other operators in migrating to IP interconnection arrangements, nor is it clear and assured that service quality will be cared for through such arrangements. What is clear, however, is that a "trust us, this will work out OK or we can somehow figure it out on the backend" approach to interconnection is ill-advised and contrary to public policy – and such patent regulatory uncertainty in fact undermines the TDM-to-IP interconnection transition. For rural communities that have already seen the perils of providers taking matters into their own hands when it comes to the reliability of call completion – to the point that Congress itself deemed it necessary to intervene[8] – the thought of reliance purely upon "market forces," informal *ex post* intervention, and questionable jurisdiction for enforcement of bad acts is cold comfort. Quite simply, absent basic "rules of the road" that sit atop a sound statutory foundation, a small rural provider will have little to no leverage with larger regional or national providers in seeking to reach a fair apportionment of IP interconnection costs or addressing service quality or reliability issues when they arise.

As the Commission proceeds with this rulemaking, viewing TDM interconnection constructs only through the prism of the "burden" imposed on larger carriers and discarding them

[8] *See Rural Call Completion*, WC Docket No. 13-39, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-135 (rel. Nov. 8, 2013), ¶¶ 3-12 (discussing the history of failures with respect to the completion of long-distance telephone calls to rural customers and the Commission's multiple attempts to rectify the situation). As the Commission went on to note, "[e]ven with the significant Commission actions described above, the record leaves no doubt that the problems of completing calls to rural areas, particularly areas served by rural incumbent local exchange carriers (ILECs) continue to be frequent and pervasive throughout rural America." *Id*., ¶ 13. It was only after Congress stepped in that issues began to improve materially. *See The Improving Rural Call Quality and Reliability Act of 2017*, Pub. L. No. 115-129 (2018) ("the RCC Act"), codified at 47 U.S.C. § 262, *et seq*.

on that basis alone therefore misses critical factors. First, this view overlooks the central role that larger providers – particularly tandem switching operators – play today in ensuring interconnection *among* carriers in the wholesale marketplace, and the rules in place today that play an important role in ensuring that such market power is not abused. These rules lead directly to the existing, shared dispersal of interconnection and traffic exchange costs that helps to keep voice rates more affordable in rural areas by avoiding a disproportionate and crippling transfer of interconnection costs to rural consumers and the smaller operators who serve them. Second, moving away from TDM interconnection without any clear plan for alternative "rules of the road" moving forward means that the efficiencies likely to be gained from an all-IP interconnection environment will not accrue fairly to the benefit of ***all*** participants in the exchange of voice traffic; instead, such efficiencies will almost certainly accrue ***mostly or only*** to the larger providers who will seek at every turn to "shed" burdens by transferring costs and obligations to smaller and rural operators (or relegating them to second-tier service quality).

Unfortunately, the *NPRM* poses the risk of treading down this path, as it seems focused primarily upon how to leave behind the existing framework than on discussing what a new framework would, could, or should look like. As discussed below, even as a discussion of evolution and change is much-needed and warranted, the Commission should not engage in discussions of "sunset dates" without thinking through corresponding "sunrise dates," and it should not entertain discussions of tearing down well-understood constructs that provide the regulatory certainty the marketplace needs without developing a blueprint for the next structure – and that next structure must also promote certainty and advance important public policy objectives like universal service and competition.

To reiterate, all of this is not to say that the Commission should graft the existing TDM interconnection regime "as is" into the realm of IP interconnection. But as a matter of smart deregulation and sound public policy, it needs a clear plan to ensure the affordability and quality of voice services in rural areas through other means. Consumer protection and universal service considerations transcend technological change, and even as measures to secure these can and should evolve, the primary focus of the Commission must remain by law on ensuring the quality and affordability of service all consumers receive. Put another way, a thoughtful "technology neutral" examination of the interconnection frameworks must consider what remains necessary to protect consumers and ensure universal service and what can be discarded as unnecessary because the marketplace has evolved. As discussed further herein, adoption of updated light-touch rules of the road for IP interconnection will create certainty for providers of all kinds and promote an orderly transition to the IP interconnection environment the *NPRM* seeks.

B. A closer look at the emerging models for IP interconnection arrangements is necessary to make informed decisions on policy.

IP interconnection will likely be achieved through a mix of different arrangements that are discussed below. Before jettisoning existing frameworks entirely, and to make informed decisions about what reformed rules of the road will be necessary going forward, it is important to examine each arrangement in more detail.

1. Physical interconnection.

Currently, many small rural providers route voice traffic through TDM tandem facilities owned and operated by upstream providers, although in certain cases where traffic volumes warrant, there may be direct interconnection with other carriers. Pursuant to long-standing industry and regulatory practices, in exchanging these calls through physical interconnection

(whether directly or indirectly through a tandem), RLECs typically bear financial responsibility for carrying such traffic today only to and from well-established "network edges" at the RLEC's central office or some other mutually agreed upon meet point. Under this regime, interconnection costs are a shared responsibility between operators of all sizes, and this in turn helps to facilitate the affordability of voice services in rural communities.

As an initial matter, if the Commission were to forbear *only* from sections 251(c)(2) and (c)(6) of the Act, this by itself should not have a material impact on many of these arrangements because most of them pre-date the 1996 Act and are not subject to these specific provisions – and, for this reason as discussed further below, NTCA does not oppose forbearance specifically from these two provisions of section 251(c) in the context of IP interconnection. However, if there is no clarity as to what statutory provisions and rules of the road *do* apply otherwise when interconnecting and exchanging calls in IP, this creates unnecessary uncertainty and risk. For example, the absence of clear rules of the road would undermine existing arrangements that make quite clear the relative apportionment of financial and operational responsibility critical to ensuring affordability and quality of service.

In particular, if the rules of the road for IP interconnection are not clearly articulated and tethered to a strong statutory hook, larger providers will almost certainly retrench physical interconnection to centralized points that are great distances from rural consumers and communities. If RLECs are in turn made to bear the costs of physically interconnecting at distant points of interconnection ("POIs") located scores, hundreds, or even thousands of miles from the RLEC's serving area, this will foist onto these operators costs that they do not bear today – costs which will then need to be piled atop the already higher costs of serving a rural area. In addition, RLECs could be required to enter into such "commercial" arrangements with

dozens of providers that may demand dynamic interconnection at different locations throughout the nation, multiplying the transport costs that RLECs will be forced to absorb – and RLECs could further face the untenable prospect of having to manage monthly (or even weekly or daily) moves and changes across all of these arrangements as one interconnecting provider demands on Tuesday that a given POI move from Miami to San Diego, for example, while another dictates on Wednesday that traffic be exchanged in Boston rather than Seattle.

This scenario is not speculative, as the nation's largest operators have long been transparent in their desire for an interconnection regime that involves the exchange of voice traffic at a handful of POIs across the nation.[9] To be sure, the record in response to the *NPRM* will likely include assertions that IP interconnection will be more "efficient" and that adoption or retention of any rules would undermine this efficiency. *Yet, the Commission should recognize that the failure to consider existing financial responsibilities for interconnection and to care for the shifting of these in new interconnection arrangements would result in any "efficiencies" gained in such a transition accruing largely, if not exclusively, to the benefit of larger providers and to the detriment of millions of rural consumers and the smaller providers that serve them.* Put another way, even if the overall costs of routing calls may be reduced by the migration to IP routing technology, it is not in the public interest if RLECs' and other smaller operators' share of those transit and transport costs rise substantially and disproportionately. It is for this reason that targeted "rules of the road" surrounding physical interconnection and network edges – even if not under sections 251(c)(2) and (c)(6) – are essential to promote universal service objectives in an IP world.

[9] *See, e.g.*, T-Mobile, *ex parte* letter, WC Docket No 18-156 (fil. Apr. 27, 2020) (proposing to migrate "to no more than a few dozen POIs for the entire country.").

2. Public Internet routing.

A second option that has emerged in industry discussions to implement IP interconnection is reliance upon so-called "public Internet" routing of voice traffic as a fallback to physical interconnection when a larger national provider refuses to make it available or if the costs of reaching the POI dictated unilaterally by that larger provider are cost prohibitive. This option entails exchanging voice traffic over the same Internet transit service used to deliver broadband Internet access traffic to the Internet backbone. While such an option may have surface appeal in that it leverages existing routing options used for other kinds of data, and certainly this may be an attractive option to certain providers in the context of bilateral negotiations, reliance by the Commission upon "best efforts" transport of voice calls as a default policy for interconnection presents several concerns.

Voice calls are "real-time" communications that require a continuous, predictable stream of data packets to enable a natural-sounding conversation, and the underlying end-to-end connectivity of a call determines its quality. Any delay in packets arriving at the terminating end can undermine the quality of a voice call whereas similar delays for a website, for example, simply cause a delay in that website loading. Yet, "best efforts" by its very nature undermines this continuous, predictable stream of data packets as all packets are treated the same. While Differentiated Services Code Point ("DSCP")[10] can classify network traffic to provide Quality of Service ("QoS") markings in order to prioritize voice data for smoother performance, outside of a private connection, classification of traffic will be lost – DSCP depends on each router in the chain of a voice call, for example, honoring QoS markings, something not possible via public

[10] What is Differentiated Services Code Point (DSCP)?, Cbtnuggets, (Feb. 1, 2024), available at: https://www.cbtnuggets.com/blog/technology/networking/what-is-differentiated-services-code-point-dscp.

Internet routing that is by its very nature dynamic. Ultimately, calls delivered over the public Internet will face greater risk of increased latency that degrades the quality of the conversation.

While some are likely to note that over-the-top ("OTT") video conferencing applications (such as Zoom or Teams, for example) traverse the public Internet as well and are viewed as acceptable, such assertions miss critical factors. For one, these OTT applications operate as virtual networks layered on top of existing physical Internet infrastructure, and they typically leverage content delivery networks, private Internet backbones, and pre-positioned edge infrastructure. This grants them the ability to limit latency, jitter, and other factors that can degrade service quality. Moreover, these applications control both ends of a "call," further giving them the ability to adapt to network conditions that would otherwise degrade service quality. The typical "intercarrier call" between two voice service providers and that traverses the public Internet at some point typically originates on one operator's platform, terminates on a different operator's platform, and traverses multiple independent networks in between, none of which are controlled end-to-end by a single party. In other words, neither originating or terminating providers in this intercarrier voice call scenario that is routed over the public Internet has control over the path the calls take, and thus neither can enforce service level agreements. This makes these calls fundamentally different from OTT applications, and thus any comparison would be at least incomplete, if not misplaced.

In addition, calls routed over the public Internet are potentially subject to Distributed Denial-of-Service ("DDoS") attacks. NTCA believes that most operators today typically route voice traffic over dedicated or specialized/managed connections (whether TDM or IP) precisely to ensure service quality and reliability, and public Internet routing would be a clear step backward in that respect.

In practical terms, relegating RLECs and other smaller providers to public Internet routing of voice calls because physical interconnection is either unavailable or excessively costly due to unilaterally shifted (and potentially ever-shifting) POIs could lead to a "two-tier system" of voice connectivity and service quality in the United States. In the upper tier, the largest providers would almost certainly peer and interconnect physically among themselves for the exchange of voice traffic with greater assurance (and likely even committed levels) of service quality and reliability. Meanwhile, in the lower tier, calls among remaining providers would as a national default policy be routed via the public Internet, with no similar or comparable assurances as to service quality. Such a result would fly in the face of the broader public policy goals of universal service and competition by creating two classes of carriers and consumers. Some parties will undoubtably assert that public Internet routing of calls is a viable alternative, but it is telling that in all likelihood these same operators will look proactively to minimize reliance upon such routing for the majority of their own calls. In adopting a national policy pursuant to its statutory charges, the Commission should not countenance "good enough for thee, but not for me" arguments and interconnection regimes when it comes to the basic quality and reliability of critical communications services.

3. Hosted/cloud VoIP services.

Hosted/cloud VoIP services offer other possible alternatives to the IP interconnection models discussed above. Under these arrangements, which a number of NTCA members have already started to use, switching functionality and routing responsibilities are largely outsourced to and handled by a third-party operator that commits to exchange and complete calls on behalf of the purchasing provider. In some respects, these hosted/cloud VoIP providers could be

considered "IP tandems" of their own, aggregating traffic from RLECs and other providers and routing it to where it needs to go.

But it is worth noting that such arrangements come with new costs that can be quite high, as smaller rural providers are now *paying* a third party to take care of traffic exchange that was previously handled at each RLEC's long-standing network edge. Indeed, NTCA member feedback indicates that these arrangements involve significant "one-time" set up costs, along with monthly per-subscriber charges and additional costs for redundancy, security, and regulatory compliance. In fact, the costs incurred by the typical RLEC to implement and use hosted or cloud VoIP solutions are estimated to rival those of physical interconnection at distant POIs. Thus, in the end, the "efficiencies" gained through this kind of migration to IP interconnection will still not accrue to the benefit of smaller rural providers or the consumers they serve – instead, rather than paying the largest providers for physical interconnection at distant POIs they dictate, the benefits of this kind of migration would flow largely to third party entities that RLECs must pay to assume the routing responsibilities to those distant points. This is not to say that there will be no interest in such arrangements going forward, and NTCA anticipates the marketplace may ultimately move in this direction. Effectively mandating as a national default policy, however, that every RLEC pay for such services now so that they can avoid having to route their calls otherwise over the public Internet or be forced to interconnect physically hundreds or thousands of miles away (if the larger provider even allows this) would not represent sound public policy and risks undermining universal service.

III. IT WOULD BE ILL-ADVISED AND UNDERMINE THE PUBLIC INTEREST TO DECONSTRUCT THE EXISTING INTERCONNECTION FRAMEWORK WITHOUT HAVING A WELL-DEFINED AND EFFECTIVE REPLACEMENT REGIME ARTICULATED AND IN PLACE.

A. A TDM interconnection "sunset" date should be a goal and not a mandate, and it must be paired with a "sunrise" date that gives a clear roadmap as to what happens in the transition to IP interconnection.

The *NPRM* proposes to forbear from the existing interconnection obligations that sections 251(c)(2) and (c)(6) of the Act impose on incumbent LECs, and to do so by December 31, 2028.[11] This TDM interconnection "sunset" should be a goal rather than a mandate, and it also must be paired with an earlier "sunrise date" – a defined effective date for a new and well-defined light-touch IP interconnection framework that safeguards the proper routing of calls (including critical public safety calls) and preserves the affordability of voice service for rural consumers *before* the existing construct is torn down.

As an initial matter, any analysis of scrapping existing interconnection frameworks misses the mark by focusing primarily or exclusively upon the ostensible "burdens" that TDM interconnection obligations place on large ILECs alone.[12] As the industry moves to an all IP interconnection regime, the more thoughtful public interest question is not whether efficiencies will be found as larger ILECs are relieved of their section 251(c)(2) and (c)(6) obligations but rather to which class of operators the efficiencies that flow from any such relief will accrue. Absent a regulatory backstop for IP interconnection, the likeliest outcome as to what will emerge "on the other side" of the transition is large ILECs and other providers shedding obligations and associated costs to the detriment of rural providers and smaller competitors.

[11] *NPRM*, ¶ 3.

[12] *Id.*, ¶¶ 2, 19, 30.

Thus, with respect to whether application and enforcement of sections 251(c)(2) and (c)(6) are necessary to promote "just and reasonable practices,"[13] the answer can only be derived by knowing what will take its place. NTCA submits that reasonable "rules of the road" that are grounded in sections 251(a) and 201 of the Act are necessary to mitigate the potentially substantial cost-shifting discussed above and to preclude larger operators from not only capturing all of the "efficiencies" of IP interconnection but from also transferring most of the costs of interconnection to smaller and rural operators. Fortunately, the Commission can care for this outcome by establishing a "light-touch" framework pursuant to sections 251(a) and 201 that defines and establishes clear and reasonable expectations for all providers as part the transition to all-IP interconnection.

As a purely technical matter, larger ILECs should be more than capable of moving to an all-IP interconnection regime ***today***. Indeed, it is telling that smaller ILECs are largely IP-enabled within their own networks,[14] while the barrier to end-to-end IP connectivity today comes mostly where larger operators have failed to upgrade their own networks as a critical component of traffic exchange. Indeed, it appears that the primary barrier to implementing IP interconnection today has been the desire on the part of some to ensure that existing rules that they do not like will not be grafted onto an IP environment before making the investments or effort to transition. But, as noted above and as discussed further below, even if the exact rules in place today may not be a great fit for the IP interconnection regime of tomorrow, the potential

[13] *Id*., ¶ 35.

[14] NTCA–The Rural Broadband Association, *Broadband/Internet Availability Survey Report 2025*, (Dec. 2025), p. 3, available at: https://www.ntca.org/sites/default/files/documents/2025-12/2025BroadbandInternetAvailabilityReport.pdf

absence of any rules at all – or the adoption of rules that either foist costs primarily on small or rural providers *or* create two classes of carriers and consumers when it comes to voice calls – would represent a significant barrier to an effective IP transition as well.

To address such concerns, the Commission should strike a balance between smart deregulation and an orderly transition that does not abandon important statutory and other public policy objectives. In particular, the Commission should focus upon both a "sunset date" ***and*** a "sunrise date" – or, put another way, it should focus not only upon reducing burdens alleged by the largest providers in the country but also on defining and implementing what comes next and ensuring that such changes do not accrue to the benefit of *only* those providers at the expense of carriers of last resort and competitors. As discussed below, the Commission should therefore set in motion a TDM-to-IP transition that thoughtfully, carefully, and explicitly defines the legal, operational, and economic aspects of interconnection going forward, in lieu of simply declaring the end of the interconnection regime that came before.

B. A more robust and complete analysis of the public interest and consumer considerations is needed.

While the *NPRM* concludes that sections 251(c)(2) and (c)(6) are unnecessary for consumer protection purposes,[15] this assertion is based on a flawed (or at least incomplete) analysis. For one, the NPRM asserts that competition within the voice services market gives consumers sufficient choice amongst providers such that the Commission should not be concerned with "*rate increases by incumbent LECs* or that other costs would otherwise be

[15] *NPRM*, ¶ 36 ("We believe that the Act's additional interconnection requirements for incumbent LECs are no longer necessary for consumers' protection given the explosive growth in competition from competitive carriers and interconnected VoIP service providers. We believe that such competition renders the kinds of consumer protections afforded by sections 251(c)(2) and (c)(6) unnecessary.").

absorbed by consumers."[16] Yet such a sweeping claim cannot be made without a more granular determination of where competition does or does not exist within these markets. Certainly, in rural markets – many of which continue to experience spotty or even nonexistent mobile wireless service as an alternative – the Commission cannot base its public interest analysis with respect to forbearing from sections 251(c)(2) and (c)(6) on sweeping but unverified claims of competition.

More importantly, however, the public interest analysis errs in focusing upon competition in the *retail* voice services market while sidestepping the *wholesale* market that is most relevant and critical when it comes to interconnection. This market – the traffic exchange arrangements that take place at large ILEC-owned TDM tandems among and between these providers and others – is in general unaffected by the level of competition for retail voice services. Ensuring these wholesale arrangements (or some reasonable alternatives) remain in place as interconnection transitions to all IP in turn helps ensure calls (including 911 calls) are properly routed and completed and that universal service implications are cared for. Again, this is not to say that forbearance from sections 251(c)(2) and (c)(6) is unwarranted; rather, this is simply to say that a careful analysis of the proper marketplace is needed to inform the conditions and contours of a grant of forbearance to ensure the public interest is advanced.

Similarly, more robust examination is needed of critical call routing and public safety considerations before concluding that forbearance without any accompanying safeguards is appropriate and warranted. As to call routing, if anything can be learned from the prolonged fight against rural call completion failures – where far too many calls destined for rural areas

[16] *Id*. Emphasis added.

simply failed to complete[17] – it cannot be assumed that calls will somehow automatically be routed and completed properly should IP interconnection take place without some "regulatory backstop" in place. In fact, it was only once Congress stepped in to pass the *Improving Rural Call Quality and Reliability Act of 2017*,[18] and after the Commission took action in the wake of that law taking effect, that rural call completion issues improved materially (even as they persist from time to time still today). In weighing the benefits of deregulation and forbearance, the Commission must examine in more meaningful detail than the preliminary assessment in the *NPRM* what kind of legal or regulatory backstop might be needed to ensure calls will in fact be properly routed. A failure to thoroughly identify, consider, and rectify or otherwise address the ramifications of changes to the Commission's rules could frustrate (rather than further) consumer expectations, and threaten public safety as well if calls are misrouted or dropped in an entirely unregulated voice services market.

Similarly, the Commission should not assume that in the wake of TDM interconnection constructs being swept aside that public safety calls across the board will be properly completed as these calls migrate to IP. Even as the Commission established a path toward a complete transition to next generation 911 ("NG911"),[19] a number of public safety answering points will continue to rely on TDM interconnection arrangements for 911 calls as they transition to the ability to accept calls in IP and as the transition set forth in the *NG911 Transition Order* plays out. In addition, the *NG911 Transition Order* did not establish a carrier-to-carrier

[17] *See Rural Call Completion*, WC Docket No. 13-39, Report and Request for Comment, DA 20-1077 (rel. Sept. 14, 2020).

[18] *See* fn. 8, *supra*.

[19] *Facilitating Implementation of Next Generation 911 Services* (NG911), PS Docket No. 21-479, Report and Order, FCC 24-78 (rel. Jul. 19, 2024) ("*NG911 Transition Order*").

interconnection framework governing how public safety traffic is routed in the NG911 environment. As the Commission considers reducing reliance on existing interconnection points, it must ensure that any transition framework preserves providers' ability to interconnect with upstream networks over which public safety traffic will be routed, and it must account as well for the resiliency of such calls and accountability for failures. This will likely be challenging for smaller providers should they be forced to rely in large part on public Internet routing – as noted in Section II.B.2., *supra*, originating providers routing calls over the public Internet have little to no control over the path calls take.

Finally, as the *NPRM* notes, the ongoing fight against unwanted robocalls and spoofing-enabled scammers depends on the seamless exchange of voice calls over all-IP voice networks.[20] Yet here again, it is not enough for the Commission to identify sections 251(c)(2) and (c)(6) as barriers to IP interconnection. Rather, a clear roadmap is necessary to provide operators of all sizes the regulatory certainty to transition to the all-IP environment that the *NPRM* recognizes is needed to protect consumers.

C. Additional steps to waive or forbear from certain Commission rules would help facilitate the TDM-to-IP interconnection transition.

The *NPRM* seeks comment on additional rules that it should consider waiving or forbearing from as applicable, in order to facilitate the IP transition/interconnection transition.[21]

[20] As the *NPRM* notes, [t]he continued presence of non-IP technology also leaves the public more vulnerable to illegal robocalling campaigns." *NPRM*, ¶ 14. The *NPRM* goes on to state that "[c]ompleting the IP transition thus remains the surest path to ensuring that consumers and businesses can take full advantage of the tremendous benefits, efficiencies, and increased reliability and security of next-generation networks." *Id*., ¶ 14. Finally, the *NPRM* notes that "[t]he Commission has long recognized that IP-to-IP interconnection is a fundamental part of facilitating industry progression to all-IP networks." *Id*., ¶ 15.

[21] *Id*., ¶ 54.

Even where transitioning to hosted or cloud-based VoIP services may make sense for a provider, certain regulatory frameworks remain tied to non-IP constructs and these in turn can serve as a disincentive or outright barrier to this kind of desired evolution. First, as the *NPRM* suggests, the Commission should forbear from presubscription requirements applicable to local exchange carriers. In today's marketplace, voice offerings are typically offered as flat-rated or bundled services, which makes per-call carrier selection largely meaningless; consumers are increasingly accustomed to purchasing "all distance" plans as well. Moreover, from a network perspective, there is no longer a fixed circuit or switch-port–based originating context in an IP environment at which presubscription tables could be consistently applied.

In addition, the Commission should expressly confirm that eligible telecommunications carriers ("ETCs") can transition to any IP-enabled voice offering, such as hosted or cloud VoIP services, consistent with Section 214 of the Act. That provision states that ETCs shall "offer the services that are supported by federal universal service support mechanisms under section 254(c) of this title, either using its own *facilities* or a combination of its own facilities and resale of another carrier's services."[22] Specifically, the Commission should clarify that the offering of hosted or cloud-based voice telephony services will satisfy the "facilities" requirement as long as the ETC in question owns the distribution plant by which calls are routed to and from customers. This would be consistent with the Commission's 1997 order interpreting the "term 'facilities' in section 214(e)(1) to mean any physical components of the telecommunications network that are

[22] 47 U.S.C. § 214(e)(1)(A). Emphasis added.

used in the transmission or routing of the services designated for support under section 254(c)(1)."[23]

Finally, to the extent that the Commission does not determine that VoIP services are telecommunications services as discussed further below, the Commission should at the very least clarify and expressly reaffirm that a provider can migrate from legacy voice services to IP-based voice telephony services (including hosted or cloud VoIP services) and voluntarily elect to offer the latter as telecommunications services. Moreover, it should confirm that if a provider does so without changing the rates, terms, or conditions of service for the customer, such a technological migration will not constitute a discontinuance of existing services or trigger other regulatory changes. Such a transition should instead be viewed as nothing more than a *transition of underlying network technology*, analogous to a provider undertaking a switch migration. This clarification would be consistent with prior Commission efforts to promote consistency and certainty in the face of technological evolution and regulatory transitions.[24]

[23] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, FCC 97-157 (rel. May 8, 1997), ¶ 128.

[24] *See, e.g.*, *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, et al., CC Docket No. 02-33, et al., Report and Order and Notice of Proposed Rulemaking, FCC 05-150 (rel. Sept. 23, 2005), ¶ 103 (permitting the voluntary offering of broadband transmission as a telecommunications service); *See Connect America Fund*, et al., WC Docket Nos. 10-90, et al., Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) ("*USF/ICC Transformation Order and FNPRM*"), ¶¶ 62-64 and ¶¶ 77-81 (modernizing the definition of "voice telephony" as a supported service).

IV. THE FCC SHOULD DECLARE VOIP SERVICE AN INTERSTATE "TELECOMMUNICATIONS SERVICE," FIND THAT THE EXCHANGE OF SUCH TRAFFIC IS SUBJECT TO SECTIONS 251(a) AND 201 OF THE ACT, AND ADOPT A LIGHT-TOUCH REGULATORY BACKSTOP TO REGULATE IP INTERCONNECTION.

The Commission should classify VoIP services of all kinds as interstate "telecommunications services" as defined by the Act. Doing so is consistent with the nature of the services as offered in an all-IP environment where there is no "net protocol conversion" in the call flows, and this would provide the strongest legal foundation for the adoption and enforcement of interconnection rules going forward.

A. VoIP services of all kinds are a "telecommunications service" as defined by the Act, and classifying VoIP in this manner sets the Commission on firm legal ground to adopt and enforce a framework for the exchange of such traffic through IP interconnection.

The Act defines a "telecommunications service" as "the offering of telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public, regardless of the facilities used."[25] "Telecommunications" is, in turn, defined as the "transmission, between or among points specified by the user, of information of the user's choosing, *without change in the form or content of the information as sent and received*."[26] Critical to the definition of "telecommunications," this must offer the end-user the ability to send information of their choosing to points of their choosing that undergoes no change in form or content, or as the Commission has previously described it, does not undergo a "net protocol conversion."[27] Providers of VoIP services offer for a fee directly to the public the ability to

[25] 47 U.S.C § 153(53).

[26] *Id*., § 153(50).

[27] *Petition for Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges*, WC Docket No. 02-361, Order, FCC 04-97 (rel. Apr. 21, 2004) ("*AT&T IP in the Middle*

transmit information that does not undergo a net protocol conversion in all-IP environment, and thus VoIP is a telecommunications service as defined by the Act.

While the Commission has long declined to classify VoIP services as either "information services" or "telecommunications services," that has historically turned, in significant part, on the notion that an exchange of calls between the public switched telephone network ("PSTN") and VoIP users undergoes a net protocol conversion as providers use media gateways to convert IP voice packets to TDM format (and vice versa). As the voice services industry transitions to an "all IP" environment and all calls therefore originate and terminate in IP, the very concept of a "net protocol conversion" falls away.

Nor is there any rational basis to find now for the first time that VoIP should be classified as an information service instead. In 2004, the Commission's *AT&T IP in the Middle Order*[28] found that the service in question offered end-users "only voice transmission with no net protocol conversion, rather than information services such as access to stored files"[29] because "AT&T does not offer these customers a 'capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information'"[30] as the Act defines an "information service." Similar to the reasoning of that order, in the case of a VoIP subscriber and a PSTN subscriber exchanging calls today, "[e]nd-user customers do not order a

Order"), ¶ 6 (stating that the Commission has "found that services that involve no net protocol conversion are telecommunications services, rather than information services, under the 1996 Act definitions."). Internal citations omitted.

[28] *Id*.

[29] *Id*., ¶ 12.

[30] *Id*.

different service, pay different rates, or place and receive calls any differently than they do"[31] should a call remain IP from end-to-end. Indeed, even if a call might undergo a conversion from TDM to IP (or the other way around) at a media gateway, this does not change the service from a functional perspective for the end users involved.

Finally, the Commission's own actions over many years of attaching carrier-like obligations to VoIP only underscore that it is long past time to "call a duck a duck" after nearly thirty years of punting on classification.[32] Indeed, in the wake of a litany of orders that have tacked carrier obligations onto otherwise unclassified VoIP services, the Commission itself has blurred any distinction one could argue exists between VoIP and PSTN services from a functional as well as regulatory and consumer perspective – VoIP services are subject to the Commission's 911,[33] mandatory outage reporting (DIRS/NORS),[34] Universal Service Fund

[31] *Id*.

[32] *See Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report to Congress, FCC 98-67 (rel. Apr. 10, 1998) ("*Stevens Report*"). In the 1998 *Stevens Report*, the Commission considered the regulatory classification of "IP telephony" services, which it notes "enable real-time voice transmission using Internet protocols." *Id*., ¶ 84. The Commission therein stated that "the record currently before us suggests that this type of IP telephony lacks the characteristics that would render them 'information services' within the meaning of the statute, and instead bear the characteristics of 'telecommunications services.'" *Id*., ¶ 89. Despite this, the report declined to reach a decision on the classification of these services based on the "the need, when dealing with emerging services and technologies in environments as dynamic as today's Internet and telecommunications markets, to have as complete information and input as possible." *Id*., ¶ 90. Nearly 30 years later, in a world where *every* customer and carrier is transmitting calls in IP, VoIP can no longer reasonably be considered an "emerging service."

[33] *IP Enabled Services*, WC Docket No. 04-36, *E911 Requirements for IP-Enabled Service Providers*, WC Docket No. 05-196, First Report and Order and Further Notice of Proposed Rulemaking, FCC 05-116 (rel. Jun. 3, 2005).

[34] *Resilient Networks*, PS Docket No. 21-346, *Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80, *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Second Report and Order and Second Further Notice of Proposed Rulemaking, FCC 24-5 (rel. Jan. 26, 2024).

contribution,[35] Communications Assistance for Law Enforcement Act,[36] Customer Proprietary Network Information,[37] local number portability,[38] and disability access rules.[39] Similarly, from the consumer perspective, it stretches the imagination to believe that most VoIP subscribers have any sense at all of the underlying network technology in question – from the user's perspective, all that is apparent is that they initiate a call on a device and the call (hopefully) completes. The format in which the call is routed by the provider in question is likely invisible to all but the most sophisticated customer, and in a "technology neutral" regulatory construct should be irrelevant to determining the functionality provided.

It is important, however, that any such determination should specifically include forbearance from rate regulation at the federal and state level (although the classification as an interstate telecommunications service should foreclose intrastate rate regulation in any event). Similar to the forbearance granted decades ago in the interstate interexchange marketplace,[40] the

[35] *Universal Service Contribution Methodology*, WC Docket No. 06-122, et al., Report and Order and Notice of Proposed Rulemaking, FCC 06-94 (rel. Jun. 27, 2006).

[36] *Communications Assistance for Law Enforcement Act and Broadband Access and Services*, ET Docket No. 04-295, First Report and Order and Further Notice of Proposed Rulemaking, FCC 05-153 (rel. Sept. 23, 2005).

[37] *Implementation of the Telecommunications Act of 1996:Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information*, CC Docket No. 96-115, *IP-Enabled Services*, WC Docket No. 04-36, Report and Order and Further Notice of Proposed Rulemaking, FCC 07-22 (rel. Apr. 2, 2007).

[38] *Telephone Number Requirements for IP-Enabled Services*, WC Docket No. 07-243, et al., Report and Order, Declaratory Ruling, Order on Remand, and Notice of Proposed Rulemaking, FCC 07-188, (rel. Nov. 8, 2007).

[39] *IP-Enabled Services*, WC Docket No. 04-36, et al., Report and Order, FCC 07-110 (rel. Jun. 15, 2007).

[40] *Policy and Rules Concerning the Interstate, Interexchange Marketplace, Implementation of Section 254(g) of the Communications Act of 1934, as amended*, CC Docket No. 96-61, Second Report and Order, FCC 96-424 (rel. Oct. 31, 1996).

Commission here can forbear from rate regulation in the retail voice services market while retaining the ability to step in should a dispute in the wholesale interconnection marketplace threaten the seamless exchange of calls. Moreover, as noted above, classifying VoIP as an interstate telecommunications service would preempt any intrastate regulation of this service unless, as discussed elsewhere herein, a provider were to seek to voluntarily submit its service offering to such intrastate regulation or otherwise uses VoIP capabilities to satisfy state obligations such as carrier of last resort or other incumbent carrier duties required by state law.[41]

In the wake of *Loper Bright*,[42] classifying VoIP as a "telecommunications service" would seem critical to provide the most straightforward statutory foundation for adopting, implementing, and enforcing a framework governing IP interconnection. Rather than cobbling together sections from the Act and stretching their language and meaning to hunt for some alternative source of authority over IP interconnection, the Commission should employ a foundation built to withstand legal scrutiny in a post-*Loper Bright* environment. Classifying VoIP as a telecommunications service places it squarely within sections 251(a) and 201 of the Act rather than relying upon statutory "bank shots" and dubious assertions of ancillary authority – to the contrary, as the *NPRM* acknowledges, these provisions each speak to this specific issue as they "establish an overarching duty for all *carriers* to interconnect."[43] Just as importantly, the Commission has found that the section 251(a) duty to interconnect is "technology neutral."[44]

[41] *See* Section III. C., *supra*.

[42] *Loper Bright Enterprises v Raimondo*, 603 US 369 (2024).

[43] *NPRM*, ¶ 9 (emphasis added).

[44] *USF/ICC Transformation Order and FNPRM*, ¶ 1381.

Following from such a classification and determination of alternative sources of authority for "light-touch" regulation, the Commission could then proceed with its proposal to forbear from sections 251(c)(2) and (c)(6) – and as noted throughout these comments, classifying VoIP as a telecommunications service need not result in recreating existing TDM interconnection constructs in all respects or porting those over entirely to the all-IP environment. Instead, as discussed and described below, the Commission could proceed from this solid legal footing to cite sections 201 and 251(a) as justification for a tailored, light-touch IP interconnection framework.

B. The Commission should adopt a "light-touch" regulatory backstop that governs IP interconnection and includes a clear default framework against which providers can negotiate.

The *NPRM* seeks comment on "whether and how the Commission should modify its regulatory framework for interconnection to account for IP voice services."[45] With respect to the question of whether such a framework is necessary, as noted above, a broad spectrum of public policy imperatives and consumer protection initiatives are implicated here, including universal service objectives, the reliability of voice calls (including public safety traffic), and the mitigation of robocalls and spoofing. But merely forbearing from sections 251(c)(2) and (c)(6) will not by itself guarantee the reliability of voice calls or ensure that providers of all sizes can obtain IP interconnection at reasonable rates, terms, and conditions (or at all). Rather, a specific and well-defined duty to interconnect (with simple "rules of the road" governing how that happens) will be essential to the seamless exchange of voice traffic in IP.

[45] *NPRM*, ¶ 55 ("We seek comment on whether there has been any demonstrated need for Commission intervention. Have market incentives proved sufficient to meet the needs contemplated by Congress and the Act? Do any carriers possess sufficient market power to pressure other carriers into accepting unfavorable interconnection terms?").

The need for reasonable "rules of the road" with respect to IP interconnection is acute for RLECs and similarly situated small providers. As noted in Section II. A., *supra*, without any framework in place, nothing stands in the way of the nation's largest operators dictating terms and conditions – including shifting POIs hundreds or even thousands of miles outside of RLEC service areas or relegating smaller providers and their consumers to second-class status in the voice marketplace. The current model of voice interconnection that has sought to apportion costs for transport and traffic exchange reasonably between *all* operators and contributes to the affordability of voice in these rural areas could thus be turned on its head.

To reiterate, NTCA is seeking neither new heavy-handed prescriptive rules nor the perpetuation of legacy TDM interconnection constructs. To the contrary, given the vast amount of IP investment already in their own networks, they welcome others joining the ranks. But the goal here should be to craft appropriately tailored obligations that promote certainty and fairly apportion burdens and efficiencies in an IP environment. To do so, the Commission should examine carefully what has worked from a regulatory standpoint and then set aside specifically what may be unnecessary in an all-IP environment. Most importantly, this pared-down basic framework should operate as a default ***only*** in the absence of an agreement otherwise between the parties, along with the preservation of "good faith" negotiating provisions found in section 251 of the Act[46] and the ability to turn to the Commission in the event of a dispute.

As an initial step, the Commission should establish a general presumption that all parties will offer the ability to interconnect physically in IP at a minimum of one default location in each state where it seeks to originate or terminate calls. As a useful starting point, the Commission

[46] 47 U.S.C. § 251(c)(1).

has already designated more than 40 Internet Exchange Points ("IXPs") for performance testing purposes,[47] which are locations housing a public Internet gateway and operated by large Internet backbone providers. Providers of all kinds are likely quite familiar with these interconnection points and should have a reasonable ability to exchange voice traffic at these locations with minimal incremental burden. Leveraging the Commission's own designated IXPs for default IP interconnection POIs would therefore seem to represent a reasonable starting point and default framework. In addition, the Commission can address special universal service considerations with respect to cost and affordability of service by establishing a "rural transport rule" for physical interconnection specifically with carriers that have universal service obligations. This should operate too as a default, under which IP interconnection between an ETC and any other provider will take place at a mutually agreeable location in the former's designated service area.

As an alternative that offers flexibility, providers not wishing to interconnect physically at either the default location in a state (or at the default network edge in the case of an ETC) should assume the financial responsibility for any transport to the required default interconnection point. By operating only as a default, however, providers would remain free to enter into mutually beneficial alternative arrangements should they so choose and the market warrant.[48]

The Commission should also retain the "good faith" negotiation requirement found in section 251(c)(1). As the Commission stated in 2011, "[t]he duty to negotiate in good faith has been a longstanding element of interconnection requirements under the Communications Act and

[47] *Connect America Fund*, WC Docket No. 10-90, Order on Reconsideration, FCC 19-104 (rel. Oct. 31, 2019), Appendix B.

[48] For example, even though a RLEC might have an existing "network edge" at a meet-point, it might also have facilities directly connected already to an IXP and might prefer to meet a larger regional or national provider there – to their mutual benefit.

does not depend upon the network technology underlying the interconnection, whether TDM, IP, or otherwise."[49] As the *NPRM* notes, "[t]he Commission in 2011 espoused its expectation that all carriers negotiate in good faith in response to requests for IP-to-IP interconnection for the exchange of voice traffic and that such good faith negotiations will result in interconnection arrangements between IP networks."[50] Unfortunately that expectation has not been met.[51] NTCA members' requests for IP interconnection in a variety of forms and formats are frequently rebuffed, and responses (where provided at all) are often "take it or leave it" terms and conditions highly unfavorable to the small provider. Mere "expectations" have not been enough in the last decade and a half to ensure that IP interconnection arrangements are reached in a timely manner,[52] and are not enough to ensure that larger carriers come to the table. Nor are "expectations" sufficient to ensure that "take it or leave it" terms and conditions are not dictated to smaller providers if there is no ability to turn to the Commission in such a scenario. Expectations, predictive judgments, and hopes standing alone are insufficient to serve statutory mandates.

The light-touch default framework proposed herein would be consistent with past Commission action meant to facilitate a broader systemic policy change. In 2011, the Commission adopted a "rural transport rule" applicable to the exchange of voice traffic in certain circumstances. That provision was enacted under circumstances similar to that which exist here:

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[49] *USF/ICC Transformation Order and FNPRM*, ¶ 1011.

[50] *NPRM*, ¶ 61.

[51] *Id*. ("We seek comment on whether the Commission's expectation has been realized in the past decade and a half.").

[52] *Id*. ("Was the Commission's stated expectation sufficient to ensure that IP interconnection arrangements for the exchange of voice traffic came to fruition in a timely manner?").

at that time, the Commission recognized that policy changes being enacted to address a broader issue (a move to bill and keep for certain access rate elements) risked shifting transport costs directly onto rural carriers and the customers they serve.[53] Similarly, when the Commission tackled 8YY access charge rates, it addressed the potential for a broader policy change to inadvertently harm certain consumers.[54] Here, the Commission can facilitate a TDM-to-IP interconnection transition – its broader policy goal – while simultaneously protecting rural consumers from bearing the brunt of that transition through a transfer of costs or a loss of service reliability.

Finally, by classifying VoIP as an interstate telecommunications service, the Commission would place this light-touch framework squarely within the legal authority conferred by sections 251(a) and 201 of the Act. First, as the *NPRM* notes, the "requirements of [251(a)(1)] extend broadly to all *telecommunications carriers*, and are technology neutral on their face with respect to the transmission protocol used for purposes of interconnection."[55] The section 251(a)(1) duty

[53] *USF/ICC Transformation Order and FNPRM*, ¶¶ 998-999 (adopting a "rural transport rule" to ensure that the obligations of RLECs to carry originating non-access traffic do not extend beyond their service area boundaries, recognizing that absent such a rule, RLECs could be forced to incur unrecoverable transport costs).

[54] *See 8YY Access Charge Reform*, WC Docket No. 18-156, Report and Order, FCC 20-143 (rel. Oct. 9, 2020) ("*8YY Order*"). In 2020, the Commission addressed arbitrage with respect to 8YY originating access charges, and NTCA noted at the time that the changes the Commission was considering could allow larger providers, in the wake of changes to certain rules to "leverage such changes to demand rearrangement of existing interconnection arrangements and to move the network edges . . . from existing locations in rural areas to points that may be [great distances] from the rural areas where those calls originate or terminate." Letter from Michael R. Romano, Senior Vice President – Industry Affairs & Business Development, NTCA–The Rural Broadband Association, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 10-90, 07-135, and 18-156, CC Docket No. 01-92 (fil. Feb. 13, 2020), p. 2. The Commission moved forward with its broader reforms while recognizing that this could harm rural consumers, and thus stated that "on several occasions the Commission has found that unilateral attempts by a carrier to change its interconnection point with another carrier that results in increased costs or inefficient routing of traffic is unjust and unreasonable under section 201(b) of the Act." *8YY Order*, ¶ 71.

[55] *NPRM*, ¶ 67 (emphasis added).

to interconnect thus would apply upon Commission classification of VoIP as an interstate telecommunications service. In addition section 201(a) includes the "duty of every common carrier engaged in interstate…communication…to establish physical connections with other carriers,"[56] and section 201(b) further grants the Commission the authority to ensure that "[a]ll charges, practices, classifications, and regulations for and in connection with [an interstate] communication service, shall be just and reasonable."[57] Section 201(b) thus grants the Commission the authority to adopt the light-touch framework discussed herein, including a duty to negotiate in good faith, as necessary to ensure that the "practices, classifications, and regulations for and in connection with [VoIP interconnection remain] just and reasonable." By contrast, if VoIP were not classified as a telecommunications service, the Commission's ability in a post-*Loper Bright* world to invoke sections 201 and 251(a) of the Act as the basis for IP interconnection obligations would rest upon a shaky statutory foundation – and promote only additional regulatory uncertainty in lieu of promoting a rapid and effective IP transition.

V. CONCLUSION

For the reasons set forth above, the Commission should adopt a light-touch regulatory framework to facilitate the TDM-to-IP interconnection transition.

[56] 47 U.S.C. § 201(a).

[57] *Id*., § 201(b).

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