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 THE DIGITAL PROGRESS INSTITUTE

The Digital Progress Institute is a non-profit policy research organization dedicated to bipartisan, incremental reform of technology and telecommunications policies. We are committed to promoting innovation, competition, and efficient regulatory frameworks that facilitate broad access to next-generation communications services. We appreciate the opportunity the Federal Communications Commission has given us and other stakeholders to comment on the Commission's Notice of Proposed Rulemaking on *Advancing IP Interconnection*.[1]

DPI has long supported efforts to align federal communications policy with modern network realities, particularly in the context of the transition from legacy TDM networks to IP networks capable of delivering rich voice, data, and multimedia services that consumers want and need.[2] Hastening the IP Transition will lower the costs of maintaining existing telecommunications networks and remove unnecessary legacy regulatory barriers that inhibit technological evolution and competitive entry—in an IP world, the market will deliver better-

[1] *Advancing IP Interconnection; Accelerating Network Modernization; Call Authentication Trust Anchor*, WC Docket Nos. 25-304, 25-208, 17-97, Notice of Proposed Rulemaking, FCC 25-73 (Oct. 29, 2025) ("*IP Interconnection Notice*").

[2] Comments of the Digital Progress Institute on the IP Transition, GN Docket No. 25-133 (Apr. 14, 2025).

quality services at lower prices. Hastening the IP Transition will eliminate the costly conversion of IP traffic to TDM, which creates lag, hogs network resources, and reduces the quality of calls. Hastening the IP Transition will allow end-to-end STIR/SHAKEN compliance, facilitating the work of the Commission, the Federal Trade Commission, state attorneys general, and the industry to root out the bad actors that flood our networks with unwanted robocalls. And hastening the IP Transition will free up resources for both the Commission and industry now dedicated to compliance with last-century mandates in favor of bringing next-generation broadband services to the unserved and closing the Digital Divide.

DPI thus applauds the Commission for initiating a long-overdue examination of legacy interconnection requirements and for proposing to forbear from incumbent Local Exchange Carrier ("LEC")-specific interconnection and related obligations under sections 251(c)(2) and 251(c)(6) of the Communications Act (the "Act"). Left in place without reform, these obligations to allow TDM interconnection at "any technically feasible point" and to allow physical access to the premises of incumbent LECs have become burdensome, market-distorting obligations that hinder the transition to all-IP networks.[3]

The *IP Interconnection NPRM* represents a critical inflection point. It appropriately recognizes that these legacy provisions were designed for a circuit-switched, time-division multiplexing ("TDM") world where "incumbent LECs controlled 99.7% of the local telephone service market."[4] In a world where consumers and operators are increasingly offering 100/20 Mbps service or faster to consumers, where the bipartisan Broadband Equity, Access, and Deployment program is set to close the Digital Divide for Americans at a fraction of the

[3] *Notice*, paras. 1, 30.

[4] *Notice*, para. 9.

anticipated cost, and where 96.9% of voice lines are *not* operated over incumbent LEC TDM facilities[5]—it is high time that the Commission recognize that these technology-specific-one-sector-of-the-entire-industry mandates are no longer necessary to protect consumers or safeguard competition.

In these comments, DPI makes three critical recommendations for the Commission as it moves forward. *First*, we explain why the Commission should forbear from sections 251(c)(2) and (c)(6) of the Communications Act as applied to incumbent LECs with a firm sunset date of December 31, 2028. *Second*, we explain that the Commission should use its section 251(e) numbering authority—coupled with its section 251(a) interconnection authority—to adopt a no-cost default IP routing regime for all voice providers with access to telephone numbers. *Third*, we argue that the Commission should make clear that legacy statutory constructs—like the terms "local exchange service," "exchange access," "telephone exchange service," and "telephone toll service"—do not apply in the world of VoIP.

I. The Commission Should Sunset Section 251(c)(2) and (c)(6) obligations by December 31, 2028

Section 251(c)(2) of the Communications Act imposes on incumbent LECs the duty to interconnect with any requesting telecommunications carrier for the "transmission and routing of telephone exchange service and exchange access . . . at any technically feasible point within the carrier's network."[6] Section 251(c)(6), in turn, imposes the obligation on incumbent LECs to "provider . . . for physical collocation of equipment necessary for interconnection or access to unbundled networks at the premises" of the incumbent LEC.[7] Historically, these obligations

[5] *IP Interconnection Notice*, para. 9.

[6] Communications Act § 251(c)(2).

[7] Communications Act § 251(c)(6).

were keystones of the competitive framework established by the 1996 Act to break open monopoly local markets—and made sense in the mid-1990s incumbent LECs controlled nearly the entire local telephone market. Yet today, intermodal competition and the evolution to IP networks has made these continuing obligations counterproductive.

Indeed, these continuing obligations are affirmatively harmful to the IP Transition and incentivize the continued investment in last-generation technologies. Consider this: An incumbent LEC has a central office in Washington, DC. As it is the nation's capital, competition for consumers is fierce, with three mobile carriers offering voice service, one cable operator offering voice service, the incumbent LEC offering voice service, and a host of VoIP operators offering voice service to consumers. Let's say the incumbent has built out a new fiber network that provides VoIP services to all of its consumers, that all such consumers have left the incumbent's TDM offering, and that the incumbent's fiber neither runs through nor even touches the old central office. Can the incumbent decommission that central office? Can the incumbent even decommission the 1980s-era switch therein? No—section 251(c)(2) requires the incumbent maintain that point of interconnection and section 251(c)(6) requires the maintenance of that physical space for potential competitors. To put it bluntly, these provisions require incumbents to maintain legacy infrastructure even if no one is using it on the off chance that someone, at some point, might desire to use it. Frankly, the existence of this one-way obligation creates a one-way ratchet against new technologies: Incumbents cannot realize the full value of moving consumers off legacy networks, and thus cannot justify the full costs of moving every single consumer to better, newer, faster, IP networks.

What is more, these regulatory constructs create opportunities for arbitrage by competitors. The Commission has long recognized the build/buy trade-off inherent

infrastructure-sharing regulations—that when the cost of buy access to a facility is sufficiently low, a competitor will choose that route rather than building out competing facilities. That same trade-off is inherent in section 251(c)'s interconnection and collocation provisions as they mandate that incumbent LECs offer access to these facilities at regulated rates, regardless of whether doing so is actually efficient; indeed, because the incumbent LEC's network design—as it was in 1996—is assumed as a given, the rates for such facilities may be far below the opportunity cost for an incumbent to repurpose those facilities entirely. It is inherently anti-consumer to require an incumbent (and thus its customers) to subsidize a competitor's access to legacy facilities at below-opportunity-cost rates.

The Commission should thus forbear from enforcement from these statutory requirements—and its implementing rules (e.g., rule 51.305)—effective December 31, 2028 as proposed.[8] This firm sunset date will give all participants in the voice ecosystem ample time to arrange alternative arrangements for IP-to-IP interconnection while avoiding indefinite regulatory drag from an obsolete framework. Importantly, because the current obligations are asymmetrical and apply only to incumbent LECs, sunset and forbearance will help level the competitive playing field rather than harm competition.

II. The Commission Should Consider Mandating No-Cost, Default IP Routing Over the Public Internet

While forbearance from section 251(c)(2) obligations should be the cornerstone of reform, the Commission must also ensure that IP interconnection remains robust, efficient, and accessible for all providers that have access to telephone numbers. In the legacy world, interconnection implicitly relied on circuit-switched network geography and incumbent LEC

[8] *IP Interconnection Notice*, para. 44.

switches. In an all-IP environment, calls are delivered as packets to network endpoints identified by IP addresses or URIs—and the ability to route calls effectively across diverse networks should be facilitated by appropriate routing infrastructure.

The *IP Interconnection Notice* appropriately seeks comment on the framework for IP-to-IP interconnection as well as its authority to adopt certain rules. For its part, DPI notes that rules may not be necessary in an all-IP world. After all, the Commission has no authority to mandate IP-to-IP interconnection for broadband Internet access service (and to the extent that the Commission has briefly claimed such authority, has never exercised it), and yet the United States is replete with Internet service providers that interconnect with each other without incident. Indeed, the Commission has never before adopted IP-to-IP interconnection rules in the voice world, and yet VoIP providers regularly interconnect with each other for the exchange of traffic.

That said, DPI believes the Commission should consider adopting a simple rule: Every voice provider with direct access to telephone numbers should be required to offer one or more no-cost, default routing options over the public Internet.[9] The industry already has defined standards for the exchange of VoIP over the public Internet[10] and the industry has already made preparations for the incorporation of Uniform Resource Identifiers ("URIs") into numbering and routing databases such as the Local Exchange Routing Guide, the North American Numbering Plan, the Local Number Portability Database, and the TFNRegistry. Relying on these existing standards and resources would aid the transition to IP-to-IP interconnection and ensure that no consumer is left behind.

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[9] *IP Interconnection Notice*, para. 63.

[10] ATIS, VoIP Interconnection over the Public Internet, ATIS-1000100 (2022), https://access.atis.org/higherlogic/ws/public/download/69420/ATIS-1000100.pdf.

The virtues of such a rule are straight-forward: It would define a simple baseline for connectivity that ensures every voice provider can directly receive traffic from every other voice operator without the need for defining particular physical points of interconnection or legacy constructs like Local Access and Transport Areas ("LATAs").[11] And so long as a voice provider has Internet access (which in practice every voice operator has today), it would ensure that every voice operator can interconnect with every other voice operator. What is more, by relying on the existing databases used by voice providers today, implementing such a solution would impose a minimal cost on the industry (and hence consumers).[12] The Commission should also work with industry stakeholders to identify appropriate operational standards for default URI formats, authentication, and updating protocols.

To be clear, the rule should not preclude voice providers from adopting alternative means of interconnecting their networks, whether directly through physical circuits or indirectly through neutral hosts or aggregators or virtual circuits across the public Internet.[13] Indeed, one of the virtues of the no-cost, default public Internet routing is that is establishes a common baseline for interconnection that puts all voice providers on an equal footing for the negotiation of alternative arrangements.

Such a rule would also avoid the need for the Commission to wade into the debate regarding the classification of VoIP services under the Communications Act. The Commission has previously recognized its plenary authority over numbering resources under the North American Numbering Plan and it is this same authority that would support the adoption of such a

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[11] *Cf. IP Interconnection Notice*, para. 62 (asking questions on defining IP voice traffic POIs).
[12] *Cf. Id.*, para. 63 (seeking comment on whether a "database connecting phone numbers to a carrier gateway's IP address would need to be developed").
[13] Note that a voice provider need not point to its *own* gateway—it could point to an aggregator's gateway who would then be responsible for the routing of that traffic to the voice provider itself.

rule as a condition of access to numbers. To the extent needed, the Commission could also rely on its section 251(a) authority to ensure that telecommunications carriers interconnect with each other, directly or indirectly, in good faith—with the exercise of its 251(e) authority over providers with direct access to numbers a reasonably means of ensuring that non-carriers with access to numbers are afforded the same rights (and maintain the same responsibilities) as telecommunications carriers subject to section 251(a).

The Commission should adopt a target deadline of January 1, 2029, for all carriers with telephone numbers to implement and publish default routing URIs in the relevant databases. This deadline aligns well with the proposed sunset of incumbent LEC interconnection obligations and provides clear regulatory certainty.

To accelerate deployment and encourage early adoption, DPI also encourages the Commission to make incumbent LECs that implement default routing for all numbers served in a given area eligible for early forbearance from their section 251(c)(2) and (c)(6) obligations. Early forbearance should be conditioned on wide coverage—that is, publication of default routing URIs for the entire set of numbers served by an incumbent in a central office's service area—to ensure that consumers and interconnected carriers benefit from the arrangement.

This early forbearance incentive not only rewards proactive deployment but also mitigates transitional uncertainty by increasing the quantity and quality of reachable IP endpoints early in the transition.

III. The Commission Should Consider Whether Certain Statutory Constructs Make Sense in an IP World

The *IP Interconnection Notice* notes that the Commission has not determined whether VoIP providers are "telecommunications carriers" and if so whether VoIP providers offer

"telephone exchange service" or "exchange access."[14] Setting aside the question of the regulatory classification of VoIP service, DPI urges the Commission to make clear that legacy constructs such as "local exchange carrier," "telephone exchange service," "exchange access," and "telephone toll service,"[15] do not apply to VoIP or an all-IP world.

Although the *Notice* suggests that these terms are "technology-neutral,"[16] the statute itself says they are not. The definition of a "local exchange carrier," for example, explicitly carves out commercial mobile services from its ambit.[17] What is more, the remaining terms assume a technological and marketplace environment that simply does not exist in the IP world. For example, the term "telephone exchange service" assumes some limited "exchange area" that defines the bounds of service[18]—and yet VoIP operators regularly offer service throughout the entire United States. "Telephone toll service" in turn requires service between "different exchange areas" as well as a "separate charge not included in contracts with subscribers for exchange service."[19] VoIP operators do not set such bounds nor do they impose such separate charges. And the term "exchange access" assumes the existence of not just exchange areas but also telephone toll services, since it means the "offering of access to telephone exchange services or facilities for the purpose of the origination or termination of *telephone toll services*."[20]

In other words, even if not premised on a particular form of time-division multiplexing, these statutory terms assume a network design and marketplace like that of 1996.

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[14] *IP Interconnection Notice*, para. 66.
[15] Communications Act § 3(20), (32), (54), (55).
[16] *IP Interconnection Notice*, para. 66.
[17] Communications Act § 3(32); *see also Local Competition Order*, FCC 96-325, para. 1004 (finding that mobile operators should not be classified as LECs).
[18] Communications Act § 3(54).
[19] Communications Act § 3(55).
[20] Communications Act § 3(20) (emphasis added).

Applying these statutory terms to the VoIP services of today would lead to non-sensical results—arbitrarily fractioning VoIP offerings into multiple "exchange areas" or establishing the entire country as a single "exchange area"—and require the Commission to ignore the statutory text itself given current market realities (e.g., the Commission would need to assume a "separate charge" for toll service since none now exists for VoIP). And applying these terms to VoIP for the first time could have significant collateral consequences for the operations of VoIP providers that have, for their entire existence, operated in a deregulated, competitive market. The better course is to respect the actual language of the Communications Act as well as the intent of the Congress that adopted the Telecommunications Act to "promote competition and reduce regulation"[21]—the Commission should make clear that these statutory terms do not apply to VoIP providers.

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DPI appreciates the Commission's consideration of these comments and looks forward to continued engagement with the Commission and its excellent staff as this proceeding unfolds.

Respectfully submitted,

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[21] Telecommunications Act of 1996, preamble.