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ATTORNEYS AT LAW

May 12, 2005

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: IP-Enabled Services, WCB Docket No. 04-36

Dear Ms. Dortch:

On May 10, 2005, Ron Vidal, Cindy Schonhaut and John Morgan of Level 3 Communications, LLC ("Level 3") and John Nakahata of Harris, Wiltshire & Grannis, LLP, on behalf of Level 3, met with Tom Navin, Chief, Wireline Competition Bureau, Julie Veach, Acting Chief, Competition Policy Division, Pam Arluk and Christi Shewman, of the Wireline Competition Bureau regarding the above-captioned proceeding. In addition, on May 11, 2005, Messrs. Vidal, Morgan and Nakahata met with Jessica Rosenworcel, Legal Adviser to Commissioner Copps. In summary, Level 3 believes the Commission should:

1. If the Commission also implements Item 3, below, impose a requirement to provide E911 for native number, fixed location VoIP subscribers in the 50 largest MSAs within 120 days;
2. Phase in implementation of E911 for native number, fixed location VoIP subscribers in the remaining MSAs (with phases based on population size);
3. Require ILECs and others to take certain steps to assure speedy implementation of E911 solutions; and
4. Open a rulemaking process for delivery of E911 services to support nomadic VoIP subscribers and subscribers that use "non-native" telephone numbers.

1. Background

Level 3 supports the Commission's efforts to ensure that users of VoIP can reach emergency services personnel through E911 services. Level 3, however, is concerned that, if the Commission adopts a broad requirement for all providers of any type of two-way switched VoIP

service to provide E911 without properly considering the technological issues posed by VoIP, the Commission will fall short of its goal and create even greater confusion among consumers.

Level 3 has been extremely active in deploying E911 network. During the past 20 months, Level 3 has devoted substantial time and resources to establishing connections to ILEC 911 tandems, and to put in place direct trunk connections from those tandems to approximately 371 selective routers. Today, Level 3 provides E911 service in 2247 rate centers nationwide, covering approximately 67% of the U.S. population. For end users in those 2247 rate centers that have Level 3 telephone numbers that are related geographically to that rate center (what are sometimes referred to as "native" or "geographically relevant" telephone numbers), Level 3 can use its direct trunk connections to the selective router to deliver the PSAP full E911 capabilities. These capabilities include: automatic number identification (ANI) and automatic location information (ALI) along with a 911 call (as long Level 3 has had sufficient time to have the address loaded in the ALI database, which takes up to 5 days).[1]

When an end user has a telephone number that is not related to the rate center in which the end user is located (sometimes called a "non-native" or "non-geographically relevant" telephone number), however, Level 3 cannot currently provide E911 service for that user, regardless of whether that end user stays in a single location or moves among multiple locations. E911 systems generally do not accept out-of-area telephone numbers for routing purposes. This is due to limitations inherent in the selective router. The selective routers are typically TDM voice switches that are tied to a specific geographic area. The translation tables are programmed only to accommodate telephone numbers associated with that specific area, and do not include numbers from outside the immediate vicinity. Because of these restrictions, Level 3 will not be able to provide E911 service for those non-geographically relevant end users until I2 systems are implemented.[2]

Some have suggested that it is possible to provide end users with non-geographically relevant telephone numbers E911 services by assigning that end user two telephone numbers, the non-geographically service number the customer knows and uses along with a separate, geographically-relevant number that is used by the VoIP provider for E911 calls.[3] Level 3 has experience with this technique, and believes that it is not operationally feasible for widespread use. Level 3 has used this technique (which Level 3 called "phantom numbers") when it was

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[1] At present, Level 3 does not provision non-geographically relevant telephone numbers for its two-way enhanced local service product. This does not mean, however, that an end user may not subsequently change locations or that a Level 3 wholesale customer might not use other, non-two-way Level 3 products to provide two-way service to a non-geographically relevant telephone number. In addition, Level 3's wholesale customers are not required to purchase Level 3's E911 capabilities; some, for example, use solutions obtained from other providers.

[2] I2 systems will be similar to the systems used for wireless E911, which use a key number for routing, rather than routing based on the calling party's telephone number.

[3] AT&T refers to this technique as "number spoofing." *See* Letter of Robert W. Quinn, Jr., AT&T, to Marlene H. Dortch, Secretary, FCC, dated May 9, 2005, Docket No. 04-36, at 3-4.

using another CLEC to provide E911 connectivity in an area in which the end users' telephone numbers would otherwise have been non-geographically relevant. This solution did not scale well for mass consumer use, as it is extremely difficult to maintain an alignment between the end user's telephone number and the phantom number, especially as customers move and otherwise churn. Moreover, because the phantom number was the number the PSAP received as the callback number, but was not a number generally known to the end user, the end users were confused when PSAP operators attempted to use that number to confirm the calling party's number. The PSAPs also experienced some difficulty performing callback (*i.e.*, calling the E911 caller) using the phantom numbers. Level 3 has therefore been transitioning away from use of "phantom numbers." These problems render the phantom number or "number spoofing" solutions technically and operationally infeasible and inappropriate.

2. The Commission Should Address VoIP E911 in a Staged Manner Focused on Retail Services.

With this background, and provided that the Commission also promulgates the regulatory requirements on ILECs and others described in Section 3, below, Level 3 believes that the Commission should mandate that E911 service be available to VoIP subscribers for "fixed location," geographically relevant or native telephone numbers within the top 50 MSAs within 120 days of rules becoming effective 30 days after publication in the Federal Register. Level 3 believes, provided the FCC takes the steps outlined in Section 3, below, that it would be technically and operationally feasible for Level 3 to meet such a deadline within that area for fixed end users using geographically-relevant telephone numbers. The ability to offer the service depends upon the customer not regularly changing location. The FCC must also take the steps enumerated below to expedite E911 deployments. Level 3 believes that the Commission should then phase in implementation in lower tier markets, much as it phased in Local Number Portability requirements. This would address the vast majority of instances in which VoIP is being used as a substitute for traditional telephone service, *i.e.*, cases in which the end user is using VoIP from a fixed location (even if the technology permits movement) with a geographically relevant telephone number.

Level 3 further believes that the most feasible method for providing E911 services to non-geographically relevant number or nomadic users is through the I2 solution. However, because of the steps necessary to implement I2 and the amount of industry consultation and coordination required, which cannot be completed within 120 days, the Commission should defer setting precise deadlines now with respect to these users. Instead, the Commission should seek further comment on the appropriate timetable for such implementation, along with necessary facilitating rules. In any event, widespread I2 deployment is not likely to be in place before the end of 2006.

Furthermore, given the inherent delays in updating the ALI database today, the Commission cannot reasonably require VoIP providers to constantly change the location information associated with truly nomadic users. As mentioned above, using the current wireline model it currently takes up to 5 days from the time Level 3 receives an end user's address to the

time the address is loaded in the ALI database. Only one of these days is consumed by processing within Level 3. The remaining days are consumed by validation by the MSAG administrator and loading of the new address into the database, steps which are not performed by Level 3. Thus, if an end user were to take a Level 3-served Terminal Adapter from her home in Washington DC to a beach house in Rehoboth, Delaware, even if the end user promptly re-registered her location in Rehoboth, it would still be up to five days before the ALI database was updated to reflect the Rehoboth location. If the end user left for the beach on a Monday and returned on Saturday, the ALI database would reflect the end user's Rehoboth location just as she was packing to come home.[4] As this example shows, it would be impractical, arbitrary and capricious to require E911 for truly nomadic users prior to the implementation of I2.[5]

The Commission also needs to make it clear that the obligation to provide E911 functionality rests on the entity that sells the service directly to the VoIP subscriber. While Level 3 sells "turnkey" solutions that offer E911 functionality to many retail VoIP providers, some providers (such as RBOC affiliates and some cable companies with CLEC operations) purchase only selected components of service from Level 3 and elect to "self-provide" E911 functionality to their subscribers. Retail providers seeking a national footprint can thus leverage the E911 coverage offered by a variety of wholesale network suppliers, allowing those entities to more efficiently deliver E911 functionality to VoIP subscribers. In addition, imposing 911 obligations at the retail level also makes sense because the retail provider usually has the only direct interaction with the VoIP subscriber. Wholesale providers like Level 3 are generally not in a position to control, influence or participate in any communications to or from subscribers, development and deployment of software interfaces to address subscriber location, contractual terms or marketing literature respecting the E911 and other functionality offered by VoIP retail carriers.

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[4] This scenario requires the capability to deliver E911 for telephone numbers that are not geographically relevant to the end user's location, which, as explained above, cannot feasibly be done today.

[5] In an I2 world, the address is not loaded into ALI, however, the address still must be captured and augmented to accommodate the MSAG address format that varies almost by county. These multiple versions of MSAG add an additional level of complexity and delay the address validation process. With I2, the update lag could be reduced to 2-3 days because it would not be necessary to load ALI; however, MSAG validation would still need to be performed. To further expedite the location update process, Level 3 instead recommends geocoding the end user address and passing V &H coordinates and/or a postal address in order to minimize address validation timeframes and reduce the unnecessary complexities inherent in today's MSAG validation process.

3. The Commission Must Require LECs and MSAG Administrators to Take Actions to Facilitate Rapid E911 Deployment for VoIP, and Address Cost Recovery Issues.

Any requirement for accelerated E911 deployment must be accompanied by regulatory requirements imposed on the ILECs and others to facilitate the rapid expansion of all service providers' E911 footprints. To ensure timely implementation of E911 for fixed locations with geographically relevant telephone numbers, the Commission must:

- Require ILECs to provide facility access and trunks to selective routers, and to conduct PSAP testing, without an interconnection agreement or requiring codes to be open within the underlying rate centers;
- Require ILECs to provide access to the selective router and to install facilities and trunks within 60 days after a request;
- Require MSAG administrators to provide open access to the MSAG information template and rules for populating that template.
- Create a national registry of PSAP emergency access numbers that can be used to route non-geographically relevant calls (as well as for PSAPs to be able to transfer misrouted 911 calls that will inevitably result from non-geographically relevant and nomadic use); and
- Require PSAPs, to the extent they do not already do so to receive telematics and MSS calls, to provide a 10 digit emergency number to be used for failover in the event of primary trunking or Selective Router failure.

Furthermore, to ensure timely implementation of I2, the Commission must also:

- Require ILECs to permit conversion of existing trunks used for 911 (regardless of how ordered) to I2-capable trunks without early termination fees;
- Require ILECs or selective router administrators to disclose fully (within 5 days of a request or through an up-to-date website posting) how routing is performed within the selective router (e.g. by NPA-NXX or NPA-NXX-X) on a selective router-by-selective router basis; and
- Ensure that VoIP providers are permitted to derive and deliver end user location information according to a wireless, rather than wireline standard, and use wireless-based engineering standards to determine the size of trunks to the selective router; and
- Ensure that VoIP providers are permitted to supply their own routing and query keys.

Level 3 cannot emphasize enough how critical it is for the rapid deployment of E911 that providers such as Level 3 be able to obtain facility access and selective router trunks, and be able to conduct PSAP testing without an interconnection agreement. The process of getting an interconnection agreement by itself will preclude expanding E911 footprints beyond current areas within any 120-day implementation period.

Furthermore, it is also critical that Level 3 and other providers be able to order facilities and trunks without opening codes within the underlying rate centers. If the Commission were, for example, to require retail VoIP providers to implement E911 within 120 days, but also left in place existing industry requirements to open codes within underlying rate centers, numerous VoIP service providers would begin seeking 1000-blocks of numbers in each rate center in order to be able to open codes to start the facilities and trunk ordering process. This would run directly contrary to the Commission's number conservation and utilization policies.

Finally, it is important for the Commission to address cost recovery and liability issues. CLECs are permitted to recover E911 costs in only 12 states. This current situation is competitively unbalanced, and inhibits the development of alternative E911 coverage solutions for VoIP service providers. In addition, liability is a significant issue. Without a clear liability limitation, retail and wholesale VoIP providers may be reluctant to work on solutions for these vexing issues.

4. The Commission Lacks the Statutory Authority to Impose Strict Liability for VoIP E911 Implementation.

The Commission also lacks the statutory authority to impose strict liability deadlines for the implementation of E911 capability by VoIP providers. As the D.C. Circuit's stated in *Alliance for Cannabis Therapeutics v. DEA*, "[i]mpossible requirements imposed by an agency are perforce unreasonable."[6] The Ninth Circuit's decision in *Bunker Hill Co. v. EPA*,[7] further teaches that, when evaluating technical feasibility, "[t]he record must establish that the required technology is feasible, not merely *possibly* feasible."[8]

Courts have upheld an agency decision to hold an entity liable for failing to meet technically infeasible requirements only in cases in which Congress expressly imposes those requirements in statute. In *Edison Electric Institute v. EPA*,[9] for example, the EPA issued a rule relating to the storage of radioactive, hazardous wastes although it recognized that companies would not be able to comply with the standard. When various companies challenged the rule, relying on maxims that "'absurd' or 'impossible' results are to be avoided," the D.C. Circuit upheld the rule, relying on its view that "Congress has spoken to the precise question at issue" and had enacted "a highly prescriptive, technology-forcing statute."[10] Indeed, the court noted, "the fact that technology may not be able to keep up with timetables established by Congress

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6 930 F.2d 936, 940 (1991).

7 572 F.2d 1286 (1977).

8 *Id.* at 1301.

9 996 F.2d 326, 331 (D.C. Cir. 1993).

10 *Id.* at 334-336.

does not mean that courts are at liberty to ignore them, however burdensome the resulting enforcement."[11]

The FCC, however, cannot impose technology-forcing requirements in the absence of an express statutory mandate. Unlike the technically infeasible requirements upheld in *Edison Electric Institute*, Congress has not here enacted a specific, technology-forcing statute. Nothing in the Communications Act expressly authorizes the Commission to promulgate technology-forcing requirements for any technology, wireline, wireless, or IP. Indeed, in the case of wireless E911, when the FCC first adopted its Phase II E911 requirements in 1996, the Commission relied only on its general authority under sections 301 and 303(r) of the Communications Act. In the absence of such an explicit technology-forcing statute, the Commission cannot ignore technical feasibility as a legally sufficient reason to justify non-compliance.

Moreover, the 1999 enactment of the Wireless Communications and Public Safety Act, Pub. L. 106-81, did not expand the Commission's statutory authority to establish and enforce technically infeasible E911 requirements. Nothing in that Act established technology-forcing E911 requirements. To the contrary, the most relevant substantive provision of the Act, codified at 47 U.S.C. § 615, merely authorizes the FCC to "encourage and support" efforts to make E911 service widely available. That provision states that the Commission "shall encourage and support efforts by States to deploy comprehensive end-to-end emergency communications infrastructure and programs, based on coordinated statewide plans, including seamless, ubiquitous, reliable wireless telecommunications networks and enhanced wireless 9-1-1 service."[12] It concludes: *"Nothing in this subsection shall be construed to authorize or require the Commission to impose obligations or costs on any person."*[13] It is clear, therefore, that the Wireless Communications and Public Safety Act was not a technology-forcing statute similar to the one at issue in *Edison Electric Institute*, but instead Congress expressly chose in § 615 not thereby to authorize the Commission to impose further obligations or costs on any person – carrier or non-carrier.

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Please contact the undersigned if you have any questions.

Sincerely,

/s/

John T. Nakahata
Counsel to Level 3 Communications

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11 *Id*. at 337.

12 47 U.S.C. § 615.

13 *Id*. (emphasis added).