

**Before the
FEDERAL BUREAU OF INVESTIGATION
CALEA Implementation Section
14800 Conference Center Drive, Suite 300
Chantilly, Va. 20151**

In the Matter of:

**Implementation of Section 104 of the
Communications Assistance for Law
Enforcement Act: Telecommunications Services
Other Than Local Exchange Services, Cellular, and
Broadband PCS**

**COMMENTS OF
THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION**

The Telecommunications Industry Association (“TIA”)¹ respectfully submits these comments on the Bureau’s *Notice of Inquiry*² in this proceeding. TIA and its member companies look forward to working with the Bureau to establish reasonable capacity requirements for those “telecommunications carriers” not addressed in the Bureau’s previous *Final Notice of Capacity*.³

¹ TIA is a national, full-service trade association of over 900 small and large companies that provide communications and information technology products, materials, systems, distribution services and professional services in the United States and around the world. TIA is accredited by the American National Standards Institute (“ANSI”) to issue standards for the industry.

² Notice of Inquiry, *Implementation of Section 104 of the Communications Assistance for Law Enforcement Act: Telecommunications Services Other Than Local Exchange Services, Cellular and Broadband PCS*, 63 Fed. Reg. 70160 (December 18, 1998) (“Notice” or “NOI”).

³ Final Notice, *Implementation of Section 104 of the Communications Assistance for Law Enforcement Act*, 63 Fed. Reg. 12218 (March 12, 1998) (“Final Notice”).

I. Introduction

On December 18, 1998, the Bureau published its *Notice of Inquiry* in the Federal Register, indicating its intent to initiate a rulemaking to develop “law enforcement’s capacity requirements for services other than local exchange, cellular and broadband personal communications services (PCS).”⁴ Seeking input from telecommunications carriers and other interested parties, the Bureau solicited comments on how it should develop such capacity requirements.

TIA is pleased that the “FBI is committed to the consultative process and to maintaining an on-going dialogue with the telecommunications industry.”⁵ TIA’s members manufacture equipment for all of the communications and information service technologies listed in the Bureau’s *Notice*. For this reason, TIA’s members are particularly interested in the Bureau’s anticipated rulemaking. Hopefully, the Bureau will find the following comments helpful as it develops capacity requirements for those telecommunications carriers not addressed in its previous *Final Notice* for local exchange, cellular and broadband PCS telephony.

As the Bureau appropriately recognizes, the capacity requirements established in that *Final Notice* are not transferable to “other technologies.” Obviously, at a technical level, the types of technologies that the Bureau plans to consider in its anticipated rulemaking differ fundamentally from such traditional voice telephonies -- as well as each other. Moreover, the number of subscribers on wireline, cellular and broadband PCS telephony dwarfs that on other technologies. Traditional, terrestrial voice telephony carriers are, by far, the largest segment of the communications network. They are also, as the Bureau has repeatedly acknowledged, the

⁴ NOI, at 70160.

⁵ *Id.*, at 70162.

carriers upon which the overwhelming majority of wiretap orders are served and the carriers “of most immediate concern to law enforcement.”⁶ Therefore, applying the Bureau’s capacity requirements for these carriers to other technologies would greatly exceed law enforcement’s surveillance needs.⁷

For example, as discussed below, although the Mobile Satellite Service (MSS) industry anticipates enormous growth in the next several years, its current worldwide subscription is but a fraction of the number of subscribers on terrestrial voice telephony systems. The first operational Low Earth Orbit (“LEO”) MSS provider, for instance, has approximately 3,000 subscribers worldwide.⁸ Indeed, MSS systems are designed with the understanding that they will handle traffic loads that are considerably less heavy than cellular and broadband PCS systems. Applying the capacity requirements developed for wireline and cellular systems to MSS, therefore, would not only greatly exceed law enforcement’s surveillance needs, but might even exceed the total subscriber capacity of some of these systems. Thus, TIA endorses the Bureau’s appropriate decision to establish separate capacity requirements for those “telecommunications carriers” not addressed in its previous *Final Notice*.

⁶ Final Notice, at 12210; *Joint Comments by the U.S. Department of Justice and Federal Bureau of Investigation*, at 34, CC Docket No. 97-213 (filed on December 14, 1998).

⁷ Moreover, unlike wireless and wireline voice telephony, many of the communications services identified by the Bureau are not subject to the same surveillance orders. For example, many technologies are only subject to “communications interceptions” pursuant to Title III of the Omnibus Crime Control and Safe Streets Act. *See, e.g., Brown v. Waddell*, 50 F.3d 285 (4th Cir. 1995); Letter from Acting Assistant Attorney General Ann N. Harkins to the Honorable Henry J. Hyde (May 20, 1998). Thus, the capacity for pen registers and trap and trace devices incorporated in the Bureau’s *Final Notice* is inapplicable to many of these technologies.

⁸ *Agreement Solves Satellite Dilemma*, *Wireless Week*, 1 & 8 (February 1, 1999).

Of course, as the Bureau probably realizes, the other technologies that might be covered by its anticipated rulemaking differ from each other almost as much as they differ from traditional voice telephonies. The same differences in technology and in numbers of subscribers that prohibit the application of the Bureau's *Final Notice* also mandate that a separate capacity requirement be established for each covered technology. This is not to say that a common form of notice is not possible (*e.g.*, expressing law enforcement's requirements as a number of interceptions per switch or a number of interceptions per subscribers), but the actual requirements must be developed independently, conforming to each technology's historical data.

II. "Telecommunications Carriers"

Of course, which technologies the Bureau should consider in its anticipated rulemaking is not clear. As the Bureau is aware, the Federal Communications Commission -- pursuant to its authority under Section 102(8) of CALEA -- has initiated a rulemaking to determine which "telecommunications carriers" are covered by CALEA and, hence, which carriers must comply with the Act's capability and capacity requirements.⁹ The Commission has not yet issued its Order in this rulemaking.

In its *Notice*, the Bureau includes a list of "services" that it believes are covered by CALEA, "includ[ing], but are not limited to: traditional paging, two-way paging, narrowband PCS, mobile satellite services (MSS), specialized mobile radio (SMR) and enhanced specialized mobile radio (ESMR), national and multi-rate services, asynchronous transfer mode (ATM),

⁹ Notice of Proposed Rulemaking, *In the Matter of Communications Assistance for Law Enforcement Act*, CC Docket No. 97-213 (rel. on October 10, 1997).

X.25, frame relay, airplane telephony, and railroad telephony.”¹⁰ Until the Commission completes its rulemaking and determines which carriers are covered by CALEA, however, neither industry nor the Bureau will know with any certainty which (if any) of this rather odd collection of technologies are properly within the scope of the Bureau’s anticipated rulemaking.

A. ATM, Frame Relay and X.25

Perhaps the oddest items on the Bureau’s list -- at least in TIA’s opinion -- are ATM, X.25 and Frame Relay. Unlike many of the other services identified by the Bureau, ATM, X.25 and Frame Relay are not communications services. Instead, they are transport protocols. They may be used to transport communications services, but they can also be used to transport virtually thousands of other kinds of applications as well. In fact, these protocols are most frequently employed to transmit data and information services (like e-mail) that are exempt from the technical requirements of CALEA.¹¹ These protocols comprise the backbone of the Internet, which Congress took great care to ensure would not be affected by CALEA.

The appearance of these transport protocols in an ostensible list of communications services, therefore, seems out of place. In fact, even discussing ATM and Frame Relay with X.25 seems somewhat odd given that ATM and Frame Relay are two examples of lower layer transport protocols, partially defining the data link layer and physical layer (layers 2 and 1) of the Open System Interconnection (“OSI”) protocol “stack” structure defined by the International Organization for Standardization and the International

¹⁰ NOI, at 70160.

¹¹ *See, e.g.*, CALEA, §§ 102(8)(C)(i) & 103(b)(2)(A), 47 U.S.C. §§ 1001(8)(C)(i) & 1002(b)(2)(A); H. Rep. 103-827, at 18, 20-21 & 23-24 (1994) (“House Report”).

Telecommunication Union.¹² X.25, on the other hand, is a network layer protocol¹³ (layer 3 in the OSI stack) that is specified to operate on only certain physical media (such as ATM) and a specific link layer protocol -- the Link Access Procedure in a Balanced System protocol.

In the absence of a persuasive explanation as to why these transport protocols should be included within the Bureau's anticipated rulemaking, TIA would strongly urge the Bureau to remove these protocols from its proposed list of covered telecommunications carriers.

B. National and Multi-rate Services

TIA must also admit some confusion with the Bureau's inclusion of "national and multi-rate services" within the proposed scope of its anticipated rulemaking.¹⁴ TIA is not sure what "telecommunications carriers" the Bureau meant to include by the addition of this category. It is possible that the Bureau meant to distinguish between national, flat-rate service plans (like those offered by Sprint PCS, Bell Atlantic Mobile, and AT&T Wireless) and the more traditional, multi-rate pricing scheme employed by wireless voice telephony carriers; but that distinction seems completely irrelevant to law enforcement's capacity requirements. TIA would appreciate the Bureau's clarification.

¹² As the Bureau is certainly aware, layer 1 of the OSI model is the physical layer, layer 2 is the data link layer and layer 3 is the network layer. Both ATM and Frame Relay are specified to work on certain physical layers and, therefore, are often referred to as upper layer 1 protocols. However, the protocols are also partially link layer protocols (and, hence, are often referred to as lower layer 2 protocols).

¹³ X.25 is certainly not the only network layer protocol. Another frequently mentioned network layer protocol is the Internet Protocol ("IP").

¹⁴ NOI, at 70162.

C. Mobile Satellite Service

TIA's Satellite Communications Division ("SCD") provides the satellite industry with a technical forum for resolving issues that affect the industry's continued development, such as system interoperability and frequency spectrum allocation. The SCD includes two sections: the Communications and Interoperability Section and the Spectrum and Orbit Utilization Section. The SCD also sponsors Committee TR-34 (the Satellite Equipment and Systems Technical Committee), a TIA engineering committee accredited by ANSI to issue technical standards for the satellite industry.

TIA urges the Bureau to appreciate that mobile satellite services are vastly different than existing forms of terrestrial wireless voice telephony services (*i.e.*, cellular and broadband PCS). The Bureau will have to employ different methodologies and assumptions in establishing capacity requirements for MSS carriers than it used in its previous *Final Notice*.

First, as mentioned above, MSS have considerably smaller subscriber bases than terrestrial voice systems. While the mobile satellite service industry anticipates tremendous growth over the coming years, the unique market for these services (principally in regions where terrestrial telephony is not available or inconvenient) ensures that these services will always be a fraction of the subscriber base of terrestrial voice telephony. Moreover, a large majority of these subscribers are likely to be outside the United States (and, hence, will be immaterial for purposes of establishing capacity requirements).

MSS also differ dramatically from terrestrial voice telephony systems in their technical capacity. Mobile satellite systems are simply designed to carry smaller volumes of call traffic than most terrestrial wireless systems. Thus, applying capacity requirements developed

for cellular and broadband PCS systems (let alone local exchange systems) would overstate law enforcement requirements by perhaps several orders of magnitude.

For these reasons, TIA urges the Bureau to establish separate capacity requirements for MSS providers -- consistent with their relatively small subscriber base and limited traffic capacity. In defining these capacity requirements, the Bureau should establish nationwide requirements for the entire United States. As the Bureau probably already anticipates, metropolitan-area-specific capacity requirements -- along the lines of those adopted in the Bureau's *Final Notice* -- would be meaningless to satellite systems.

III. Separate Capacity Requirements for Communications Interceptions, Pen Registers, and Trap and Trace Devices

Section 104 of CALEA instructs the Attorney General to provide a “notice of the actual number of communications interceptions, pen registers and trap and trace devices . . . that the Attorney General estimates that government agencies authorized to conduct electronic surveillance may conduct and use simultaneously by the date that is 4 years after the date of enactment of this title”¹⁵ In its previous comments on the Bureau's *Initial* and *Second Notices* of capacity,¹⁶ TIA urged the Bureau to provide separate capacity requirements for each type of surveillance -- *i.e.*, “communications interceptions” pursuant to Title III or the *Foreign*

¹⁵ CALEA, § 104(a)(1); 47 U.S.C. § 1003(a)(1).

¹⁶ Comments of the Telecommunications Industry Association (filed on January 16, 1996) on Initial Notice, *Implementation of Section 104 of the Communications Assistance for Law Enforcement Act*, 60 Fed Reg. 53643 (October 16, 1995); Comments of the Telecommunications Industry Association (filed on March 15, 1997) on Second Notice, *Implementation of Section 104 of the Communications Assistance for Law Enforcement Act*, 62 Fed Reg. 1902 (January 14, 1997) (“TIA Second Notice Comments”).

Intelligence Surveillance Act,¹⁷ pen registers,¹⁸ and trap and trace devices.¹⁹ The Bureau ignored TIA's suggestions. It is important to industry that the Bureau, in initiating this anticipated second round of capacity requirements, not make the same decision. Instead, it should comply with Section 104's requirement and issue separate capacity requirements for each type of surveillance.

Different types of interception require very different technology and equipment for implementation. For example, a Title III intercept of the content of a communication will require a fundamentally different (and, in most instances, considerably more complicated) technical solution than a pen register intercept. Combining capacity into one requirement for all surveillance types greatly complicates industry's implementation of that capacity requirement. It also overstates law enforcement's requirements -- especially for the less frequent Title III order - - impacting both the cost and complexity of technical solutions.²⁰

IV. Capacity Requirements Should Conform to Annual Reports

As the Bureau is aware, one of the reasons its previous *Final Notice* received so

¹⁷ *Omnibus Crime Control and Safe Streets Act*, Title III, Pub. L. 90-351, 82 Stat. 212 (1968), *codified at* 18 U.S.C. § 2510, *et seq.*; *Foreign Intelligence Surveillance Act*, Pub. L. 95-511, 92 Stat. 1783 (1978), *codified at* 50 U.S.C. § 1801, *et seq.*

¹⁸ *Electronic Communications Privacy Act*, Title III, Pub. L. 99-508, 100 Stat. 1686 (1986), *codified at* 18 U.S.C. § 3121, *et seq.*

¹⁹ *Id.*

²⁰ In its comments on the Bureau's *Second Notice*, TIA explained that an aggregated capacity requirement not only complicates technical implementation, but also forces industry to design and develop to the worst case scenario (hence, increasing the cost of implementation). TIA Second Notice Comments, at 9.

much criticism²¹ is because, in estimating “actual” and “maximum” capacity requirements, the Bureau greatly exceeded historical usage as reported in the annual reports required by each surveillance act. The most detailed of these reports is the Annual Report prepared by the Administrative Office of the United States Courts.²² Pursuant to 18 U.S.C. § 2519, the Administrative Office is required to transmit to Congress each April “a full and complete report concerning the number of applications for [Title III] orders authorizing or approving the interception of wire or oral communications and the number of orders and extensions granted or denied during the preceding calendar year.” The *Foreign Intelligence Surveillance Act* and the *Electronic Communications Privacy Act* contain similar reporting requirements.²³

Several additional years of annual reports have been published since the Bureau issued its *Initial Notice of Capacity* in 1995. In establishing “actual” capacity requirements for a specific communications service, the Bureau should rely on the number of surveillance orders involving that technology as reported in these annual reports. Similarly, in anticipating the “maximum” capacity for a particular technology, TIA strongly urges the Bureau to conform its

²¹ See, e.g., *FBI Wants Advanced System to Vastly Increase Wiretapping*, The New York Times, A1 (November 2, 1995).

²² Administrative Office of the United States Courts, *Annual Report of the Director of the Administrative Office of the United States Courts on Applications for Orders Authorizing or Approving the Interception of Wire, Oral or Electronic Communications: January 1 through December 31, 1997* (rel. on April 1998).

²³ 18 U.S.C. § 3126 (“The Attorney General shall annually report to Congress on the number of pen register orders and orders for trap and trace devices applied for by law enforcement agencies of the Department of Justice.”); 50 U.S.C. § 1807 (“In April of each year, the Attorney General shall transmit to the Administrative Office of the United States Court and to Congress a report setting forth with respect to the preceding calendar year -- (a) the total number of applications made for orders and extensions of orders approving electronic surveillance under this chapter; and (b) the total number of such orders and extensions either granted, modified or denied.”).

estimate of future capacity growth to the actual, historical growth (or reduction) in surveillance orders for that technology as witnessed in the annual reports available since 1995. Hopefully, this additional data will assist the Bureau in establishing capacity requirements that conform to past experience (and avoid the criticism leveled at the Bureau's original capacity requirements).

Indeed, in the absence of a capacity notice, many members of industry have used recent annual reports in making assumptions about capacity requirements while developing capability solutions. As TIA previously advised the Bureau, although there is a legal distinction under CALEA between capacity and capability, from a development perspective the two are inextricably intertwined.²⁴ Capacity requirements are absolutely fundamental to any capability development effort. Numerous decisions, pivotal to the design process, are likely to be affected by capacity requirements. As a result, the absence of capacity requirements presents an enormous obstacle to designing CALEA capability solutions. In order to avoid this obstacle and make general capacity assumptions as part of the design process, industry has used the most detailed information available to the public -- the Administrative Office's Annual Report. Obviously, if the Bureau's final capacity notice greatly deviates from this historical information, manufacturers may be forced to restructure their capability solutions.

V. "Accommodate Expeditiously"

In its *Notice*, the Bureau solicited "suggestions for the appropriate length of time to be designated for incremental expansion to the maximum capacity."²⁵ The Bureau previously defined this length of time to be five business days for local exchange, cellular, and broadband

²⁴ TIA Second Notice Comments, at 16.

²⁵ NOI, at 70161.

PCS carriers.²⁶ TIA respectfully disagrees with the Bureau's interpretation of "expeditious" and encourages the Bureau to use its anticipated rulemaking to adopt a more practical period of time.

In drafting Section 104, Congress distinguished between "actual" and "maximum" capacities, explaining that

The maximum capacity relates to the greatest number of intercepts a particular switch or system must be capable of implementing simultaneously. The initial capacity relates to the number of intercepts the government will need to operate upon the date that is four years after enactment.²⁷

Given this distinction, it is unlikely that Congress intended that telecommunications carriers be required to expand from actual to maximum capacity in as little as five days. Instead, TIA views Section 104(b)(2)'s use of the term "expeditiously" as a general admonition that carriers act "promptly and efficiently."²⁸

Obviously, the amount of time carriers would require to upgrade their equipment depends on the difference between the Bureau's "actual" and "maximum" capacity requirements and, hence, what type of modifications are required on the provider's equipment. For example, if the difference is relatively small, so as to require only installation of minor hardware modifications, the ordering, installation and testing of the new equipment could probably occur in as few as 45 days. However, if the required upgrade were more complicated -- requiring installation of additional equipment -- ordering, installation and testing could easily require up to 90 days. Under either paradigm, as a practical matter, five days is an unreasonably short interval for carriers to modify their equipment -- especially, if the difference between the Bureau's

²⁶ Final Notice, at 12219.

²⁷ House Report, at 25 (emphasis added).

²⁸ *Merriam Webster's Collegiate Dictionary*, 480 (10th ed. 1996).

“actual” and “maximum” requirements were substantial. Instead, TIA suggests that telecommunications carriers should be given at least 45 to 90 days to expand to maximum capacity. These time frames are more consistent with actual practice and will typically provide carriers sufficient time to order and install any upgrades necessary to assist law enforcement.

VI. Conclusion

TIA looks forward to working with the Bureau to establish reasonable capacity requirements for those “telecommunications carriers” not addressed in its previous *Final Notice of Capacity*. Hopefully, the comments filed in this proceeding will assist the Bureau in its task.

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