

VOICE OVER IP (VOIP) AND ACCESS TO EMERGENCY SERVICES: A COMPARISON BETWEEN THE UNITED STATES AND THE UNITED KINGDOM

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Regulatory experts tend to think of the United States as the bastion of market-based *laissez-faire* telecommunications economics and regulation, and conversely to think of European regulators as being notably more willing to intervene in markets. Recent regulatory rulings relating to access to emergency services¹ via voice over IP (VoIP) show the United States to be surprisingly interventionist and the United Kingdom, by contrast, to be far more liberal and temperate. What are the elements of similarity and of difference between these U.S. and U.K. policies?

THE UNITED STATES

In an order issued in May 2005, the FCC required all VoIP providers that are interconnected with the *public switched telephone network* (PSTN) to provide enhanced E-911 services [1]. This is a rather stringent standard — while basic 911 services merely require connection to the appropriate public service access point (PSAP), E-911 requires that the user's callback number and, in general, location be accurately reported to the PSAP. The interconnected VoIP providers are effectively required to route 911 calls through the wired E-911 network.

The order notes that “... [c]onsumers in many cases may not understand that the reasonable expectations that they have developed with respect to the availability of 911/E911 service via wireless and traditional wireline telephones may not be met when they utilize interconnected VoIP services [2].” It mandates that E-911 service be provided for all users. Users need not opt-in; moreover, they cannot choose to opt out of coverage [3].

The order acknowledges that location cannot be reliably determined for “nomadic” VoIP services. (This nomadicity presents a key challenge: many VoIP users are able to attach their terminal adapter to any broadband connection, thus moving their service and their telephone number to a different location. The automated systems that provide access to emer-

gency services do not generally anticipate that wired telephones might move.) The order requires that the user register a location; in general, the first address at which service is provided. The provider must also enable the user to enter a new location; however, the order does not specify the timeframe in which the update must take effect.

Providers of interconnected VoIP are given only 120 days to implement E-911 access via the wired E-911 network.² For providers of nomadic VoIP service, this represents an apparently insurmountable hurdle. They would need access to the wired E-911 service throughout the entire United States, implying the need for contractual agreements, and physical and logical interconnection with a large number of incumbent carriers,³ none of whom are under any legal obligation to provide it.⁴ By obliging new entrants to use these incumbent facilities, without creating any corresponding obligation for incumbents to provide them, the FCC has virtually guaranteed hold-up problems and non-price-based discrimination.

² *FCC initial guidance regarding implementation was strikingly harsh — providers who failed to fully comply within 120 days were threatened with fines, cease and desist orders, and revocation of any FCC licenses (FCC, “E911 Requirements for IP-Enabled Service Providers,” §51). The FCC guidance issued November 7, 2005 does not mandate disconnection of existing customers, but still requires that the provider discontinue marketing the service or accepting new customers wherever the service is not fully in compliance. The rules for notification of existing customers within 30 days show a similar pattern of a Draconian initial order, followed by some slight softening once it became clear that the order was harsh to the point of being unenforceable.*

³ *See the letter from Richard Rindler to Marlene Dortch, “Joint Motion for Limited Stay, WC Docket Nos. 05-196 and 04-36,” October 24, 2005. No third party offers a fully compliant nationwide service.*

⁴ *VoIP providers are not necessarily classified as carriers. They have no legal rights to interconnection, other than to tariffed services available to customers.*

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A SPECIFIC CONCERN

Access to emergency services is incredibly important. This cannot be stated too strongly. To that extent, one can admire the FCC's activism; nonetheless, many aspects of the FCC's order are troubling.

Consider, for example, the requirement that the user-reported “physical location at which the service will first be utilized” be registered for emergency access purposes. This is appropriate — if the user's location cannot be reliably ascertained in any other way, the user must self-report; however, the order fails to come to grips with the obvious problems with this approach. First, there is the risk that the user incorrectly reports his location. Second, there is the risk that the user neglects to report a changed location, or reports it incorrectly. Third, there is the matter of the time lag between report and database update.⁵

Beyond this, some VoIP providers are unable to guarantee the reliability of the underlying IP transmission network for the simple reason that they do not provide the network.

All of this leads ineluctably to a conclusion that seems to have been obvious to the Europeans from the outset: however much VoIP may look like normal telephony, there are real differences.⁶

⁵ *This last is discussed but not resolved in §43 of the FCC's order.*

⁶ *At least, for some forms of VoIP.*

¹ *911 in the United States, 112 or 999 in the UK.*

And the user must inevitably accept some responsibility for using a service that is not absolutely identical to conventional telephone service.

In this sense, the FCC's insistence that VoIP completely meet the "reasonable expectations that [consumers] have developed" is wrong-headed. These expectations are no longer reasonable. Consumers ultimately need to understand that they are dealing with a significantly different service.

This is not merely a matter of the FCC institutionalizing the buggy whips of the previous generation — although it is that, too. The more serious concern is that if consumers fail to appreciate the changed nature of these new services, a range of failure modes are inevitable. To the extent that this "feel good" ruling contributes to unrealistic consumer expectations, it puts lives and property needlessly at risk.

THE EUROPEAN UNION

The United Kingdom is a Member State of the European Union; its regulation operates within the European regulatory framework. Two major policy statements have emerged at the overall European level: one from the European Commission, and the other from the European Regulators Group (ERG).⁷

The Commission's public consultation on VoIP [4] recognizes the social value of efficient and effective access to emergency services. In European regulation of electronic communications, access to emergency services is viewed as comprising two distinct capabilities[5]:

- The automatic establishment of a connection (at no charge to the user) to the most appropriate service access point (ambulance, police, and fire service).
- The ability of the service access point personnel to determine the street address of the caller with sufficient accuracy to enable the dispatch of ambulance/fire/police.

⁷ *The European Union (EU) comprises 25 Member States, including the United Kingdom, France, Germany, Italy and Spain. The European Commission could be viewed as the Executive Branch of the European Union — it thus has overall responsibility for coordinating implementation of the European regulatory framework for electronic communications. The European Regulators Group (ERG) comprises the National Regulatory Authorities (NRAs) of the 25 Member States, plus the European Commission. The ERG seeks to harmonize regulation across the EU.*

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The Commission's public consultation notes the importance of encouraging access to emergency services, but at the same time observes that the technology to meet these needs efficiently and reliably for "nomadic" VoIP users does not yet exist [6].

At a philosophical level, the ERG's Common Position on Voice over IP speaks of the need to "... adopt a regulatory approach ... which will enable the greatest possible level of innovation and competitive entry in the market, whilst ensuring that European citizens are adequately protected. In particular this should mean that any regulatory obligations on VoIP services are objective, technology neutral, non-discriminatory and transparent."

It reaches these specific conclusions about access to emergency services:

- "Access to Emergency services is extremely important for citizens, irrespective of how a voice service may be classified for legal and regulatory purposes.
- From a public policy point of view it is desirable that access to emergency services is available from as wide a range of electronic communications services as possible.
- VoIP emergency calls from fixed or otherwise known locations should be routed to the nearest emergency centre on the basis of the contractually agreed physical address. ...
- When calling the emergency number, caller location information should be provided to the extent technically feasible.
- In those cases where the caller location cannot be determined by the VoIP provider (most likely in the case of nomadic use of VoIP services), the end-user should be clearly and unambiguously informed by the VoIP provider about any restrictions

in routing emergency calls and providing caller location information and the potential consequences."

The ERG rejects the notion that VoIP services should necessarily be regulated just as traditional services were. "The ERG believes that if European citizens are to realise the full benefits of these innovations it is essential that European citizens are empowered to make informed choices about services and should be given the freedom to choose services that differ from traditional telephone services."

THE UNITED KINGDOM

Ofcom, the U.K. regulatory authority, has just produced a new ruling on VoIP [7]. In it, Ofcom described its objectives as "... (in so far as is possible) (i) enabling innovation in a technological neutral way, (ii) ensuring consumers are well informed, and (iii) ensuring maximum availability of [emergency] services [8]."

Ofcom's order recognizes that there are a wide range of VoIP offerings in the marketplace, and that consumers benefit from a wide range of choices [9]. They seek to avoid distorting the marketplace by favoring one solution over another. At the same time, there are real differences among the offerings — access to emergency services is easier to achieve with some offers than with others. They carefully refrain from requiring service providers to do things that they simply cannot do.

For VoIP-based providers of *publicly available telephone services* (PATS), Ofcom has announced its intent to enforce PATS obligations, including an access requirement for emergency services, beginning some six months hence; however, not all VoIP providers are PATS. To the extent that a VoIP service does not provide the access to emergency services that would be expected of a traditional voice service, Ofcom looks to the provider to inform and educate the consumer.

Ofcom convened a working group of stakeholders to determine best practices as regards information for VoIP users. "The group agreed that not all voice services will raise the same concerns and issues for consumers (since some services may fully or partially meet consumer expectations more easily than others). For this reason the group was clear that a one-size-fits-all code of practice was not appropriate. Instead, the group concentrated on developing principles and practical measures, in the format of a code, which providers could use to ensure their consumers are clearly informed of

the differences between traditional and VoIP services.” Ofcom is imposing this code of conduct on all providers of voice services to the public.

Ofcom also considered a range of related issues, including network reliability. In a carefully crafted decision, they removed inappropriate obligations for network reliability from providers who could not reasonably achieve them (e.g., service providers who do not operate a network). Instead, they chose “...to encourage adoption of a formal risk assessment methodology, which considers which are the most likely failure modes of the service, and takes whatever steps might reasonably be taken to mitigate the risks associated with these failure modes. The aim is to promote a responsible approach to network integrity issues, but without specifying the precise solution [10].”

COMPARISONS

The U.S. and U.K. rulings may appear to be superficially similar, and in fact contain common elements; nonetheless, they are in reality poles apart.

The European approach, as exempli-

fied by the U.K. and ERG proceedings, is that consumers must be free to make an informed choice of services that differ from those available today.⁸ The U.S. position is in effect to mandate traditional services, and to preclude consumer choice.

The European position embraces consumer education. The U.K. ruling places consumer rights and consumer education front and center — they even went so far as to conduct market research and focus groups. The FCC’s order buries it in §§48–49.

To the extent that VoIP functions differently from traditional telephony, the FCC treats the differences as a defect. In fact, these very differences can dramatically enhance consumer welfare, and can foster new emergency response capabilities [11]. The nomadicity that interferes with emergency access is the very property that made VoIP

⁸ Section 6.1 (quoting from Ofcom’s 2004 ruling): “It is not desirable for all voice services to be required to offer the same features as traditional telephone services and we should instead enable consumers to make informed decisions.”

As VoIP gains in popularity, all countries will confront these issues. Ofcom’s ruling provides appropriate signposts going forward.

phones invaluable to New York City during the days and weeks following September 11, 2001. The New York City government capitalized on the flexibility provided by VoIP phones in replacing the emergency center that was lost when the World Trade Center collapsed.

CONCLUDING REMARKS

As VoIP steadily gains in popularity, all countries will confront these same issues. It is the Ofcom ruling that provides appropriate signposts going forward. Regulation should serve to:

- Impose reasoned and proportionate mandates, on realistically achievable schedules, where solutions are straightforward
- Make systematic progress in dealing with issues such as nomadicity that are not straightforward
- Avoid needless regulatory barriers to competitive entry, innovation, and consumer choice
- Ensure that consumers are informed and educated and about the implications of dealing with services that are profoundly different from those that existed in the past, and thus enabled to make informed decisions

REFERENCES

- [1] FCC, “In the Matters of IP-Enabled Services/ E911 Requirements for IP-Enabled Service Providers,” June 3, 2005.
- [2] *Ibid.*, §48.
- [3] *Ibid.*, §47.
- [4] “The Treatment of Voice over Internet Protocol (VoIP) under the EU Regulatory Framework,” June 14, 2004, pp. 13–15.
- [5] EU, “Universal Service Directive,” doc. L 108/51, Apr. 24, 2002, article 26.
- [6] “The Treatment of [VoIP],” *op. cit.*, p. 14.
- [7] “Regulation of VoIP Services: Statement and Further Consultation,” Feb. 22, 2006.
- [8] *Ibid.*, p. 14.
- [9] *Ibid.*, Sec. 2.26, p. 8.
- [10] *Ibid.*, Sec. 4.22.
- [11] S. Crawford, “The Ambulance, The Squad Car, and the Internet,” Berkeley Tech. L.J., forthcoming.

BIOGRAPHY

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