



2147 Route 27
Edison, NJ 08817
www.vonage.com

RESPONSE TO CONSULTATION DOCUMENT

OFCOM'S CONSULTATION DOCUMENT: NEW VOICE SERVICES, A CONSULTATION AND INTERIM GUIDANCE

15th November 2004

Comments or inquires regarding this document should be directed to Brooke Schultz at brooke.schultz@vonage.com or Chris Murray at chris.murray@vonage.com

Vonage Holdings Corp. (“Vonage”) is pleased to submit comments to Ofcom in the above-mentioned proceeding. Vonage is the leading US-based Voice over Broadband (“VoB”) provider with more than 300,000 “line equivalents.” Although Vonage offers its service to residents in the United States and Canada, the service is mobile and can be used in any country with broadband access. Vonage recently expanded its residential services into Canada and plans to offer its services in various other countries, including the United Kingdom and certain other European Union (“EU”) Member States. Vonage already offers international calls to its customers for as low as two cents per minute. For more information about Vonage’s products and services, please visit www.vonage.com.

Vonage is pleased that Ofcom is engaged in further efforts to clarify the United Kingdom’s regulatory framework applicable to VoB. Vonage has provided detailed answers to all of Ofcom’s questions contained in the Consultation. While Vonage believes that there are many important issues being addressed in the Consultation, Vonage would like to emphasize the Company’s concerns relating to number portability, network integrity, emergency services and other obligations that are imposed on providers of PATS.

Vonage commends Ofcom for recognizing that due to inherent technological differences associated with the underlying technology used to provide VoB services, certain requirements imposed on PATS operators cannot be offered by VoB providers, nor as a policy matter should VoB providers be required to do so. As detailed herein, Vonage believes that the competitive marketplace will deliver to VoB customers functionalities and features available from PATS providers and has already resulted in providing consumers with functions and features that are not available from traditional providers of telephone service. Nevertheless Ofcom could adopt policies that impede competition and frustrate the adoption of VoB services in the United Kingdom. Specifically, Vonage maintains that Ofcom must allow all providers of communications services to take advantage of number portability. To shelter traditional telephone companies from true competition by prohibiting VoB providers to utilize number portability will not serve the public interest. Vonage provides detailed analysis for this position herein.

VONAGE’S ANSWERS TO OFCOM’S QUESTIONS

Question 1: What types of new voice services do you envisage becoming available in the future and what characteristics will they have that distinguish them from traditional voice services?

ANSWER:

The types of new voice services Vonage sees becoming available in the future are already being developed and offered by Vonage. Vonage is a leader in the VoB industry, providing a form of VoB service that enables customers with broadband Internet connections and specialized Customer Premises Equipment (“CPE”) to communicate without using a telephone line. This distinguishes Vonage’s services from many VoB services that are already available in the United Kingdom. Vonage’s service permits intercommunication between the incompatible protocols used on the Internet and on the Public Switched Telephone Network (“PSTN”). Vonage’s service is an Internet offering that, like e-mail, instant messaging, Internet conferencing, and other as yet

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

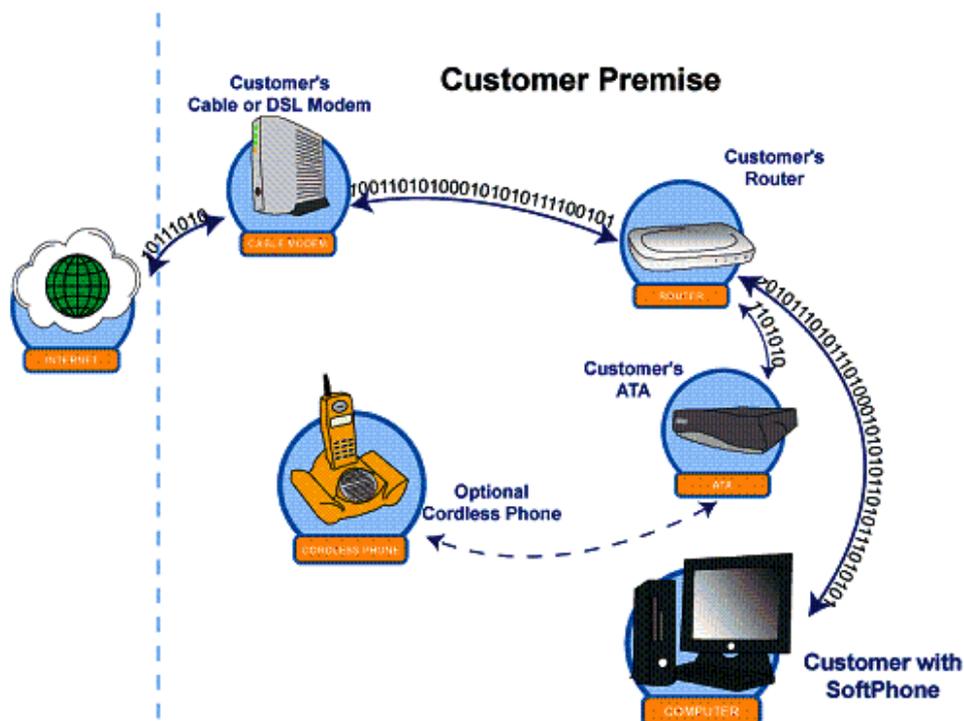
Page 2

undreamed of services, permits customers to communicate over the Internet. Although it resembles traditional telephone service in some respects, it has crucial technical and functional differences.

First, unlike some other services that rely on Internet Protocol transmission, Vonage customers cannot access Vonage's service by "dialing in" over the PSTN. Vonage customers can only access the service over a high-speed Internet connection provided by a third party telecommunications carrier, satellite or cable company. Because the Vonage service is accessed over the Internet, it can be used anywhere a broadband Internet connection is available. Thus, Vonage's customers may use their service virtually anywhere in the world so long as they have access to a broadband Internet connection. Further, the physical location of users on the Internet cannot be accurately determined, as a technical matter, so it is impossible for Vonage to identify the point of origin or termination of traffic on its network.

Second, Vonage's service requires customers to purchase special equipment, namely a computer device. Vonage customers must subscribe to a broadband Internet access service, and then install compatible computer equipment that encodes audio signals as digital packets (or vice versa) and transmits and receives those packets over an Ethernet connection. Most Vonage customers use a specialized computer called a Multimedia Terminal Adapter ("MTA"), which although it has a standard telephone jack connection, contains a digital signal processing unit that performs digital-to-audio and audio-to-digital conversions. Although a customer can connect conventional analog telephone sets to the MTA computer for use with Vonage's service, a conventional telephone will not work with Vonage's service unless it is both connected to the special Computer MTA and a broadband connection. Some Vonage customers do not use the MTA or any traditional telephone equipment. These subscribers use "native IP phones," which include a digital signal processing unit in an integrated device—such a device can only be used with a broadband Internet connection, as it is not compatible with the PSTN. Still other users may not use any telephone handsets at all, but configure their personal computer equipment so that the microphone and speakers attached to the computer are used as the audio input and output, using a software application on the computer to perform the digital-to-analog conversion. Vonage is also testing the compatibility of its service with Personal Digital Assistant ("PDA") devices and WiFi-enabled phones. In short, Vonage's network processes IP packets, regardless of what devices are used to encode or decode the audio content contained in those packets.

Once the Vonage customer has installed and configured their computer equipment and the requisite software, the customer can place and receive "calls" to anyone with a telephone number (including other Vonage customers) by establishing a connection over the Internet to a Vonage server. A typical Vonage user's equipment configuration is represented in the figure below:



Third, Vonage performs a net protocol conversion from IP to TDM on Vonage to PSTN communications, and from TDM to IP on PSTN to Vonage communications. This conversion permits users of broadband Internet connections to communicate with users of the PSTN. Vonage users can initiate and receive communications to and from PSTN users. Vonage's service uses computerized media gateways that provide an interface between the Internet and the PSTN, including protocol conversion between the incompatible digital formats used by these two networks; and computer servers that process set-up signaling and route packetized data between the media gateways and other points on the Internet. Vonage does not provide either Internet access or telecommunications services. Rather, the distinguishing characteristic of the Vonage service is the conversion of data to permit communication between users of the Internet and users of the PSTN.

Packets sent by the customer's MTA or other computer are routed over the public Internet to Vonage's servers. There, if the communication is destined to a station on the PSTN, Vonage converts the information received in the IP packets to a TDM digital signal, and obtains a connection to the PSTN station using the services of an unaffiliated common carrier. If, however, the transmission is to be connected to another Vonage user, then it is not converted to a TDM signal, and instead the Vonage server routes a new set of IP packets to the second user. Vonage-to-Vonage "calls" never travel over the PSTN, and thus constitute purely "computer-to-computer" communications.

Fourth, Vonage associates each of its customers with one or more telephone numbers. The telephone number associated with the Vonage customer is not tied to the customer's physical location. Rather, the telephone number is mapped to the digital signal processor

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 4

contained in the customer's computer, enabling Vonage to identify and serve that customer over any broadband Internet connection in any country.

Question 2: What are the main policy challenges raised by the introduction of new voice services for consumer protection and regulation?

ANSWER:

Ofcom's consultation document already has identified a number of policy challenges that Ofcom, and regulators throughout the world, face as they grapple with the treatment of new voice services such as VoB. It is Vonage's belief that all regulators should proceed cautiously in developing a regulatory framework for VoB services. Regulations should be closely tailored to meet specifically defined goals in the most unobtrusive manner as possible. At the same time, Ofcom must ensure that the incumbents who control most of the broadband lines, do not unfairly use their market power to push competitors out of the VoB market, for instance by price gouging, unfair tying of VoB and broadband services, and denying or delaying VoB providers access to the incumbent's broadband end user connections. Therefore, one of the biggest policy challenges Ofcom faces in addressing VoB services is in developing a willingness to wait and see if the industry and the marketplace are able to realize important social policy objectives rather than imposing regulation in an unnecessary and premature manner.

For instance, many regulators rightly view access to communications services by people with disabilities to be an important social goal. Vonage too believes that individuals who have disabilities should have full access to the range of developing technologies. However, immediate mandates in this area for new VoB services may prove counterproductive. Right now VoB technology and deployment are in the early stages, but VoB providers fully anticipate software solutions will be found to disability-related obstacles to service. Given the flexibility of software solutions, Vonage anticipates that VoB providers will ultimately be able to offer greater functionality than the traditional legacy systems. If the solutions are driven by set regulations, though, and not the creative minds of the industry, the ultimate solutions may not be as innovative and technological advancement could be forestalled.

Inappropriate regulation will act as an impediment to continued innovation of VoB services and the development of "killer applications" that will entice subscribers who currently have access to broadband Internet access facilities but do not see the benefit in purchasing such services.¹ Recent market analysis prepared by investment bankers suggests that light regulation of VoB services helps increase broadband penetration rates. For instance, in 2003, broadband penetration rates increased 5.7% in the United States where VoB services are not regulated at the federal level.² According to one investment firm "VoB will add fuel to the broadband fire, helping to drive [broadband] penetration over time."³ The report expresses concern, however,

¹ Matt Richtel, *In a Fast-Moving Web World, Some Prefer the Dial-Up Lane*, N.Y. TIMES, April 19, 2004, at A1.

² Merrill Lynch, *Everything Over IP: VoIP—and Beyond*, at 1 (March 12, 2004).

³ *Id.*

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 5

that inconsistent rules or a protracted period of uncertainty, could impede broadband penetration.⁴

Question 3: Do you agree with the initial top level aims identified by Ofcom?

ANSWER:

Ofcom identifies as its initial top level aims: 1) to help create an environment in which new technologies can be developed successfully in the market, so that consumers can benefit from a wider and more innovative range of services; 2) to ensure that consumers are properly informed and protected in relation to the products they are using; and 3) to limit the extent to which regulation creates distortions in the market. In general, Vonage believes that these are important goals for any regulator to have. However, Vonage is concerned about the process of implementing them. In particular, Ofcom's goal to ensure consumers are properly protected in relation to the products they are using could have negative effects on innovation and the marketplace depending on how much "protection" Ofcom determines consumers need, particularly from unwise choices they themselves might make. Therefore, as detailed below, Vonage urges Ofcom to exercise caution in implementing regulations for the sake of "consumer protection" that might not be necessary. Vonage includes as Attachment 1 a copy of the Terms of Service that customers receive in the United States. Similar, but customized Terms will be developed prior to any entry into the United Kingdom market. The terms and conditions that Vonage establishes in the United Kingdom will conform with all regulations and laws applicable to the Company.

Questions 4 and 5: Are there other aims and criteria that Ofcom should consider? Are there other key policy questions that Ofcom should be considering?

ANSWER:

The introduction of VoB services, and the attendant policy debates as to how to regulate them, has brought into focus the inadequacy of the current regulatory structure to address the realities of these services. Therefore, as Ofcom embarks upon drafting a new regulatory structure, it should also establish as one of its policy goals a willingness to see beyond the traditional telecommunications regulatory structure, and instead adopt an approach that recognizes the realities of the new technologies and services available in the marketplace. In particular, Vonage urges Ofcom to pursue a regulatory structure that eschews the traditional way of defining the market by looking at the service attributes only, and instead create a regulatory regime that focuses on the technology used. As demonstrated below, technology plays a key role in defining what services a VoB provider can offer, and therefore on a practical level what regulatory obligations it can comply with. Therefore, Ofcom must adapt its regulatory requirements such that they take into account the technology, otherwise they will kill the service in its infancy.

⁴ *Id.* at 2.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 6

Further, regulation is appropriate to regulate markets that are distorted either because certain market players are able to exert power over the marketplace such that competition is no longer the governing force, or to protect externalities, such as social goods, that the marketplace may not deliver if left to its own devices. Accordingly, Vonage believes that any regulatory rubric that does not factor in the economic structure of a particular market will distort rather than enhance its operation. For this reason, the “layered” approach to regulation is superior to all other methodologies.

To be sure, there are many important social policy objectives that should be preserved. Although Vonage maintains that at this point in the development of VoB services there are few areas in need of regulation, if regulatory intervention is determined necessary, Ofcom should try not to shoehorn VoB services into a preexisting regulatory scheme. It is not necessary to apply traditional circuit-switched common carrier regulation to VoB services in order to achieve social goods. Regulations should be narrowly crafted to achieve the relevant public policy goal with primary emphasis placed on free market forces to discipline market participants.

It is also much more practical to adopt a layered approach when considering the appropriate regulatory framework for VoB services. VoB applications and the networks used to deliver them are developing at a dizzying pace. Any attempt by Ofcom to classify and regulate each set of applications that meet certain criteria is doomed to failure both because of the time it takes for any regulatory body to make factually-intensive decisions and because of the ability of network and software designers to create new architectures and applications that take advantage of the “old” rules. Based on the inefficiency and irrationality of other potential regulatory frameworks, coupled with the inability of regulators to timely and successfully classify VoB applications, Vonage recommends that Ofcom set as a policy goal the creation of a layered approach to regulating VoB services.

The dawn of the Internet age has challenged traditional regulatory models as any network can be used to deliver a plethora of services. For example, coaxial cable can be used to deliver video, sound, broadcast, file-sharing applications, e-mail, and other services and applications, as can the Public Switched Telephone Network (“PSTN”), or satellite spectrum. Increasingly, any and all applications can run on any and all of these physical mediums. As such, the horizontal approach to regulation is doomed to fail in a marketplace where the Internet and broadband make convergence not only possible, but increasingly, the norm. Rather than regulate based on the application or the physical medium the application was traditionally associated with, Ofcom should instead adopt a layers-based approach.

Vonage recommends that Ofcom adopt a layered approach to regulation that recognizes four layers: (i) content (the actual information transmitted like voice or writings); (ii) applications (the nature of the service provided like video or voice); (iii) logical network (Internet protocol, special access, DSL, etc.), and; (iv) physical network (copper, fiber, coaxial, etc.). By adopting a layered approach to regulation, Ofcom can specifically target different types of regulation to distinct layers. For example, economic regulations should be targeted at the physical and logical layers that are subject to control by firms with market dominance. In the current marketplace, the logical and physical networks are controlled by a

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 7

few firms that provide last mile connectivity. Ofcom therefore should narrowly tailor regulations that prohibit such firms from using their control over bottleneck facilities to engage in unfair practices in order to obtain market share in content and application layers.

On the application layer, VoB services should generally be subject only to regulations that are necessary to protect social goods in the absence of market forces that induce such behavior.

Data Protection Concerns. Finally, Vonage believes that Ofcom, in close cooperation with the U.K. Information Commissioner, should use this proceeding to address some key concerns with implementation of EU data protection requirements. Vonage greatly appreciates the tremendous work that the U.K. has done over the more than a decade to protect citizens' personal data, in particular through the U.K. Data Protection Act. The U.K. should continue to play an active role, in close cooperation with the EC, to harmonize the approach of the EU Member States. Safeguarding the privacy of its customers is a key concern of Vonage. While Vonage acknowledges and respects that the data protection laws in each Member State are different, Vonage has urged the EC to harmonize and clarify the data protection rules that apply to VoB, in particular those governing the transfer of personal data across the border. Vonage in turn urges Ofcom to work with the EC to harmonize its data protection laws with the other Member States.

This Ofcom proceeding raises a number of issues that Vonage is concerned about:

(a) Traffic and Customer Data Retention

Unified rules for data retention throughout the EU are a must for international VoB services to flourish. While the length and scope of EU-wide data retention requirements is certainly debatable, Vonage applauds the initiatives at the EU Council that the United Kingdom and other Member States have launched to provide for EU-wide directly enforceable retention periods.⁵ These rules, once they are adopted, will provide for more legal certainty in this sector.

(b) EU- Wide VoB Customer Data Bases

VoB providers should be able to operate centralized customer data bases for traffic and customer data, instead of being forced to install and operate separate data bases for each country, which are costly and difficult to administer, in particular to the extent that a VoB provider connects nomadic users. One possible solution would be to allow companies such as Vonage to have global privacy policies for their customers and employees in place that are recognized EU wide. This solution is already foreseen by the EU 1995 Data Protection Directive⁶, and should be pursued further. Vonage encourages the U.K. to work with the EC to make further progress in this area. The ultimate goal should be that European Data Protection Agencies ("DPA") and national regulators recognize the approval of a privacy policy by one DPA as binding for their

⁵ Cf. Council of the EU, note from the French Republic, Ireland, the Kingdom of Sweden and the United Kingdom of 28 April 2004, 8958/04 re Draft Framework Decision on the retention of data.

⁶ Art. 26 (2) Directive 95/46/EC.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 8

respective jurisdiction and territories - which is currently not the case and causes significant costs, delays and legal uncertainties to roll out a VoB service within the EU.

(c) Data Transfers and Storage in the US

It would greatly facilitate the administration of Vonage's customer and traffic data if Vonage is allowed to transfer and store personal data from the EU in the U.S. Currently, the EU classifies the U.S. as a country of "non-adequate" protection under the EU 1995 Data Protection Directive. Vonage applauds the progress that has been made by the U.S. Government and EU to resolve their differences and reconcile their different privacy approaches by agreeing upon the so-called U.S./EU Safe Harbor Principles.⁷ Under these Principles, the US companies are entitled to self-certify to the US Department of Commerce that they have appropriate data protection rules and safeguards in place, in particular, by adhering to the Seven Data Protection Principles of the Safe Harbor.

However, the dilemma that US companies such as Vonage are currently facing is that it is unclear whether the regime of the Safe Harbor Principles applies to their VoB services: The Safe Harbor Principles do not apply if the US company is a common carrier cover which the Federal Communications Commission ("FCC") in the U.S. has jurisdiction as a telecommunications carrier.⁸ US federal courts have determined that Vonage is not a carrier.⁹ To clarify the matter, it would be very helpful if the U.K. expressly states that VoB services, such as Vonage's services, that are not based on an underlying network, fall under the self-certification regime of the Safe Harbor Principles. In any event, Vonage encourages Ofcom to urge the EU to pursue the negotiations with the US Government to reach an agreement, as early as possible, on the expansion of the Safe Harbor Principles to also cover services that fall under the jurisdiction of the FCC.

Question 6: Do you agree with Ofcom's initial view that it is not necessary for all voice services to provide the same standard features as traditional telephone services, and that we should instead focus on enabling consumers to make informed decisions?

ANSWER:

Vonage agrees with Ofcom's initial view that it is not necessary for all voice services to provide the same standard features as traditional telephone services and that Ofcom should instead focus on enabling consumers to make informed decisions. VoB services promise to revolutionize the delivery of communications services. Already, Vonage customers in the United States and Canada can manage all aspects of their Vonage service through the Web.

⁷ Commission Decision 2000/520/EC of 26.7.2000 - O. J. L 215/7 of 25.8.2000.

⁸ See "Section 5 Exceptions" in Decision 2000/520/EC and US Communications Act of 1934 (47 U.S.C. § 151 et seq.).

⁹ See *Vonage Holdings Corporation v. Minnesota Public Utilities Commission*, 290 F. Supp. 2d 993 (D. Minn. 2003); *Vonage v. New York State Public Service Commission*, S.D.N.Y., Preliminary Injunction Order, Case No. 04 CIV 4306 (July 16, 2004).

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 9

Customers are empowered to re-direct communications to their device of choice, can choose to receive voicemails as attachments to their e-mails, place and receive calls while traveling using the same telephone number and a multitude of other features. Many features offered by Vonage are simply not possible to provide over the legacy telephone network. VoB providers operate in a highly competitive marketplace where customers define the features they desire. The laws of supply and demand are defining the feature set important to customers.

Ofcom risks stifling innovation and impeding competition in the communications market if it were to attempt to define a standard feature set. Vonage agrees that customers should be made aware of the differences between VoB services as compared to traditional telephone service, but believes it would be detrimental for Ofcom to define a standard set of features that must be provided by providers of voice services. By defining such features, Ofcom also runs the risk of creating an impression that VoB services are inferior to PATS if they do not have the same features; yet in many respects VoB services can be superior depending on the needs of the consumer.

Question 7: Do you agree with Ofcom's initial view that it is not desirable to draw a distinction between the regulation of services that look like traditional services and those that do not?

ANSWER:

Vonage does not agree with Ofcom's initial view that the regulation of services that look like traditional services should all be the same. As noted in answer to questions 4 and 5 above, Vonage believes that a system of regulation based solely on the services being provided is short-sighted and not well-suited to today's new types of technologies and their inherent capabilities. Instead, Ofcom should adopt a "layered" approach to regulation that takes into account the different layers involved in the provision of a service, and regulates each layer separately.

For instance, under a layered approach to regulation, Ofcom would be better able to help foster competition in the voice services market. "Pure" VoB providers like Vonage are new entrants in the communications marketplace and are subject to considerable competition. They do not own, operate or control a customer's access to the Internet or the PSTN. Therefore, they clearly do not exercise market power. Yet under a traditional services market approach, they would be subject to the same regulatory requirements as facilities-based providers of voice services although technically they might not have the same abilities. This would not only be unfair, but could drive them out of business. Accordingly, VoB services should not be subject to the same level of regulation as services that are offered by facilities-based network providers or providers of traditional telephone service that possess market power or are functionally and operationally different.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 10

Question 8: Do you agree with Ofcom's initial view that a distinction should not be drawn between the regulation of 'second line' services and 'primary' services?

ANSWER:

Vonage agrees with Ofcom's initial view that a distinction should not be drawn between the regulation of "second line" and "primary line" services. As Ofcom recognizes, it would be difficult for both providers and Ofcom to determine whether a consumer was using a particular service as a primary or second line.¹⁰ In fact, it is possible today that consumers with broadband connections have already dropped traditional voice service and instead are relying on VoB services. Clearly, a regulatory distinction based on whether a line is used as a primary or secondary line is impractical.

More importantly, the policy informing such a distinction is irrelevant to the VoB market. In the Consultation, Ofcom states that the policy goal in making such a regulatory distinction is consumer protection in that traditional phone service includes standard features that may not be part of a VoB offering.¹¹ The implication is that the standard features associated with traditional phone service are a public good that should subsist in the VoB marketplace.

Vonage submits that the VoB marketplace is inherently different than the market for traditional phone service. Many VoB providers, including Vonage, offer service over a third-party provided broadband Internet access line, as detailed in response to question 1. As such, Vonage does not exercise control over the "last mile" facility connecting the Vonage customer to the Internet or the traditional telephone network. Coupled with this fact is the market reality that VoB providers operate in a highly competitive marketplace which is wholly unrelated to the characteristics of facilities-based local telephone service which is dominated by monopoly providers. Unlike providers of traditional telephone service, VoB providers like Vonage cannot terminate their customers' connection to the Internet or the traditional telephone network and they must continually compete on feature-set and price. As such, there is no policy reason for Ofcom to adopt stringent customer protection rules or impose a standard set of features to which all providers of voice services must adhere. Many of the preconditions that justify regulating a monopoly provider of traditional telephone service are simply irrelevant to the VoB market. Instead, the marketplace will determine the features that are important to consumers. Vonage agrees that customers must be made aware of the differences between VoB and traditional phone service and addresses this concern in response to questions 26 through 28, *infra*.

¹⁰ See Consultation, Section 4.35.

¹¹ See Consultation, Section 4.34.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 11

Question 9: Do you think that a threshold should be set at which new voice services should be required to offer the same features as traditional voice services? If so, how should the threshold be set?

ANSWER:

As noted in response to question 7, Vonage favors a layered approach to regulation, where VoB would be regulated as an application, with regulations tailored to that particular application. Therefore, Vonage does not support the establishment of a threshold whereby, once attained, new voice services must offer the same features as traditional voice services. Using a threshold approach again runs the risk of trying to shoehorn a particular application into a regulatory scheme that technically just does not work or make sense. Even though a VoB service may offer many of the same features as a traditional voice service, they are technically different and therefore might not be able to offer the same features.

There is another way to look at the problems inherent in regulating VoB services the same as traditional voice services. Although right now VoB service providers might not be able to offer the identical features consumers have come to expect from traditional voice service providers, it is not inconceivable that in the near future traditional voice providers will be found to not be able to offer some new vital service that consumers need, but is only technically available from VoB service providers. Already the benefits of a software based technology have allowed the introduction of new innovative services with VoB. When that day comes, if Ofcom is still relying on a regulatory scheme that treats all voice services the same, will it require the traditional voice providers to start offering this new service that technically is not feasible for them? A layered approach to regulation would avoid this dilemma.

Question 10: Do you agree that most providers would want to offer at least a basic form of access to 999?

ANSWER:

Yes. Vonage understands that it is in the public interest to provide customers access to emergency services, and believes that the continued development of these services is an important priority. In this regard, Vonage was the first non-geographically-fixed VoB provider to offer a 911 dialing solution in the United States.¹² It is equally clear that robust, competitive VoB providers will strive to offer the best access to emergency services possible to respond to competitive market forces. Unlike the traditional wireline telephony market in the United Kingdom, VoB providers operate in a competitive market which demands such services. As such, the need for VoB 999 regulation may be partially or wholly abrogated.

Vonage requests that VoB service providers be afforded flexibility and time to address 999 issues including funding, technical solutions, and deployment. Moreover, Ofcom should allow the VoB industry the opportunity to develop industry standards to effectuate 999 service.

¹² Vonage's 911 dialing solution differs in many important ways from that provided by traditional providers of legacy telephone services.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 12

Allowing the industry this time and flexibility will ensure that the system developed is the best one possible and most viable for long-term changes of the United Kingdom's network infrastructure.

Vonage believes that the natural development and deployment of VoB services will lead to technological improvements and cost savings, which will eventually lead to 999 services that are more reliable and provide more information to emergency responders. Ofcom need not regulate this goal into existence, it is already coming. Ofcom should remember that the existing 999 network is extremely antiquated. VoB services and other new technologies are constrained in their ability to provide 999 services due to the limitation of the infrastructure itself. VoB services promise to greatly enhance the delivery of emergency services, but the requisite upgrades to the 999 infrastructure will require the efforts of many different industry participants.

Vonage and other mobile VoB solution providers are currently unable to determine with certainty the geographic location of a caller because a customer can move their service to any location where a broadband Internet connection is available simply by plugging their MTA into a router or Ethernet port. This mobility makes it impossible for Vonage to be sure that, in the United States, 911 calls are routed to the appropriate Public Safety Answering Point ("PSAP"). This limitation is similar to that faced by wireless carriers; however, Vonage clearly discloses this limitation to its customers. In the United States, Vonage customers must register their geographic location with the company before they can use 911 dialing. This allows Vonage to have their calls routed by an unaffiliated telecommunications carrier to the PSAP serving the customer's registered location. However, if a customer travels to a different location in the United States and forgets to update their registration, their 911 call may be routed to the wrong PSAP. Vonage encourages all its customers to activate 911 dialing and does not charge any fees for providing this feature to its customers. Vonage requires its customers to affirmatively acknowledge the E911/911 limitations associated with its service as compared to that provided by legacy telephony providers. Specifically, throughout the activation process, the customer is made aware of the limitations associated with Vonage's emergency dialing service and the computing device that customers must use to make use of Vonage's service also contains an insert that again notifies the customer of the emergency dialing limitations.

Vonage is actively working to resolve the location issue associated with VoB service. Vonage is currently working on trials in the United States. In fact, Vonage recently concluded a successful emergency service trial in the State of Rhode Island. Vonage was able to deliver both caller's location and call back number using the existing emergency services infrastructure to emergency service personnel for emergency calls placed using Vonage's broadband communications service. When a Vonage customer dials the digits 9-1-1,¹³ the call is routed over Vonage's 9-1-1 server using industry standard SIP protocol. The Vonage server then queries a database maintained by a third party for routing instructions. The call is then directed to

¹³ The scenario described concerning the routing of emergency calls over the existing emergency services network in the United States is limited to the solution Vonage implemented in the State of Rhode Island for Vonage customers that have "activated" 911 dialing. If a Vonage customer in Rhode Island uses the Vonage service from multiple physical locations, the Vonage customer must update their location information to ensure that emergency personnel are receiving accurate data.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 13

the selective router that serves the Rhode Island PSAP. Simultaneously, the third party maintained database places the customer's address and telephone number into the Automatic Location Information ("ALI") server that is also used by emergency calls placed using a legacy wireline telephone. The supplementary special key unique to the call is included in the signaling, and allows the Rhode Island PSAP operator to pull the customer's address and phone number from the ALI database. Vonage and other parties are working with other states to provide similar solutions and intend to roll them out market by market in the United States. Vonage is encouraged by its experience in Rhode Island and by the potential to improve the delivery of emergency services in an IP-enabled world. Vonage is attempting to resolve various technical issues associated with using native IP communications in the legacy 911 system that exists in the United States.

To be sure, there are technical differences between the delivery of emergency services in the United States and the United Kingdom; however, Vonage's experience in Rhode Island illustrates a number of important facts for consideration by Ofcom. First and foremost, in the absence of regulation, Vonage worked with a number of parties to improve the delivery of emergency services to Vonage customers. The marketplace is demanding access to emergency services and will bring about solutions more efficiently than regulation. Second, Vonage's experience in Rhode Island demonstrates that it is possible to resolve many of the limitations associated with the delivery of emergency services to VoB customers.

Ultimately, the public interest will be better served by the creation of an IP-based emergency access system that would allow IP communications to interconnect directly to the appropriate emergency services answering point. This system need not replace existing emergency services systems currently in existence. However, the advent and growth of the Internet and VoB services will eventually require a unified system by which customers utilizing VoB services can access emergency services at any time from any location. This cannot be ignored. The technological differences between VoB and traditional telephony are such that the Ofcom should develop a new framework for VoB services by moving towards the future, rather than clinging on to the past.

Ofcom should also be aware of ongoing efforts by the VoB industry in the United States to bring about a solution concerning the delivery of emergency services. The VoB industry, *in the absence of regulatory mandates*, has been actively engaged in creating solutions for the development and deployment of emergency services. As noted above, competitive VoB providers have a market incentive to provide emergency services to their customers. Although VoB is still an infant industry, it is taking extraordinary steps to ensure that customers have access to emergency service features. In the United States, the National Emergency Number Association ("NENA") is currently engaged in developing standards that will allow for universal provisioning of services similar to wireline E911.¹⁴ Several VoB companies, including Vonage,

¹⁴ The National Emergency Number Association, *E9-1-1, Internet Protocol & Emergency Communications: National Emergency Number Association Issues a Call for Action: Blueprint Needed for Internet Protocol, Voice over Internet Protocol and E9-1-1*, Press Release (Mar. 22, 2004) available at www.nena.org (visited May 25, 2004).

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 14

have reached agreement with NENA regarding their intention to provide 911 services.¹⁵ Similar activities are occurring in Canada where the CRTC Interconnection Steering Committee is considering issues relating to the delivery of emergency services to VoB customers.

On March 18, 2004, the U.S. FCC's Internet Policy Working Group held a "Solutions Summit" at which a discussion was held between agency officials and industry leaders over emergency services issues. Specifically, attendees discussed the challenge of the provision of emergency services access to VoB users. Many panelists noted that IP networks will eventually allow more robust features than current emergency service systems, but these features will take time to develop. In the meantime, several participants suggested that the FCC should step in to make sure that VoB providers get access to information and databases necessary to implement emergency service. Vonage and other industry leaders participated in this forum, and intend to do so in the future. Vonage also plans to participate in similar proceedings in Canada and would participate in similar industry fora in the United Kingdom. Vonage believes that industry cooperation, rather than strict government regulation, will best promote the important emergency service goals, while providing the VoB industry a platform it can use to continue to develop and deploy VoB services demanded by consumers.

Question 11: Do you agree with Ofcom's initial view that consumers sufficiently value having access to 999 in order for them to wish to retain at least one means of 'high quality' (very reliable) access to 999 at home?

ANSWER:

Vonage believes that the competitive marketplace will determine what services are important to consumers. However, Ofcom should recognize that in many cases, customer have no choice but to maintain a voice line. For example, in order to receive DSL service, customers must also subscribe to an underlying voice service. Vonage also believes that those that determine they need to have access to the 999 emergency service offered by legacy providers of telephone service will continue to maintain at least one means of such access. In fact, Vonage explicitly advises its customers in the United States and Canada to maintain one such line.

Question 12: Do you agree with Ofcom's initial view that not all voice services should be required to offer access to 999 but that decisions about subscribing to and using such services must be properly informed?

ANSWER:

Yes, Vonage agrees with Ofcom's initial view that not all voice services should be required to offer access to 999. Vonage maintains that the competitive marketplace will require VoB providers to offer access to 999 services. Please see Vonage's response to question 10 for additional details.

¹⁵ See The National Emergency Number Association, *Public Safety and Internet Leaders Connect on 9-1-1*, Press Release (Dec. 1, 2003) available at www.nena.org (visited May 25, 2004). Included as Attachment 3.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 15

Vonage also agrees that decisions about subscribing to and using such services must be properly informed. To that end, and as described in response to question 10, Vonage goes to great lengths to inform its customers of the differences between the access to emergency services provided by Vonage and that available through legacy providers of traditional telephone service. In order to provide Ofcom with a better understanding of Vonage's customer notification process, Vonage has included, as Attachment 2, an emergency service primer as to how it service operates in the United States and the multiple disclosures Vonage customers receive. Vonage will tailor its customer notification process to reflect the realities of the United Kingdom's communications marketplace.

Question 13: Do you agree with Ofcom's initial view that given some new services may not be able to offer the same degree of reliability for emergency calls as traditional voice services, it is better that these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all?

ANSWER:

Vonage agrees with Ofcom's initial view that it is better to allow VoB providers, like Vonage, to offer a form of 999 access that is dissimilar from that available through legacy providers of telephone services. As detailed in response to question 10, Vonage further believes that the marketplace will demand comparable, and, eventually, greatly enhanced emergency services from all providers of communications services. Vonage maintains that Ofcom should work with the industry to develop a standard solution to issues relating to the delivery of emergency services by VoB providers and not mandate that which the technology cannot currently deliver. As an example of the industry collaboration already occurring outside of mandated regulatory requirements, Vonage described its own efforts in the State of Rhode Island in the United States as well as the industry's efforts to arrive at a solution through an agreement with NENA, included as Attachment 4. Vonage endorses a similar approach in the United Kingdom.

Question 14: Do you agree with Ofcom's assessment of the costs and incentives for providers offering PATS?

ANSWER:

Vonage does not agree with Ofcom's assessment of the costs and incentives for providers offering PATS. Specifically, Vonage disagrees that denying number portability to VoB providers will create an incentive for such providers to comply with existing network integrity and emergency location requirements.¹⁶ Vonage maintains that there are number of reasons as to why this would constitute bad policy.

¹⁶ Consultation, Section 4.71.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 16

As Ofcom recognizes, in certain instances it does not make sense to require VoB providers to comply with network integrity requirements.¹⁷ Specifically, Ofcom rightly observes that nomadic VoB services allow for the potential of a VoB to lack even indirect control over the broadband Internet connection over which the service is utilized.¹⁸ But Vonage respectfully submits that the critical element in determining whether to mandate network integrity is not whether a particular VoB service is nomadic; instead, it is the nature of the control that the VoB provider has over the broadband Internet connection used to access the service. VoB providers like Vonage that rely on third party provided broadband Internet connections and on the public Internet to provide their VoB Internet application service cannot influence the network integrity of the service. If a VoB provider is not also providing the broadband Internet access connection, there is simply no way for that VoB provider to comply with, enhance, or otherwise affect network integrity. Vonage's service is wholly reliant on the third-party provided broadband Internet connection of the user. VoB providers like Vonage do not offer broadband Internet access services; rather, Vonage offers an application available over the Internet. When Vonage customers place or receive calls, the communications are routed over the third-party provided broadband Internet connection subscribed to independently by the Vonage subscriber. Vonage does not have any control over any network integrity issues associated with that connection. As such, Vonage does not have control over the key element, i.e., the facility, that is most likely responsible for the vast majority of network-integrity-related issues. Accordingly, regardless of the incentive – number portability or any other – imposing network integrity requirements on a VoB provider like Vonage is as useful as applying such a requirement to Google or any other Internet application provider that does not control the customer's connection to the Internet.

The marketplace for VoB services is extremely competitive. VoB providers like Vonage neither control their customers access either to the traditional telephone network nor to the Internet. As such, VoB customers can receive service from a competing VoB provider in a matter of minutes. If a VoB customer is dissatisfied with the network integrity associated with a particular VoB provider, or any other aspect of the service, the VoB customer can choose another provider without any interruption in service. Competitive forces provide adequate discipline to ensure that VoB customers are receiving adequate network integrity.

While Vonage appreciates Ofcom's concerns regarding the delivery of location information when a customer dials 999 and, as detailed in response to question 10 Vonage is actively working on a solution, the limitations associated with the delivery of emergency services to VoB users is an industry-wide problem. Ofcom recognizes that the delivery of location information is complex for nomadic services¹⁹ and that cooperation between different industry players will be required to resolve the issue.²⁰ Further, as explained in greater detail in answer to question 10, the underlying infrastructure used to provide emergency services to customers of traditional telephone services is incompatible with VoB services. In order to resolve the delivery

¹⁷ *Consultation*, Section 6.6.

¹⁸ *See id.*

¹⁹ *See Consultation*, Section 6.31.

²⁰ *See Consultation*, Section 6.32.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 17

of location information for users of VoB services, all market participants will have to work together to fashion a solution. Therefore, no matter what the incentive, VoB providers simply cannot resolve the issue on their own.

As described in great detail in answer to question 10, Vonage and the VoB industry as a whole in the United States is already working towards a solution in providing emergency services to VoB users even though VoB providers can take advantage of number portability obligations. Vonage firmly believes, and experience in the United States demonstrates, that the competitive forces of the marketplace require VoB providers to develop an emergency services solution that are as robust as that available to users of PATS. Rather than attempt to regulate this technology into existence, Ofcom should allow the functionality to develop organically in a competitive marketplace. Ironically, by not providing VoB providers with the ability to port telephone numbers away from PATS customers, Ofcom would impede the development and deployment of such functionality as VoB providers will not be able to effectively compete with PATS providers. Accordingly, by frustrating competition, Ofcom would delay the introduction of the very functionality that Ofcom is attempting to induce.

New entrants to the communications marketplace are already placed at a significant disadvantage as compared to incumbent providers of traditional telephone services who serve a captive base of ratepayers. Further, the broadband penetration rates in the United Kingdom of 2.32 per 100 subscribers²¹ already greatly limits the number of customers that even have the option of choosing VoB services. If potential customers of VoB services cannot seamlessly transition to VoB services by keeping their present telephone numbers, VoB providers will be placed at an even greater disadvantage. It is Vonage's experience that many users of its service port telephone numbers from existing providers of telecommunications services to Vonage. In fact, more than half of Vonage's customers in the United States have ported their telephone numbers from an existing telecommunications carrier to Vonage's service. Vonage's service appeals to both residential and small business customers. These customers typically want to retain their telephone number(s) for convenience or business-related reasons. Residential customers do not want to have to inform family and friends of a changed telephone number and small business users do not want to incur the expenses associated with informing their clients, changing their letterhead, marketing materials, business cards, etc. In fact, some businesses view their telephone numbers as an important company asset. For these reasons, Vonage strongly believes that number portability between all providers of communications services is critical to VoB service providers. If potential customers of VoB services cannot seamlessly transition to VoB services by keeping their present telephone numbers, VoB providers will be placed at a great disadvantage.

By prohibiting VoB providers from porting telephone numbers, Ofcom would create a perverse incentive for PATS providers to delay the development of a location solution for VoB customers. Ofcom recognizes that number portability is not in the interest of those that would

²¹ See *Birth of Broadband, ITU Internet Reports*, at Table A-12 (Sept. 2003). The term "broadband" is defined in the ITU Report as "transmission capacity with sufficient bandwidth to permit combined provision of voice, data and video with no lower limit. Effectively, broadband is implemented mainly through ADSL, cable modem or Wireless LAN . . . services." See *id* Glossary.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 18

lose market share.²² By impeding the development of a location solution for VoB providers, traditional providers of PATS would be protecting their market share. In this instance, the rational market actor would not cooperate with such efforts in order to forestall the advent of full-scale competition.

Finally, by preventing VoB from participating in number portability, Ofcom would balkanize the communications marketplace and reduce competition among various types of service providers. VoB providers would develop a captive base of customers that would be reluctant to switch to PATS if they could not use their same telephone number and the same would be true for those that would switch to a VoB service but for the fact that they would have to change their telephone numbers. Vonage respectfully submits that Ofcom's proposed policy to hobble the competitive ability of VoB providers will do nothing more than impede the adoption of VoB services into the United Kingdom's marketplace, which, in turn, will reduce the demand for broadband services ultimately resulting in less deployment of broadband facilities. Further, adopting a policy that prohibits VoB providers from taking advantage of number portability would also result in delaying the functionality that Ofcom seeks to spur.

Question 15: Do you agree with Ofcom's understanding of the implications of the definition of PATS contained in the Directives?

ANSWER:

The Consultation provides that subscribers of an ECS do not have the right to port telephone numbers from a PATS operator. Vonage does not agree with Ofcom's position that Article 30(1) of the EU Universal Service Directive (2002/22/EC) requires that an ECS offer PATS in order to receive number portability. To the contrary, Article 30 states that Member States must ensure that PATS providers provide number portability, but it does not *limit* portability to PATS providers. Ofcom could expand portability to all ECS providers without violating the express terms of Article 30. In fact, by adopting a narrow view of portability, Ofcom is violating the spirit of the EU Directive implementing Article 30, wherein Consideration 40 it states that number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment. Yet under Ofcom's approach, consumers desiring voice services from VoB providers would not be able to port their existing numbers unless the VoB provider makes changes to its business in order to become a PATS. This will slow adoption of VoB services in the United Kingdom. In addition, it can balkanize adoption of VoB services throughout Europe if other national regulatory authorities take a more liberal view of who is eligible for portability.

Vonage submits that number portability between ECS and PATS providers is of critical importance to VoB service providers. Both residential and business customers are extremely reluctant to change their telephone numbers. Residential customers resist changing their telephone numbers because of the inconvenience it causes their personal lives. Business

²² See Consultation, Section 4.70.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 19

customers prefer not to change their telephone numbers because of all the costs involved – new stationary, new business cards, updating marketing material, *etc.*

Additionally, access to geographic and non-geographic numbering resources is essential for the deployment of VoB services. The Framework Directive, in this respect, does not distinguish between traditional telecommunications carriers and VoB providers.²³ Both should have access to numbering resources. Art. 10 of the Framework Directive confirms this: “Member States shall ensure that adequate numbers and numbering ranges are provided for all publicly available electronic communications services.” It is not helpful to restrict the access to geographic numbers, for instance, by imposing the duty upon VoB providers that local access numbers be given only to customers in the local calling area: Art. 10 (1) of the Framework Directive does not foresee such a restriction. This provision does not allow NRAs to discriminate customers within a calling area against customers outside the calling area. In any event, given that many VoB customers are nomadic users, as explained above, this restriction would, as a practical matter, remain unenforceable – since users can take their equipment virtually anywhere in the world. In this respect, the adoption of rules that are impossible or unlikely to be followed would only serve to encourage the off-shoring of VoB services.

Question 16: Do you agree with Ofcom’s understanding of the implications of this alternative approach?

ANSWER:

We interpret Ofcom's “alternative approach” as one whereby Ofcom would grant individual new voice service providers PATS status on the basis of individual decisions, even if they offer, for instance, “less reliable” access to emergency services.²⁴ Vonage is not sure what the requirements for such a declaration are (Does it include directory inquires, operator services, access for handicapped?) and whether Ofcom would wait for the European Commission to provide advice on this issue. If Ofcom follows this approach, there needs to be legal certainty when this status is granted and when it is not.

Vonage is also concerned that this approach might be bureaucratic and time consuming. In any event, the “alternative approach” is only the second best solution. As already stated, it is a much easier and consistent approach to generally open geographic number portability to all new Voice Services and let the customer decide whether they want to port their telephone number. There is nothing in the EU Regulatory Framework to prohibit Ofcom from interpreting the number portability for PATS set forth in Art. 30 Universal Service Directive 2002/20/EC. Art. 30 in this manner since Art. 30 only safeguards the bare minimum that Member States must provide. Consideration 40 of this Directive states clearly that end user should be allowed to port their numbers irrespective of PATS: “Number portability is a key facilitator of consumer choice and effective competition in a competitive telecommunications environment such that end-users

²³ See Consideration 20 Framework Directive: “Access to numbering resources on the basis of transparent, objective and non-discriminatory criteria is essential for undertakings to compete in the electronic communications sector.”

²⁴ See Consultation, Section 4.75.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 20

who so request should be able to retain their number(s) on the public telephone network independently of the organization providing service.” Ofcom should not and need not to wait for a ruling of the European Commission on this issue.

Question 17: Are there policy initiatives in other areas related to new voice services that Ofcom should be considering?

ANSWER:

Vonage recommends that Ofcom provide additional details concerning the quality of service obligations of a provider of publicly available ECS. The principals set out in the Universal Service Directive allow Ofcom to specify quality of service parameters, content, form and manner of information concerning quality of service.²⁵ VoB providers like Vonage do not offer broadband Internet access services; rather, Vonage offers an application available over the Internet. When Vonage customers place or receive calls, the communications are routed over the third-party provided Internet connection subscribed to independently by the Vonage subscriber. Vonage does not have any control over any quality of service issues associated with that connection. Vonage recommends that Ofcom work with the industry to develop appropriate quality of service measurements and notification requirements that take into account the many different manifestations of VoB services.

Vonage also recommends that Ofcom reexamine its position concerning the costs and incentives for providers of VoB services as detailed in response to question 14. Vonage cannot overemphasize the importance of maintaining a level competitive playing field for VoB providers. Preventing VoB from taking advantage of number portability and subjecting them to inapposite network integrity requirements will distort the marketplace and frustrate competition in the communications marketplace.

Question 18: Although Ofcom is not consulting on its interim position, it would welcome your views on its interim policy to forbear from enforcing PATS obligations against new voice services which offer access to 999.

ANSWER:

Vonage prefers that industry comes up with a solution in providing access to 999 services in response to the competitive marketplace for VoB services. Please refer to our answer to question 10.

²⁵ See Art. 22(2) Universal Service Directive

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 21

Question 19: Is it reasonable to have different network integrity requirements for nomadic services compared to services at a fixed location, and how should consumers be made aware of this difference?

ANSWER:

As detailed in response to question 14, Vonage does not believe that the deciding factor for imposing network integrity requirements should be whether a service is nomadic; instead, the relevant inquiry is the amount of control that a VoB provider exercises over the broadband Internet connection. A VoB provider like Vonage exercises no control over the third-party provided broadband Internet connection used by their customers. Vonage has no more control over the Internet connection used to access its Internet application than does Google or Yahoo!. As such, the application of network integrity requirement to a VoB provider like Vonage would do nothing to improve the network integrity of the service.

Further, unlike the market place for traditional telephone service, the VoB market is extremely competitive. As detailed in response to question 14, if customers are not satisfied with the network integrity of a particular VoB provider they can switch to a new service provider with incredible ease. Additionally, consumers have a number of options for providers of communications services, for example, wireline, VoIP and wireless, and the marketplace can determine the requisite threshold of network integrity for each of these services. Accordingly, competitive market forces ensure that VoB customers receive an acceptable level of network integrity.

Question 20: Do you think that it is better for Ofcom to:

- 1. Retain the Essential Requirements Guidelines in their current form;**
- 2. Re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and Next Generation Networks; or**
- 3. Withdraw the Essential Requirements Guidelines, and apply the ‘reasonably practical’ test set out in General Condition 3**

ANSWER:

Vonage urges Ofcom to withdraw the Essential Requirements Guidelines, and instead apply the “reasonably practical” test set out in General Condition 3. This approach would be conducive with a layered approach to regulation, where regulations clearly recognize that there are differences between regulating a company that provides the transport, versus one that provides the application that runs over the network.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 22

Question 21: Do you think that there are reasonably practical measures that providers at a fixed location can take even if they do not directly control the underlying network?

ANSWER:

No. Please see Vonage's response to questions 14 and 19. Control over the broadband Internet connection is a necessary prerequisite to the imposition of network integrity requirements. Furthermore, the utility of network integrity requirements in a competitive marketplace is unclear at this time. In the future, other kinds of network integrity requirements, like regulations that ensure there is no discrimination by those that control the underlying facility, may be required.

Question 22: What in practice should the roles of the network provider versus the service provider be for network integrity when the network provider has no control over the services offered over their network?

ANSWER:

Please see Vonage's responses to question 14, 19 and 21.

Question 23: Do you agree that it is likely to be reasonably practical for analogue telephone and ISDN2 services to provide line powering but not other services?

ANSWER:

Vonage expresses no opinion as to the line powering requirements for analogue telephone and ISDN2 services. Vonage agrees with Ofcom that the current state-of-the-art for VoB services like Vonage's does not allow for line powering of the equipment necessary to make use of the service. Vonage agrees that customer disclosure is important and Vonage does provide such disclosures to its customers in the United States and Canada and would do so in the United Kingdom. Vonage notes that customers can install standard battery backup devices for their VoB service to protect against power outages.

Question 24: What are your views on the technical feasibility of providing location information for nomadic services, both now and in the future?

ANSWER:

Please see Vonage's response to question 10. Vonage advocates that Ofcom allow the marketplace to resolve issues relating to the delivery of location information for nomadic services.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 23

Question 25: What approach for emergency location would take account of current technical limitations, whilst ensuring that technical advances bring benefits to emergency organizations in the long run?

ANSWER:

Please see Vonage's response to question 10. As detailed in that response, Vonage has developed a solution for the delivery of location information in the State of Rhode Island in the United States. Vonage is very excited about this solution and is involved in a number of other trials in the United States. While Vonage customers must manually provide address information and update this information when they change locations, the trial demonstrates that it is possible for VoB services to use much of the existing infrastructure to deliver location information to emergency personnel. Vonage maintains that the competitive marketplace will deliver the technical advances necessary to bring the greatest benefits to emergency organizations in the long run and that the competitive marketplace will ultimately revolutionize and vastly improve the delivery of emergency services.

Vonage also believes, along with many others inside and outside the industry, that services that leverage the power of the Internet, like VoB, will eventually allow for much more robust features than are currently available in existing emergency services systems, but these features will take time to develop. For example, future emergency services may include information about the medical condition of the caller along with location and call-back information. Information about the location from which an emergency call is placed may also be included in future emergency systems. Specifically, emergency call center personnel may be able to provide crucial information concerning the location of bedrooms, if the call is placed from an apartment buildings, to first responders. Allowing competitive market forces to operate in the emergency services sector will result in great enhancements to the services for the public at large.

Question 26: Do you agree that consumer information is required where services look and feel like a traditional telephone service but not where services are clearly different (e.g. PC based services)?

ANSWER:

As detailed above, Vonage supports and already informs customers of the important differences between its service and that offered by traditional providers of telephone service; however, the Company believes consumers should be empowered to choose whether they are willing to accept non-traditional access to emergency services, like that provided by Vonage in the United States, in order to gain access to an innovative, convenient, and cost-effective Internet protocol-enabled communications service.

RESPONSE TO NEW VOICE SERVICES CONSULTATION

15th November 2004

Page 24

Question 27: Do you agree with a two stage approach to consumer information, first to ensure the purchaser is aware of the nature of the service at the point of purchase, and second to ensure all potential users are aware the service does not provide access to 999 at the point of use?

ANSWER:

Vonage believes that the overwhelming majority of users are aware of the differences between the service they receive from a VoB provider and that available from legacy providers of telephone service. As detailed above, in order to make use of Vonage's service, customers must have a third-party provided broadband Internet connection and a specialized device (or software). When signing up for the service, the customer is repeatedly informed of the unique aspects associated with Vonage's service. Please refer to Vonage's response to question 10 and please also see Attachment 2 which details the disclosure provided to Vonage customers in the United States regarding the unique features of Vonage's 999 service. Vonage will provide similar disclosures in the United Kingdom. Customers using the MTA computing device receive a printed notice also advising them of certain key differences between Vonage's service and local fixed-line call service. In short, Vonage believes that the risk of customer confusion is unlikely.

Question 28: If consumer information is required to ensure that consumer interests are protected, which of the above frameworks regulatory framework, if any, is appropriate to ensure it is successful?

ANSWER:

Vonage agrees that customer disclosure about the unique aspects of VoB services is important and provides such disclosure to its customers. Vonage also is a firm believer in the ability of the industry to self-regulate and inform their customers of the unique qualities of their services. Therefore, Vonage encourages Ofcom to allow the industry to develop self-regulatory guidelines. Consumer protection issues should be addressed only if the marketplace fails to adequately protect consumers.

CONCLUSION

The regulatory policy concerning VoB and its technical development are in a state of flux on a global scale. This is a great opportunity for the United Kingdom to become, as in other areas, a leader in promoting a uniform, rational regulatory framework for VoB in Europe. A uniform rational framework that provides for competition and number portability among PATS and non-PATS services will encourage deployment and adoption of innovative service offerings and broadband networks. Vonage stands ready to support Ofcom in its efforts to promote a harmonized regulatory approach to VoB and would be pleased to resume a dialogue with Ofcom, in particular on the Rhode Island trials for "911" that are described in this submission.

* * *

EXHIBIT LIST

- | | |
|---------------------|------------------------------|
| Attachment 1 | Vonage's Terms of Service |
| Attachment 2 | Vonage's Primer on 911 |
| Attachment 3 | NENA/VON Coalition Agreement |

ATTACHMENT 1

VONAGE TERMS OF SERVICE

These Terms of Service constitute the agreement (“Agreement”) between Vonage Holdings Corp. (or, for Customers subscribing to services in Canada, Vonage Canada Corp.) (“we,” “us” or “Vonage”) and the user (“you,” “user” or “Customer”) of Vonage’s enhanced Residential communications services or enhanced Small Business communications services and any related products or services (“Service”). This Agreement governs both the Service and any devices, such as an IP phone, Multimedia Terminal Adapter, Analog Telephone Adapter or any other IP connection device, (“Device” or “Equipment”) used in conjunction with the Service. By activating the Service, you acknowledge that you have read and understood, and you agree, to the terms and conditions of this Agreement, and you represent that you are of legal age to enter this Agreement and become bound by its terms. If you have purchased Equipment from any Vonage retail dealer, you will be deemed a “Retail Customer” and will be governed by certain Retail Customer terms and conditions as set forth herein.

1. SERVICE

1.1 Term

Service is offered on a monthly basis for a term which begins on the date that Vonage activates your Service and ends on the day before the same date in the following month. Subsequent terms of this Agreement automatically renew on a monthly basis without further action by you unless you give Vonage written notice of non-renewal at least ten (10) days before the end of the monthly term in which the notice is given. You are purchasing the Service for full monthly terms, meaning that if you attempt to terminate Service prior to the end of a monthly term, you will be responsible for the full month’s charges to the end of the then-current term, including without limitation unbilled charges, plus a disconnect fee, all of which immediately become due and payable. Expiration of the term or termination of Service does not excuse the Customer from paying all unpaid, accrued charges due in relation to the Agreement.

1.2.1 Residential Use of Service and Device

If you have subscribed to Vonage’s Residential services, the Service and Device are provided to you as a residential user, for your personal, residential, non-business and non-professional use. This means that you are not using them for any commercial or governmental activities, profit-making or non-profit, including but not limited to home office, business, sales, tele-commuting, telemarketing (including without limitation charitable or political solicitation or polling), autodialing, continuous or extensive call forwarding, fax broadcast, fax blasting or any other activity that would be inconsistent with normal residential usage patterns. This also means that you are not to resell or transfer the Service or the Device to any other person for any purpose, or make any charge for the use of the Service, without express written permission from Vonage in advance. You agree that your use of the Service and/or Device, or the use of the Service and/or Device provided to you by any other person for any commercial or governmental purpose will

obligate you to pay Vonage's higher rates for commercial service on account of all periods, including past periods, in which you use, or used, the Service for commercial or governmental purposes. Vonage reserves the right to immediately terminate or modify the Service, if Vonage determines, in its sole discretion, that Customer's Service is being used for non-residential or commercial use.

1.2.2 Small Business Use of Service and Device - Prohibition on Resale

If you have subscribed to Vonage's Small Business services, the Service and Device are provided to you as a small business user. This means that you are not to resell or transfer the service or device to any other person for any purpose, without express written permission from Vonage in advance. You agree that the Vonage Small Business Plans do not confer the right to use the service for auto-dialing, continuous or extensive call forwarding, telemarketing (including without limitation charitable or political solicitation or polling), fax broadcasting or fax blasting. Vonage reserves the right to immediately terminate or modify the Service, if Vonage determines, in its sole discretion, that Customer's Service is being used for any of the aforementioned activities.

1.3 Lawful Use of Service and Device

1.3.1 Prohibited Uses

You agree to use the Service and Device only for lawful purposes. This means that you agree not to use them for transmitting or receiving any communication or material of any kind when in Vonage's sole judgment the transmission, receipt or possession of such communication or material (i) would constitute a criminal offense, give rise to a civil liability, or otherwise violate any applicable local, state, national or international law or (ii) encourages conduct that would constitute a criminal offense, give rise to a civil liability, or otherwise violate any applicable local, state, national or international law. Vonage reserves the right to terminate your service immediately and without advance notice if Vonage, in its sole discretion, believes that you have violated the above restrictions, leaving you responsible for the full month's charges to the end of the current term, including without limitation unbilled charges, plus a disconnect fee, all of which immediately become due and payable and may at Vonage's discretion be immediately charged to your credit card. You are liable for any and all use of the Service and/or Device by yourself and by any person making use of the Service or Device provided to you and agree to indemnify and hold harmless Vonage against any and all liability for any such use. If Vonage, in its sole discretion believes that you have violated the above restrictions, Vonage may forward the objectionable material, as well as your communications with Vonage and your personally identifiable information to the appropriate authorities for investigation and prosecution and you hereby consent to such forwarding.

1.3.2 Use of Service and Device by Customers Outside the United States

While we encourage use of the Service within the United States to other countries, Vonage does not presently offer or support the Service to customers located in other countries except Canada. If you remove the Device to a country other than the United States or Canada and use the Service from there, you do so at your own sole risk, including the risk that such activity violates local

laws in the country where you do so. You are liable for any and all such use of the Service and/or Device by yourself or any person making use of the Service or Device provided to you and agree to indemnify and hold harmless Vonage against any and all liability for any such use. Should the removal from the United States or Canada of the Device violate any export control law or regulation, you will be solely liable for such violation and agree to indemnify and hold harmless Vonage against any and all liability for such violation. Vonage reserves the right to terminate your Service immediately and without advance notice if it determines that you are using it outside the United States or Canada.

1.4 Loss of Service Due to Power Failure or Internet Service Outage or Termination or Suspension or Termination by Vonage

You acknowledge and understand that the Service does not function in the event of power failure. You also acknowledge and understand that the Service requires a fully functional broadband connection to the Internet (which is not provided by Vonage) and that, accordingly, in the event of an outage of, or termination of service with or by, your Internet service provider (“ISP”) and/or broadband provider, the Service will not function, but that you will continue to be billed for the Service unless and until you or Vonage terminate the Service in accordance with this Agreement. Should there be an interruption in the power supply or ISP outage, the Service will not function until power is restored or the ISP outage is cured. A power failure or disruption may require the Customer to reset or reconfigure equipment prior to utilizing the Service. Power disruptions or failures or ISP outages will also prevent dialing to emergency service numbers including the 911 calling feature. Should Vonage suspend or terminate your Service, the Service will not function until such time as Vonage restores your Service (which may require payment of all invoices and reconnection fees owed by you or cure of any breach by you of this Agreement).

1.5 Copyright / Trademark / Unauthorized Usage of Device, Firmware or Software

The Service and Device and any firmware or software used to provide the Service or provided to you in conjunction with providing the Service, or embedded in the Device, and all Services, information, documents and materials on Vonage’s website(s) are protected by trademark, copyright or other intellectual property laws and international treaty provisions. All websites, corporate names, service marks, trademarks, trade names, logos and domain names (collectively “marks”) of Vonage are and shall remain the exclusive property of Vonage and nothing in this Agreement shall grant you the right or license to use any of such marks. You acknowledge that you are not given any license to use the firmware or software used to provide the Service or provided to you in conjunction with providing the Service, or embedded in the Device, other than a nontransferable, revocable license to use such firmware or software in object code form (without making any modification thereto) strictly in accordance with the terms and conditions of this Agreement. You expressly agree that the Device is exclusively for use in connection with the Service and that Vonage will not provide any passwords, codes or other information or assistance that would enable you to use the Device for any other purpose. If you decide to use the Service through an interface device not provided by Vonage, which Vonage reserves the right to prohibit in particular cases or generally, you warrant and represent that you possess all required rights, including software and/or firmware licenses, to use that interface device with the Service and you will indemnify and hold harmless Vonage against any and all liability arising out of your use of such interface device with the Service. You shall not reverse compile,

disassemble or reverse engineer or otherwise attempt to derive the source code from the binary code of the firmware or software.

1.6 Tampering with the Device or Service

You agree not to change the electronic serial number or equipment identifier of the Device, or to perform a factory reset of the Device, without express permission from Vonage in each instance which Vonage may deny in its sole discretion. Vonage reserves the right to terminate your Service should you tamper with the Device, leaving you responsible for the full month's charges to the end of the current term, including without limitation unbilled charges, plus a disconnect fee, all of which immediately become due and payable. You agree not to hack or disrupt the service or to make any use of the Service that is inconsistent with its intended purpose or to attempt to do so.

1.7 Theft of Service

You agree to notify Vonage immediately, in writing or by calling the Vonage customer support line, if the Device is stolen or if you become aware at any time that your Service is being stolen or fraudulently used. When you call or write, you must provide your account number and a detailed description of the circumstances of the Device theft or fraudulent use of Service. Failure to do so in a timely manner may result in the termination of your Service and additional charges to you. Until such time as Vonage receives notice of the theft or fraudulent use, you will be liable for all use of the Service using a Device stolen from you and any and all stolen Service or fraudulent use of the Service.

1.8 Return of Device

The Device may be returned to Vonage within fourteen (14) days of the termination of Service to receive a credit for the \$39.99 disconnect fee (refer to section 4.6 of this document regarding termination fees), provided: (i) you have retained, and return along with the Device, proof of purchase and original packaging; (ii) contents are undamaged and in original condition, reasonable wear and tear excluded; (iii) all parts, accessories, documentation and packaging materials are returned; and (iv) equipment is returned with a valid return authorization number obtained from Vonage's customer care department. You are responsible for the cost and risk of return shipping of equipment. If you receive cartons and/or Devices that are visibly damaged, you must note the damage on the carrier's freight bill or receipt and keep a copy. In such event, you must keep the original carton, all packing materials and parts intact in the same condition in which they were received from the carrier and contact Vonage's customer care department immediately. To obtain a return authorization number, you must contact billing@vonage.com or 1-VONAGE-HELP.

1.9 Number Transfer on Service Termination

Upon termination of the Service, Vonage may, at its sole discretion, release a telephone number that was ported in from a previous service provider to Vonage by you and used in connection with your Service provisioned by Vonage to your new service provider, if such new service provider is able to accept such number, and provided that (i) your account has been terminated;

(ii) your Vonage account is completely current including payment for all charges and disconnect fees; and (iii) you request the transfer upon terminating your account.

1.10 Service Distinctions

You acknowledge and understand that the Service is not a telephone service. Important distinctions (some, but not necessarily all, of which are described in this Agreement) exist between telephone service and the enhanced Service offering provided by Vonage. The Service is subject to different regulatory treatment than telephone service. This treatment may limit or otherwise affect your rights of redress before Federal, State or Provincial telecommunications regulatory agencies.

1.11 Ownership and Risk of Loss

You shall be deemed the owner of the Device, and bear all risk of loss of, theft of, casualty to or damage to the Device, from the time it is shipped to you until the time (if any) when it is returned by you pursuant to Section 1.8 and has been received by Vonage.

1.12 No 0+ Calling; May Not Support x11 Calling

Vonage's Service does not support 0+ calling (including without limitation collect, third party billing or calling card calling). Vonage's Service may not support 311, 511 and/or other x11 (other than 911 and 411, which are provided for elsewhere in this Agreement) services in one or more (or all) service areas.

2. EMERGENCY SERVICES- 911 DIALING

2.1 Non-Availability of Traditional 911 or E911 Dialing Service

You acknowledge and understand that the Service does NOT support traditional 911 or E911 access to emergency services. Vonage does offer a limited 911-type service available only on Vonage Devices as described herein, but you acknowledge and understand that 911-type dialing is NOT automatic, that you must separately take affirmative steps, as described in this Agreement and on Vonage's website, to activate such 911-type dialing capabilities and that such 911-type dialing is different in a number of important ways (some, but not necessarily all, of which are described in this Agreement) from traditional 911 service. Vonage 911 dialing cannot be used in conjunction with a Vonage Soft Phone application and is only available on Vonage-certified Devices or Equipment. You agree to inform any household residents, guests and other third persons who may be present at the physical location where you utilize the Service of the non-availability of traditional 911 or E911 dialing from your Vonage Service and Device(s). If you activate Vonage 911-type dialing service, you agree to inform any household residents, guests and other third persons who may be present at the physical location where you utilize the Service as to the important differences and limitations of Vonage 911 dialing service as compared with traditional 911 or E911 dialing that are set forth in this Agreement.

2.2 Description of 911-Type Dialing Capabilities - Activation Required

Vonage does offer a 911-type dialing service in the U.S. (but may not offer such service in Canada) that is different in a number of important ways from traditional 911 service. You acknowledge and understand that 911-type dialing is NOT automatic. You must successfully activate the 911 dialing feature by following the instructions from the “Dial 911” link on your dashboard. You acknowledge and understand that you cannot dial 911 from this line unless and until you have received a confirming email. Once you have received a confirming email that 911 dialing has been successfully activated, you may dial 911 as needed. When you dial 911, your call is routed from the Vonage network to the Public Safety Answering Point (PSAP) or local emergency service personnel designated for the address that you listed at the time of activation. You acknowledge and understand that when you dial 911 from your Vonage equipment it is intended that you will be routed to the general telephone number for the PSAP or local emergency service provider (which may not be answered outside business hours), and may not be routed to the 911 dispatcher(s) who are specifically designated to receive incoming 911 calls using traditional 911 dialing. Vonage relies on third parties for the forwarding of information underlying such routing, and accordingly Vonage and its third party provider(s) disclaim any and all liability or responsibility in the event such information or routing is incorrect. As described herein, this 911-type dialing currently is NOT the same as traditional 911 or E911 dialing, and at this time, does not necessarily include all of the capabilities of traditional 911 dialing. Neither Vonage nor its officers or employees may be held liable for any claim, damage, or loss, and you hereby waive any and all such claims or causes of action, arising from or relating to 911 dialing unless it is proven that the act or omission proximately causing the claim, damage, or loss constitutes gross negligence, recklessness, or intentional misconduct on the part of Vonage. You agree to indemnify and hold harmless Vonage and its third party provider from any claim or action arising out of misroutes of 911 calls, including but not limited to your failure to follow correct activation procedures for 911 calling or your provision to Vonage of incorrect information in connection therewith.

2.3 Service Outage

2.3.1 Power Failure or Disruption

You acknowledge and understand that 911 dialing does not function in the event of a power failure or disruption. Should there be an interruption in the power supply, the Service and 911 dialing will not function until power is restored. A power failure or disruption may require the Customer to reset or reconfigure equipment prior to utilizing the Service or 911 dialing.

2.3.2 Broadband Service / ISP Outage or Termination / Suspension or Termination by Vonage

You acknowledge and understand that service outages or suspension or termination of service by your broadband provider and/or ISP or by Vonage will prevent ALL Service including 911 dialing.

2.3.3 Service Outage Due to Suspension of Your Account

You acknowledge and understand that service outages due to suspension of your account as a result of billing issues will prevent ALL Service, including 911 dialing.

2.3.4 Other Service Outages

You acknowledge and understand that if there is a service outage for ANY reason, such outage will prevent ALL Service, including 911 dialing. Such outages may occur for a variety of reasons, including, but not limited to those reasons described elsewhere in this Agreement.

2.3.5 Limitation of Liability and Indemnification

You acknowledge and understand that Vonage's liability is limited for any Service outage and/or inability to dial 911 from your line or to access emergency service personnel, as set forth in this document. You agree to defend, indemnify, and hold harmless Vonage, its officers, directors, employees, affiliates and agents and any other service provider who furnishes services to Customer in connection with this Agreement or the Service, from any and all claims, losses, damages, fines, penalties, costs and expenses (including, without limitation, reasonable attorneys fees) by, or on behalf of, Customer or any third party or user of Customer's Service relating to the absence, failure or outage of the Service, including 911 dialing and/or inability of Customer or any third person or party or user of Customer's Service to be able to dial 911 or to access emergency service personnel.

2.4 911 Dialing Requires Activation

You acknowledge and understand that 911 dialing does not function unless you have successfully activated the 911dialing feature by following the instructions from the "Dial 911" link on your dashboard, and until such later date that such activation has been confirmed to you through a confirming email. You acknowledge and understand that you cannot dial 911 from this line unless and until you have received a confirming email.

2.5 Failure to Designate the Correct Physical Address When Activating 911 Dialing

Failure to provide the current and correct physical address and location of your Vonage equipment by following the instructions from the "Dial 911" link on your dashboard will result in any 911 communication you may make being routed to the incorrect local emergency service provider. This must be the actual physical street address where you are located, not a post office box, mail drop or similar address.

2.6 Requires Re-Activation if You Change Your Number or Add or Port New Numbers

You acknowledge and understand that 911 dialing does not function if you change your phone number or (for such newly added or ported numbers) if you add or port new numbers to your account, unless and until you have successfully activated the 911 dialing feature for your changed, newly added or newly ported number by following the instructions from the "Dial 911" link on your dashboard, and until such later date that such activation has been confirmed to you through a confirming email. Although you may have activated 911 dialing with your former

Vonage phone number, you must separately activate 911 dialing for any changed or newly added or ported number.

2.7 Requires Re-Activation if You Move or Change Location

You acknowledge and understand that 911 dialing does not function properly or at all if you move or otherwise change the physical location of your Vonage Device to a different street address, unless and until you have successfully activated the 911 dialing feature following the instructions from the “Dial 911” link on your dashboard, and until such later date that such activation has been confirmed to you through a confirming email. 911 dialing must be re-activated although you may have activated 911 dialing using your former address, and you must separately activate 911 dialing for any new physical address. Failure to provide the current and correct physical address and location of your Vonage equipment will result in any 911 dialing you may make being routed to the incorrect local emergency service provider

2.8 Possibility of Network Congestion and/or Reduced Speed for Routing or Answering 911

Due to the technical constraints on the manner in which it is possible to provide the 911 dialing feature for Vonage Service at this time, you acknowledge and understand that there is a greater possibility of network congestion and/or reduced speed in the routing of a 911 communication made utilizing your Vonage equipment as compared to traditional 911 dialing over traditional public telephone networks. You acknowledge and understand that 911 dialing from your Vonage equipment will be routed to the general telephone number for the local emergency service provider (which may not be answered outside business hours), and will not be routed to the 911 dispatcher(s) who are specifically designated to receive incoming 911 calls at such local provider’s facilities when such calls are routed using traditional 911 dialing. You acknowledge and understand that there may be a greater possibility that the general telephone number for the local emergency service provider will produce a busy signal or will take longer to answer, as compared to those 911 calls routed to the 911 dispatcher(s) who are specifically designated to receive incoming 911 calls using traditional 911 dialing. You acknowledge and accept that Vonage relies on third parties for the forwarding of information underlying such routing, and accordingly Vonage and its third party provider(s) disclaim any and all liability or responsibility in the event such information or routing is incorrect. Vonage or its officers or employees, may not be held liable for any claim, damage, or loss, and you hereby waive any and all such claims or causes of action, arising from or relating to 911 dialing unless it is proven that the act or omission proximately causing the claim, damage, or loss constitutes gross negligence, recklessness, or intentional misconduct on the part of Vonage.

2.9 Automated Number Identification

At this time in the technical development of Vonage 911 dialing, it may or may not be possible for the Public Safety Answering Point (PSAP) and the local emergency personnel to identify your phone number when you dial 911. Vonage’s system is configured in most instances to send the automated number identification information; however, one or more telephone companies, not Vonage, route the traffic to the PSAP and the PSAP itself must be able to receive the

information and pass it along properly, and PSAPs are not yet always technically capable of doing so. You acknowledge and understand that PSAP and emergency personnel may or may not be able to identify your phone number in order to call you back if the call is unable to be completed, is dropped or disconnected, or if you are unable to speak to tell them your phone number and/or if the Service is not operational for any reason, including without limitation those listed elsewhere in this Agreement.

2.10 Automated Location Identification

At this time in the technical development of Vonage 911 Dialing, it is not possible to transmit identification of the address that you have listed to the Public Safety Answering Point (PSAP) and local emergency personnel for your area when you dial 911. You acknowledge and understand that you will need to state the nature of your emergency promptly and clearly, including your location, as PSAP and emergency personnel will NOT have this information. You acknowledge and understand that PSAP and emergency personnel will not be able to find your location if the call is unable to be completed, is dropped or disconnected, if you are unable to speak to tell them your location and/or if the Service is not operational for any reason, including without limitation those listed elsewhere in this Agreement.

2.11 Alternative 911 Arrangements

You acknowledge that Vonage does not offer primary line or lifeline services. You should always have an alternative means of accessing traditional E911 services.

3. CHANGES TO THIS AGREEMENT

Vonage may change the terms and conditions of this Agreement from time to time. Notices will be considered given and effective on the date posted on to the "Service Announcements" section of Vonage's website (currently located at http://www.vonage.com/features_terms_service.php). Such changes will become binding on Customer, on the date posted to the Vonage website and no further notice by Vonage is required. This Agreement as posted supersedes all previously agreed to electronic and written terms of service, including without limitation any terms included with the packaging of the Device and also supersedes any written terms provided to Retail Customers in connection with retail distribution, including without limitation any written terms enclosed within the packaging of the Device..

4. CHARGES / PAYMENTS / DEFAULT / TAXES / TERMINATION

4.1 Billing

You must give us a valid credit card number (Visa, MasterCard, Discover, American Express or any other issuer then-accepted by Vonage) when the Service is activated. Vonage reserves the right to stop accepting credit cards from one or more issuers. If the card expires, you close your account, your billing address changes, or the card is cancelled and replaced owing to loss or theft, you must advise Vonage at once. We will bill all charges, applicable taxes and surcharges monthly in advance (except for usage-based charges, which will be billed monthly in arrears, and any other charges which Vonage decides to bill in arrears) to your credit card, including but not limited to: activation fees, monthly Service fees, international usage charges, advanced feature

charges, equipment purchases, disconnect fees and shipping and handling charges. Vonage reserves the right to bill at more frequent intervals if the amount due at any time exceeds \$50. Any usage charges will be billed in increments that are rounded up to the nearest minute except as otherwise set forth in the rate schedules found on Vonage's website.

4.2 Billing Disputes

You must notify Vonage in writing within 7 days after receiving your credit card statement if you dispute any Vonage charges on that statement or such dispute will be deemed waived. Billing disputes should be notified to the following address:

Customer Care Billing Department

Vonage Holdings

2147 Route 27

Edison, NJ 08817

or

billing@vonage.com

or

1-VONAGE-HELP

4.3 Payment

Vonage accepts payments only by credit card as set forth in Section 4.1. Your initial use of the Service authorizes Vonage to charge the credit card account number on file with Vonage, including any changed information given Vonage if the card expires or is replaced, or if you substitute a different card, for Vonage charges as set forth in Section 4.1. This authorization will remain valid until 30 days after Vonage receives your written notice terminating Vonage's authority to charge your credit card, whereupon Vonage will charge you the disconnect fee and any other outstanding charges and terminate the Service. Vonage may terminate your Service at any time in its sole discretion, if any charge to your credit card on file with Vonage is declined or reversed, your credit card expires and you have not provided Vonage with a valid replacement credit card or in case of any other non-payment of account charges. Termination of Service for declined or expired card, reversed charges or non-payment leaves you FULLY LIABLE to Vonage for ALL CHARGES ACCRUED BEFORE TERMINATION and for all costs incurred by Vonage in collecting such amounts, such as (but not limited to) collection costs and attorney's fees.

4.4 Termination/Discontinuance of Service

Vonage reserves the right to suspend or discontinue providing the Service generally, or to terminate your Service, at any time in its sole discretion. If Vonage discontinues providing the Service generally, or terminates your Service in its discretion without a stated reason, you will only be responsible for charges accrued through the date of termination, including a pro-rated portion of the final month's charges. If your Service is terminated for any stated reason, including without limitation violation of this Agreement, or because of any improper use of the Service or Device (such as, but not limited to, your attempts to hack, disrupt, or misuse the Service or your acts or omissions that violate any acceptable use policy of Vonage or of a third

party provider to which Vonage is subject), you will be responsible for the full month's charges to the end of the current term, including without limitation unbilled charges, plus the disconnect fee set forth in Section 4.6, all of which immediately become due and payable.

4.5 Taxes

You are responsible for, and shall pay, any applicable federal, state, provincial, municipal, local or other governmental sales, use, excise, value-added, personal property, public utility or other taxes, fees or charges now in force or enacted in the future, that arise from or as a result of your subscription or use or payment for the Service or a Device. Such amounts are in addition to payment for the Service or Devices and will be billed to your credit card as set forth in this Agreement. If you are exempt from payment of such taxes, you shall provide Vonage with an original certificate that satisfies applicable legal requirement attesting to tax-exempt status. Tax exemption will only apply from and after the date Vonage receives such certificate.

4.6 Disconnect Fee

Customer will be charged a disconnect fee of \$39.99 per voice line upon termination of Service for any reason or for convenience by Customer. The disconnect fee becomes due and payable immediately upon termination and will be billed directly to Customer's credit card. If Customer has multiple lines, Customer will be charged a disconnect fee of \$39.99 per line for each line disconnected. To receive a credit for the disconnect fee, Customer must return the Device(s) undamaged and in original condition within fourteen (14) days of termination as set forth in Section 1.8. Vonage will not credit Customer if the Device(s) is damaged or not in its original condition as received by the Customer or if Customer has otherwise failed to comply fully with the requirements of Section 1.8. In the event Customer disconnects multiple lines, Vonage will issue Customer a credit for all disconnect fees upon receipt of all Devices (including without limitation Multimedia Terminal Adapters) in accordance with this Section and Section 1.8.

4.7 Money Back Guarantee; Limitations and Conditions

Vonage offers a 14-day Money Back Guarantee (30 or 90 days for Retail Customers; see offer details in advertising or online content of the retailer from whom Retail Customer purchased Equipment for the applicable time period) (such 14, 30 or 90 day period, the "Warranty Period"), applicable only to User's first-ordered line per account, not to additional or secondary lines. Under terms of this Money Back Guarantee, Vonage refunds the activation fee, first month of service, and shipping charges and waives the disconnect fee, provided the terms described below are satisfied. Federal excise taxes and any other applicable taxes cannot be refunded. Vonage reserves the right to terminate or revoke this Money Back Guarantee at any time, without prior notice.

In order to be entitled to this Money Back Guarantee, User (i) must cancel service within the number of days in the Warranty Period after the account activation; (ii) must return all Devices within 14 days after cancellation pursuant to Sections 1.8 and 4.6; and (iii) must not have exceeded 250 minutes of usage (500 minutes for Retail Customers). User remains responsible for any charges for domestic usage in excess of the amount included within the Plan to which

User subscribes, international usage (including the charges described in Section 4.9), payphone calls to Vonage toll free numbers and directory assistance. THIS MONEY BACK GUARANTEE DOES NOT APPLY TO ACCOUNTS EXCEEDING 250 MINUTES (500 MINUTES FOR RETAIL CUSTOMERS) OF USAGE AND SUCH ACCOUNTS ARE NOT ELIGIBLE FOR REFUND OF ANY OF THE CHARGES DESCRIBED HEREIN.

In addition to the requirements set forth in Section 1.8, all returned Devices must be in the original packaging with the UPC or bar code intact. All components, manuals and registration card(s) must be included. Equipment must be returned with a valid return authorization number obtained from Vonage customer care. User is responsible for the cost and risk of return shipping of equipment. THE MONEY BACK GUARANTEE WILL NOT BE HONORED IF USER FAILS TO MEET ALL SUCH REQUIREMENTS.

To obtain a return authorization number, User must contact billing@vonage.com or 1-VONAGE-HELP.

4.8 Payphone Charges

If you make use of Vonage's Toll Free Plus feature any toll free feature that may be offered by Vonage in the future, you acknowledge and agree that Vonage is entitled to recover from you any charges imposed on Vonage by payphone owners or operators, either directly or indirectly through Vonage's suppliers in connection with toll free calls made to your number, or any charges imposed on Vonage by its suppliers to recover such costs. Vonage may recover these amounts by means of a per-call charge, rounded up to the next cent, or in such other fashion as Vonage deems appropriate for the recovery of these costs.

4.9 Charges for Directory Calls

Vonage will charge 99 cents for each call made to Vonage directory assistance.

5. WARRANTY and LIABILITY LIMITATIONS / INDEMNIFICATION

5.1 Limitation of Liability

Vonage shall not be liable for any delay or failure to provide the Service, including 911 dialing, at any time or from time to time, or any interruption or degradation of voice quality that is caused by any of the following:

- 1.) act or omission of an underlying carrier, service provider, vendor or other third party;
- 2.) equipment, network or facility failure;
- 3.) equipment, network or facility upgrade or modification;
- 4.) force majeure events such as (but not limited to) acts of god; strikes; fire; war; riot; government actions;
- 5.) equipment, network or facility shortage;

- 6.) equipment or facility relocation;
- 7.) service, equipment, network or facility failure caused by the loss of power to Customer;
- 8.) outage of Customer's ISP or broadband service provider;
- 9.) act or omission of Customer or any person using the Service or Device provided to Customer;
or
- 10.) any other cause that is beyond Vonage's control, including without limitation a failure of or defect in any Device, the failure of an incoming or outgoing communication, the inability of communications (including without limitation 911 dialing) to be connected or completed, , or degradation of voice quality.

Vonage's aggregate liability for (i) any failure or mistake; (ii) any claim with respect to Vonage's performance or nonperformance hereunder or (iii) any Vonage act or omission in connection with the subject matter hereof shall in no event exceed Service charges with respect to the affected time period.

5.2 Disclaimer of Damages

IN NO EVENT SHALL VONAGE, ITS OFFICERS, DIRECTORS, EMPLOYEES, AFFILIATES OR AGENTS OR ANY OTHER SERVICE PROVIDER WHO FURNISHES SERVICES TO CUSTOMER IN CONNECTION WITH THIS AGREEMENT OR THE SERVICE BE LIABLE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF DATA, LOSS OF REVENUE OR PROFITS, OR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OR INABILITY TO USE THE SERVICE, INCLUDING INABILITY TO BE ABLE TO DIAL 911 OR TO ACCESS EMERGENCY SERVICE PERSONNEL THROUGH THE SERVICE. THE LIMITATIONS SET FORTH HEREIN APPLY TO CLAIMS FOUNDED IN BREACH OF CONTRACT, BREACH OF WARRANTY, PRODUCT LIABILITY, TORT AND ANY AND ALL OTHER THEORIES OF LIABILITY AND APPLY WHETHER OR NOT VONAGE WAS INFORMED OF THE LIKELIHOOD OF ANY PARTICULAR TYPE OF DAMAGES.

5.3 Indemnification

Customer agrees to defend, indemnify, and hold harmless Vonage, its officers, directors, employees, affiliates and agents and any other service provider who furnishes services to Customer in connection with this Agreement or the Service, from any and all claims, losses, damages, fines, penalties, costs and expenses (including, without limitation, reasonable attorneys fees) by, or on behalf of, Customer or any third party or user of Customer's Service, relating to this Agreement, the Services, including 911dialing, or the Device. This paragraph shall survive termination of this Agreement.

5.4 No Warranties on Service

VONAGE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS OF THE SERVICE FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT OR ANY WARRANTY ARISING BY USAGE OF TRADE, COURSE OF DEALING OR COURSE OF PERFORMANCE OR ANY WARRANTY THAT THE SERVICE WILL MEET CUSTOMER'S REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, VONAGE DOES NOT WARRANT THAT THE SERVICE WILL BE WITHOUT FAILURE, DELAY, INTERRUPTION, ERROR, DEGRADATION OF VOICE QUALITY OR LOSS OF CONTENT, DATA OR INFORMATION. NEITHER VONAGE NOR ITS OFFICERS, DIRECTORS, EMPLOYEES, AFFILIATES OR AGENTS OR ANY OTHER SERVICE PROVIDER OR VENDOR WHO FURNISHES SERVICES OR PRODUCTS TO CUSTOMER IN CONNECTION WITH THIS AGREEMENT OR THE SERVICE WILL BE LIABLE FOR UNAUTHORIZED ACCESS TO VONAGE'S OR CUSTOMER'S TRANSMISSION FACILITIES OR PREMISES EQUIPMENT OR FOR UNAUTHORIZED ACCESS TO, OR ALTERATION, THEFT OR DESTRUCTION OF, CUSTOMER'S DATA FILES, PROGRAMS, PROCEDURES OR INFORMATION THROUGH ACCIDENT, FRAUDULENT MEANS OR DEVICES OR ANY OTHER METHOD, REGARDLESS OF WHETHER SUCH DAMAGE OCCURS AS A RESULT OF VONAGE'S OR ITS SERVICE PROVIDER'S OR VENDORS' NEGLIGENCE. STATEMENTS AND DESCRIPTIONS CONCERNING THE SERVICE OR DEVICE, IF ANY, BY VONAGE OR VONAGE'S AGENTS OR INSTALLERS ARE INFORMATIONAL AND ARE NOT GIVEN AS A WARRANTY OF ANY KIND.

5.5 No Warranties, or Limited Warranties, for Devices

If Customer received the Device new from Vonage and the Device included a limited warranty at the time of receipt, Customer must refer to the separate limited warranty document provided with the Device for information on the limitation and disclaimer of certain warranties. Remedies for breach of any such warranties will be limited to those expressly set forth in such documentation. If Customer's Device did not include a limited warranty from Vonage at the time of receipt, Customer agrees that it accepts its Device "as is" and that Customer is not entitled to replacement or refund in the event of any defect, except that for Retail Customers only, Vonage will provide a limited warranty on the Device as to manufacturing defects only for a period of one (1) year from the date of purchase. This Retail Customer limited warranty shall not apply to any defect or failure other than a manufacturing defect, and, without limiting the generality of the foregoing, shall not apply to any defect caused by damage in transit, retailer handling or Retail Customer handling. Retail Customer's sole remedy for any breach of this Retail Customer limited warranty is to obtain a repaired or replacement Device, by following the return procedures set forth in Section 1.8. Retail Customer must include with the returned Device a letter stating that the Retail Customer is returning the Device for warranty repair or replacement and stating the nature of the defect. This Retail Customer limited warranty shall also apply in lieu of the limited warranty included with the Device if such included limited warranty is less favorable to Retail Customer than that contained herein.. OTHER THAN WARRANTIES AS TO THE DEVICE EXPRESSLY SET FORTH IN DOCUMENTATION PROVIDED WITH THE DEVICE AND THE RETAIL CUSTOMER LIMITED WARRANTY EXPRESSLY SET FORTH HEREIN, VONAGE MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF

MERCHANTABILITY, FITNESS OF THE DEVICE FOR A PARTICULAR PURPOSE, TITLE OR NON-INFRINGEMENT OR ANY WARRANTY ARISING BY USAGE OF TRADE, COURSE OF DEALING OR COURSE OF PERFORMANCE OR ANY WARRANTY THAT THE, DEVICE OR ANY FIRMWARE OR SOFTWARE IS “ERROR FREE” OR WILL MEET CUSTOMER’S REQUIREMENTS. THE FOREGOING WILL NOT BE DEEMED TO LIMIT ANY DISCLAIMER OR LIMITATION OF WARRANTY SET FORTH IN THE DOCUMENTATION PROVIDED WITH THE DEVICE.

5.6 No Third Party Beneficiaries

No provision of this Agreement provides any person or entity not a party to this Agreement with any remedy, claim, liability, reimbursement, or cause of action or creates any other third party beneficiary rights.

5.7 Content

You are liable for any and all liability that may arise out of the content transmitted by or to you or Users using the Services. You shall assure that your or User’s use of the Services and content will at all times comply with all applicable laws, regulations and written and electronic instructions for use. Vonage reserves the right to terminate or suspend affected Services, and/or remove your or Users’ content from the Services, if Vonage determines that such use or content doer not conform with the requirements set forth in this Agreement or interferes with Vonage’s ability to provide Services to you or others or receives notice from anyone that your or Users’ use or Content may violate any laws or regulations. Vonage’s actions or inaction under this Section shall not constitute review or approval of your or Users’ use or Content. You will indemnify and hold Vonage against any and all liability arising from the content transmitted by or to you or to Users using the Services. A “User” means any person, whether authorized or unauthorized, using the Service and/or Device provided to you.

6. GOVERNING LAW / RESOLUTION OF DISPUTES

6.1 Mandatory Arbitration

Any dispute or claim between Customer and Vonage arising out of or relating to the Service or Device provided in connection with this Agreement shall be resolved by arbitration before a single arbitrator administered by the American Arbitration Association in accordance with its Commercial Arbitration Rules (or, for Customers subscribing to service in Canada, a Canadian arbitration organization of Vonage’s choosing). The arbitration shall take place in New York, New York (or, for Customers subscribing to service in Canada, Toronto, Ontario) and shall be conducted in English. The arbitrator’s decision shall follow the plain meaning of the relevant documents, and shall be final and binding. Without limiting the foregoing, the parties agree that no arbitrator has the authority to: (i) award relief in excess of what this Agreement provides; or (ii) award punitive or exemplary damages. Judgment on the award rendered by the arbitrators may be entered in any court having jurisdiction thereof. All claims shall be arbitrated individually and Customer will not bring, or join any class action of any kind in court or in arbitration or seek to consolidate or bring previously consolidated claims in arbitration.

CUSTOMER ACKNOWLEDGES THAT THIS ARBITRATION PROVISION CONSTITUTES A WAIVER OF ANY RIGHT TO A JURY TRIAL.

6.2 Governing Law

The Agreement and the relationship between you and Vonage shall be governed by the laws of the State of New Jersey (or, for Customers subscribing to service in Canada, applicable Canadian law) without regard to its conflict of law provisions. To the extent court action is initiated to enforce an arbitration award or for any other reason consistent with Section 6.1, you and Vonage agree to submit to the personal and exclusive jurisdiction of the courts located within the state of New Jersey (or, for Customers subscribing to service in Canada, courts sitting within the province of Ontario) and waive any objection as to venue or inconvenient forum. The failure of Vonage to exercise or enforce any right or provision of the Agreement shall not constitute a waiver of such right or provision. If any provision of the Agreement is found by a court of competent jurisdiction to be invalid, the parties nevertheless agree that the court should endeavor to give effect to the parties' intentions as reflected in the provision, and the other provisions of the Agreement remain in full force and effect. You agree that regardless of any statute or law to the contrary, any claim or cause of action arising out of or related to use of the Service or the Agreement must be filed within one (1) year after such claim or cause of action arose or be forever barred.

6.3 Entire Agreement

This Agreement and the rates for Services found on Vonage's website constitute the entire agreement between you and Vonage and govern your use of the Service, superseding any prior agreements between you and Vonage and any and all prior or contemporaneous statements, understandings, writings, commitments, or representations concerning its subject matter. No amendment to this Agreement shall be binding upon Vonage unless and until posted in accordance with Section 3 hereof.

6.4 Severability

If any part of this Agreement is legally declared invalid or unenforceable, all other parts of this Agreement are still valid and enforceable. Such invalidity or non-enforceability will not invalidate or render unenforceable any other portion of this Agreement.

7. PRIVACY

Vonage Service utilizes, in whole or in part, the public Internet and third party networks to transmit voice and other communications. Vonage is not liable for any lack of privacy which may be experienced with regard to the Service. Please refer to our Privacy Policy applicable to you at www.vonage.com for additional information.

Last Updated: April 27, 2004

ATTACHMENT 2

Vonage's Emergency Calling Service: A Description of the Service, its Limitations, and Vonage's Disclosures to its Customers

Prior to Vonage's entry onto the market two years ago, no attention was given to VoIP emergency calling. Vonage, nonetheless, undertook to provide a form of emergency calling that would permit its customers to access emergency services by dialing the familiar digits, "911." Vonage did so because it anticipated that that the market would require providers to offer this service in order to compete. In developing the solution, Vonage engaged Intrado, a company with 25 years of experience providing 911 services. As a result, Vonage has been hailed as the industry leader in developing VoIP 911 solutions and is committed to the development of a VoIP 911 system that is every bit as robust and feature-laden as that offered on the PSTN. Indeed, as VoIP and the delivery of Internet-based services develops, Vonage anticipates the development of information-rich "i-911" services, which will provide public safety responders with, among other things, health records and floor plans before arriving on the scene of an incident.

Vonage is also a signatory to an agreement with the National Emergency Number Association ("NENA") on VoIP 911 implementation, and is actively involved in industry efforts to overcome the technological hurdles that currently prevent seamless compatibility between current 911 systems and VoIP-based emergency calling services. Thus, Vonage is constantly working to improve the service, and is currently involved in trials in Minnesota, Florida, Rhode Island, Texas and Washington.

In addition to its agreement with NENA on 911 implementation, Vonage is working directly with that organization and others to set standards for a next generation IP enabled 911

system. Vonage's CEO has also testified before Congress and participated in two FCC "Solution Summits" regarding national solutions for VoIP 911.

Nonetheless, because of the technical limitations of current IP networks and the legacy PSTN infrastructure, Vonage is not currently able to offer the same forms of 911 access offered by local wireline telephone companies. Although Vonage, via its telecommunications providers, is capable of routing calls to the publicly available administrative number of the local PSAP, Vonage is unable to provide traditional E911 for several reasons. First, unlike in a fixed PSTN configuration, Vonage's customers can connect to any broadband Internet connection; as a result of the mobility of the service and the geographically-agnostic nature of IP networks, Vonage can not automatically determine the location of the caller or transmit the location information directly to the PSAP. This limitation also restricts Vonage's ability to facilitate automated call routing. Furthermore, the current capabilities of Vonage's Internet-based "911" solution are also limited by the existing PSTN infrastructure. Much of this emergency calling infrastructure is incapable of routing or handling IP based communications and routing out-of-region calls.

The first part of this submission reviews the technical limitations currently inherent in Vonage's Internet-based "911" solution. The second part reviews the extraordinary measures Vonage takes to ensure that its customers understand those limitations.

I. Vonage's 911 Service

To understand the 911 calling issues confronting Vonage and other VoIP providers, it is helpful to consider how traditional, land-line telephone 911 calling works. When an end-user on the public switched telephone network ("PSTN") places a 911 call, the Class 5 switch (or its

equivalent) controlling that end-user's service automatically routes the call to the appropriate 911 tandem switch (called a 911 Tandem or Selective Router ("SR")), which, in turn, routes the call along dedicated trunks to the public safety answering point ("PSAP") designated to serve that end-user. Intrado maps the customer to the appropriate PSAP based on the physical address the customer provides, which can be changed if the customer chooses to access the service from a different location.

Most PSAPs today are equipped with advanced computer equipment capable of utilizing the Automatic Location Identification ("ALI") and Automatic Number Identification ("ANI") that is routed with the call. That information facilitates emergency response and follow-up, when necessary. Indeed, "E911" service is characterized by the routing of ANI and ALI information to the PSAP.

This system has been developed over several decades and works well for land-line phones, which are fixed at the end of "local loops," which are themselves connected to centralized switching equipment operated by local telephone companies. Developing 911 and E911 calling for networks other than the PSTN has proved difficult and time consuming. For example, the FCC did not begin to consider providing E911 calling capability for wireless calls until 1994, and implementation of wireless 911 calling is still underway.

Because Vonage customers are not directly connected to this PSTN infrastructure, Vonage cannot provide dedicated E911 calling for many of the same reasons that wireless providers could not provide that service until just recently. First, because Vonage customers are connected to the Internet, not to the PSTN, the automatic, dedicated call routing functionality that routes PSTN 911 calls directly to the PSAP, and transmits ANI and ALI information, is not

available to Vonage. And because Vonage customers access the service over the Internet, Vonage cannot determine the geographic location of its 911 callers, nor can the appropriate PSAP automatically be identified based on the Vonage customer's exchange because those exchanges are not associated with fixed geographic areas.

As the Commission is aware, calls initiated by Vonage customers are aggregated on one of Vonage's Internet servers, where they are then handed off to regulated telecommunications carriers (either interexchange carriers or competitive local exchange carriers) who route the call to the designated PSTN telephone number. Thus, 911 calls placed by Vonage customers are not routed over dedicated circuits to the PSAP, but are instead routed over the PSTN by a CLEC to the appropriate PSAP's 10-digit phone number. Also, because calls made using Vonage's service are not routed over E911 dedicated trunks, Vonage can not currently provide ALI or ANI to the PSAP operator.²⁶

Finally, Vonage has different quality-of-service characteristics than traditional PSTN calling. For example, although many customers have power back-up capabilities, Vonage's service primarily depends on the electric power provided by the local electric utility and on the Internet connection provided by the Vonage customer's broadband ISP, neither of which Vonage controls.

II. Vonage Fully Discloses The Limitations of its 911 Calling Service to Customers

Vonage fully discloses the limitations of its 911 service, and ensures that customers are fully aware of those limitations by explaining them at three separate points when a new

²⁶ ANI information is, however, transmitted to the PSAP administrative number when a call is routed to such a station.

subscriber joins Vonage. A Vonage subscriber cannot sign up for service without explicitly and affirmatively accepting or declining 911 services. Moreover, Vonage's Terms of Service (TOS) explain the 911 offering in extensive detail. This section explains the information that Vonage provides its customers regarding its 911 service.

A. Vonage's Terms of Service

When a new customer signs up for service, he or she is navigated through a series of screens on the Internet where various information is collected. On the third screen of the sign-up process, the prospective customer encounters Vonage's TOS, to which each customer must affirm agreement before continuing on with the sign-up process.²⁷ Section 2 of the TOS, titled "Emergency Services – 911 Dialing," devotes four pages to describing the service in great detail. Because of its length, the section of the TOS devoted to 911 calling is attached as an appendix. (See attachment 1.) This section summarizes the disclosures found in the TOS.

Non-Availability of Traditional 911 or E911 Dialing Service – The first section (§ 2.1) of the 911 TOS explains:

1. that Vonage's service does NOT support traditional 911 or E911 access to emergency services and is different from traditional 911 in several important ways (many, but not all of which, are disclosed in the TOS);
2. that the service is available only on certain Vonage devices (*e.g.*, not softphones);
3. that Vonage's 911 dialing service is NOT automatic – *e.g.*, that customers must take affirmative steps to activate 911-type dialing capabilities;
4. that customers should "inform any household residents, guests and other third persons who may be present at the physical location where you utilize the Service

²⁷ See <https://subscribe.vonage.com/vonage-subscribe/subscribe/step0.do>. The TOS can also be accessed via a link on the Home page of Vonage's website, without going through the sign-up process.

of the non-availability of traditional 911 or E911 dialing from your Vonage Service and Device(s).”

Description of 911-Type Dialing Capabilities - Activation Required – This section (§ 2.2)

of the TOS emphasizes, again, that customers must affirmatively activate the service by providing Vonage with certain information, and explains in detail the differences between Vonage’s service and traditional E911 service. This section explains:

1. that the customer must “successfully activate the 911 dialing feature by following the instructions from the ‘Dial 911’ link on the customer’s Internet “dashboard,” and that the service cannot be activated until the customer receives a confirming email;
2. that there are certain technical differences between Vonage’s 911 service and traditional 911, including the following:
 - a. that Vonage’s routing of 911 calls to the PSAP is based on information provided by the customer (*e.g.*, Vonage cannot automatically determine the appropriate PSAP);
 - b. that Vonage customers’ 911 calls are not necessarily routed to the same PSAP that answers regular PSTN 911 calls; the TOS also explain (§ 2.8) that Vonage emergency calls are often routed to the “general telephone number for the local emergency service provider,” and that, as a consequence, “there may be a greater possibility [that the call] will produce a busy signal or will take longer to answer, as compared to those 911 calls routed to the 911 dispatcher(s) who are specifically designated to receive incoming 911 calls using traditional 911 dialing;”
 - c. that Vonage’s 911 service is provided by third parties.

Service Outage – Section 2.3 of the TOS addresses service outages, many of which are unique to VoIP services such as Vonage’s. This section explains that Vonage’s service, in general, and 911 calling, in particular, is subject to disruption in the following circumstances:

1. Power failure or disruption (the TOS explain that after a power failure or disruption, the customer may have to reset or reconfigure the Vonage equipment) (§ 2.3.1);

2. Broadband Service / ISP Outage or Termination / Suspension or Termination by Vonage (the TOS explain that since Vonage's service requires a broadband Internet connection, Vonage's 911 calling service will not function if that connection is lost for whatever reason) (§ 2.3.2-4).

Other service characteristics – The TOS also explain the following other aspects of Vonage's emergency calling service:

1. that use of the service requires the customer to provide Vonage with correct address information (§ 2.5);
2. that the service must be re-activated if the customer changes her number (§ 2.6);
3. that the service must be reactivated if the customer moves or changes location (§ 2.7) (In other words, emergency calling is portable, but that if a Washington, DC based customer wishes to use the emergency calling feature while temporarily located in New York, the customer must revise the location information provided to Vonage. If the customer fails to do so, and dials "911" while in New York, the call will be routed to the Washington, DC PSAP assigned to the customer-provided address when service was initiated);
4. that service performance, including emergency calling performance, depends, at least in part, on the quality of the Internet connection provided by 3rd party ISPs (§ 2.8);
5. The TOS also explain in great detail the reasons for, and the consequences of, the inability of Vonage's emergency calling service to provide PSAPs with ANI and ALI information (§ 2.9 (ANI) and § 2.10 (ALI));
6. Finally, the TOS explain that Vonage's 911 calling service is not intended as a primary line or lifeline service: "You should always have an alternative means of accessing traditional E911 services" (§ 2.11).

B. Information Disclosed During the Sign-Up Process

To ensure that its customers are fully aware of the limitations of its VoIP 911 service, Vonage also transmits this information during the sign-up process. Thus when a customer signs up for service, he or she encounters the following screen, which "STRONGLY urge[s]" the customer to sign-up for 911, but summarizes the limitations identified above:

VONAGE digitalvoice THE BROADBAND PHONE COMPANY

Welcome - [Kevin] [Pento]
Account Number: [1002053870] Account Status: [Active]
Account Name: [Vonage Holdings Corp] [Reprocess Payment](#)

[Dashboard](#) [Activity](#) [Billing](#) [Voicemail](#) [Profile](#) [Account](#) [Users](#) [Orders](#) [Features](#) [Care Center](#) [Contact](#) [Log Out](#)

Dialing 911 FAQ's

Dialing 911 • [SIGN UP TO DIAL 911](#)

Your Safety is Important
Vonage is proud to offer 911 dialing. When you dial 911, your call is routed from the Vonage network to your local emergency service dispatcher. There are several important differences between our Emergency Services dialing and traditional 911 dialing that you need to know:

You Must Pre-designate the Physical Location of your Vonage Line for 911 Dialing to Function.

- Remember that unlike traditional phone lines, Vonage service is portable to any location with broadband internet access. For example, you can have a New York number and receive calls in Texas. You can also take your equipment with you on a trip but, when you travel, 911 Dialing will not function at your temporary location because when you dial 911, it will be automatically routed to the local emergency personnel location for the address on file.
- When you sign up for service, you fill out a short form that tells us your actual physical address. When you dial 911, the call is routed to the local emergency personnel location designated for the address you register on file here.
- When you move, you MUST provide your new location. You can conveniently update your new location online.
- Because your 911 call could be from anywhere, we need you to verify the physical location of your phone in order to activate this 911 dialing feature from your phone.

911 Dialing Isn't Automatic. You Must Pre-Activate 911 Dialing. You May decline 911 Dialing.

- We STRONGLY urge you to activate 911 Dialing. Even if you don't plan to make 911 calls from your Vonage line, there may be others who do. You can't plan in advance for all conditions, but for example, a residential line could be used by babysitters, young children, inlaws, and others who may not know that you didn't want to make 911 calls. If you decline, you or others will not be able to call 911 from this Vonage line. Don't play games with your safety.

Service Outages Can Prevent 911 Dialing.

- 911 Dialing and Vonage Service DO NOT function during an electrical power or broadband provider outage.

Important Note
Please refer to the Dialing 911 section in our Terms of Service for important information on potential limitations of this 911 feature, including the differences between our 911 Dialing feature and traditional 911 dialing.

At the bottom of the first screen, the customer *must* click on either the “Activate 911 Dialing” or “Decline 911 Dialing” buttons. If the customer chooses to activate 911 Dialing, the customer then navigates to the following screen, which solicits physical address information, which is used

by Vonage's 911 vendor (Intrado) to identify the appropriate PSAP to route the call to in the event the customer places an emergency call:

Dialing 911 The address information that you submit will be used to guide emergency responders to your location if you dial 911.

Physical Address Information:

Please enter your actual street address. This address is where emergency personnel will be dispatched. Do not enter a P.O. Box.

1. Activate 911 Dialing for the Following Number: [1111]

2. Enter Your Physical Address Information Below for Use in Routing call to Correct Emergency Personnel.

When you dial 911, the call is routed to the local emergency personnel designated for this address.

See below for Terms and Conditions.

*Number *Street *Street Suffix

Address Line 2

*City *State *Zip

* Required Field

Physical Address Format Sample

*Number *Street *Street Suffix
123 Main Ave

Address Line 2
Suite 1287

*City *State *Zip
Boston Massachusetts 02134

* Required Field

Please fill in your Physical Address Information in this format.

3. Dialing 911 Terms of Service.

911 Dialing Terms of Service:

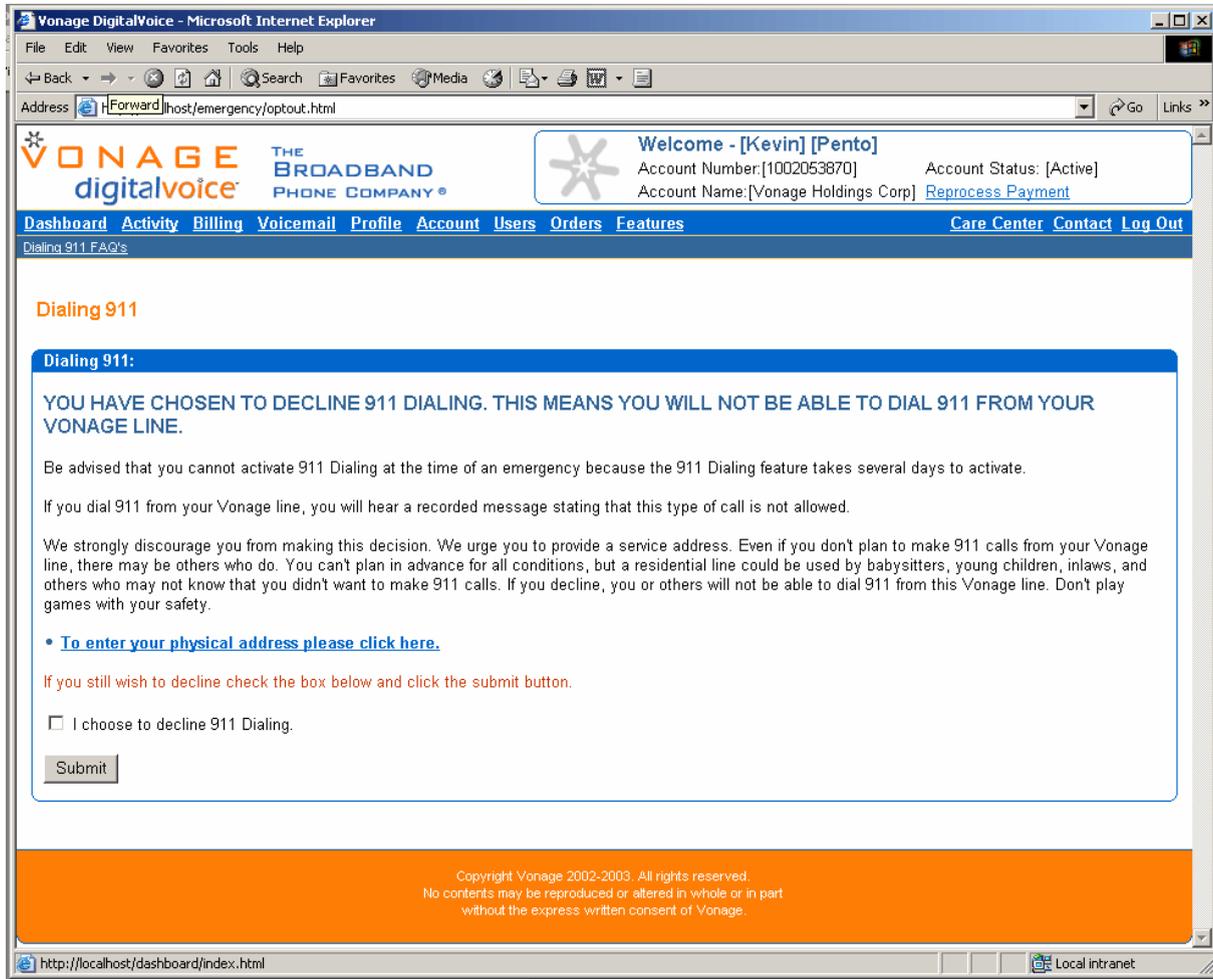
Description of 911 Dialing Service:
You acknowledge and understand that 911 Dialing is NOT automatic. You must successfully activate the 911 Dialing feature by following the instructions from the Dial 911 link on your Dashboard. You acknowledge and understand that you cannot dial 911 from this Line unless and until you have received a confirming email. Once you have received a confirming email that 911 Dialing has been

I Agree to the Vonage Dialing 911 Terms of Service.
 I do not agree.

Submit

And not only does screen explain the importance of entering the correct address information, it contains the 911 Dialing Terms of Service summarized above, which the customer must “agree to” for the second time in order to receive the service.

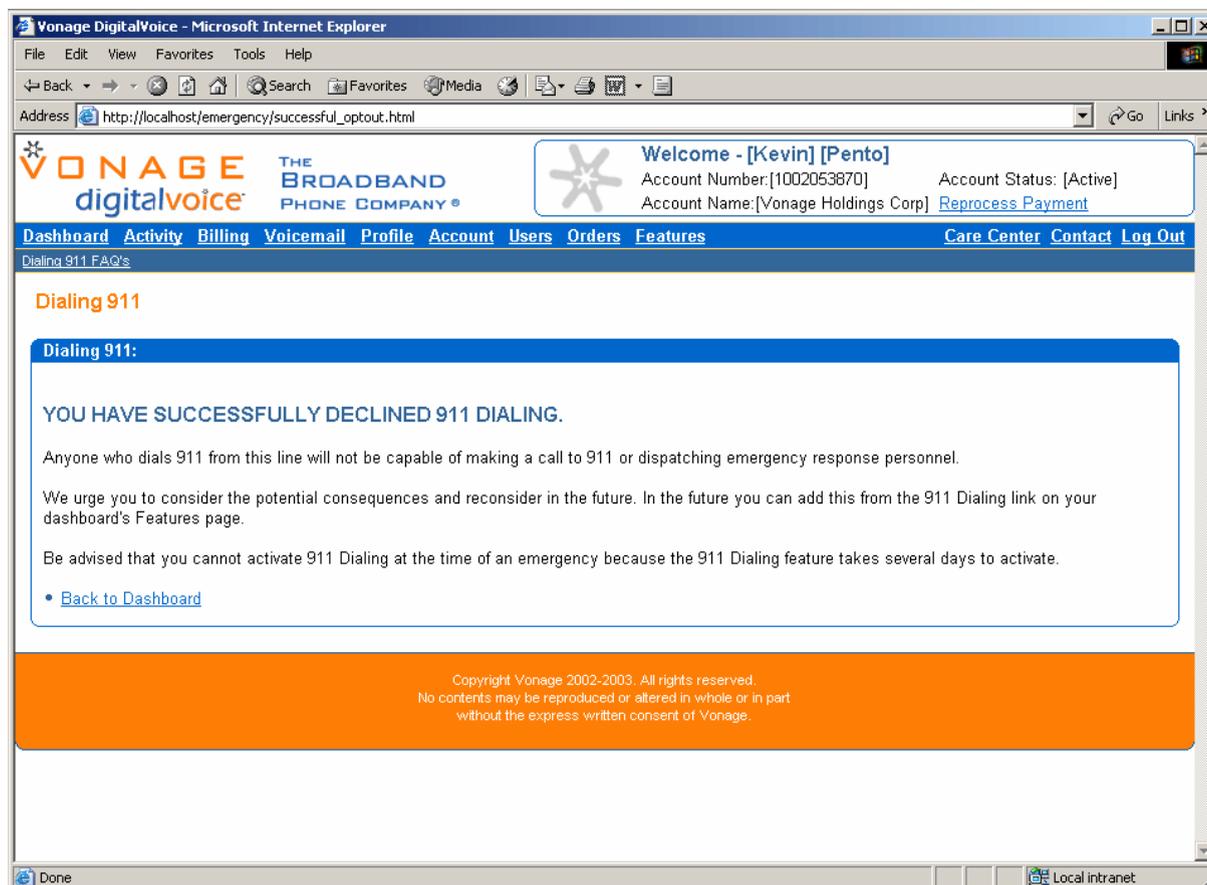
If a customer declines to activate 911 Dialing, he or she is then routed through a series of screens that explain the potential ramifications of that decision:



The above screen explains that the decision to opt out of 911 service can have potentially severe ramifications, and the customer is, once again, urged to sign-up for the service.

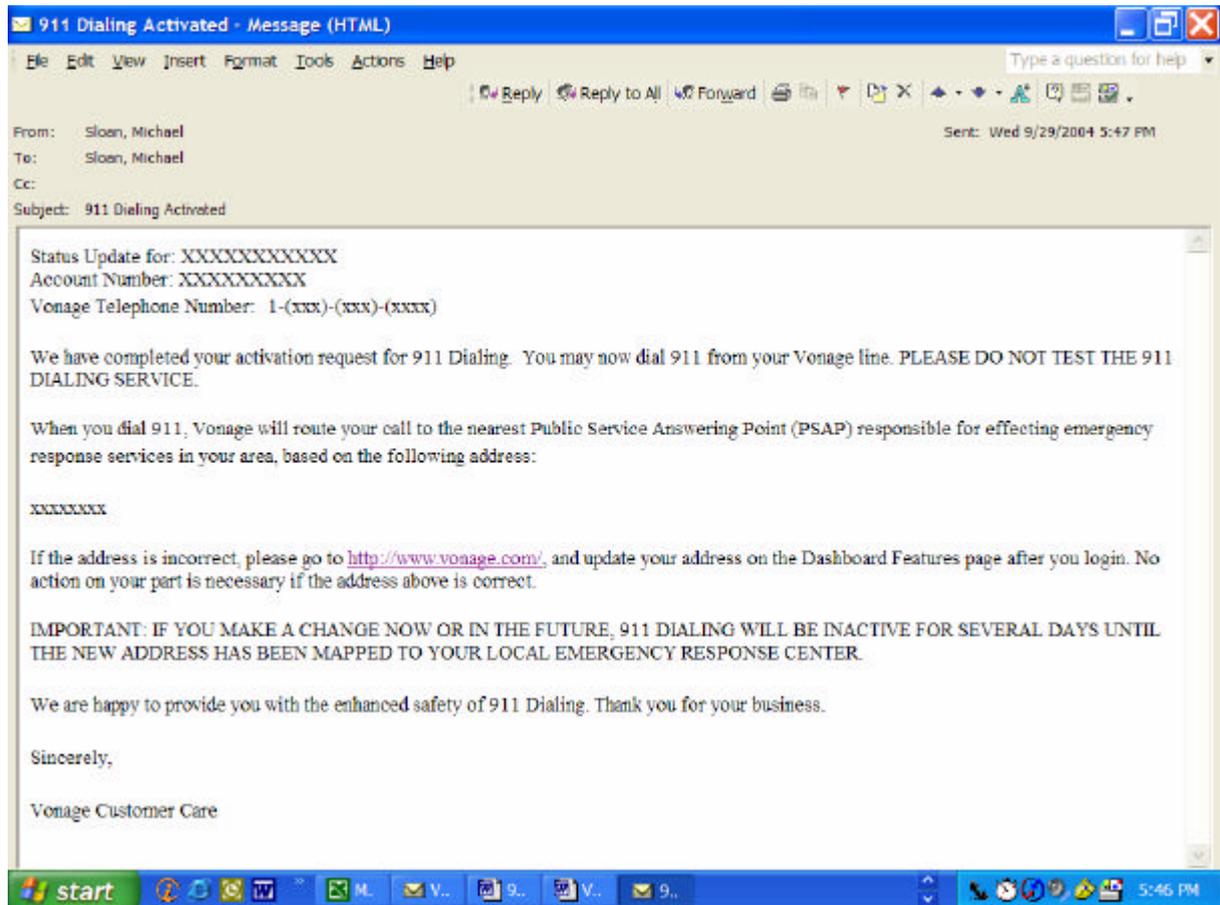
In order to fully opt-out of 911, the customer must affirmatively decline the service for a second time. Upon doing so, the customer receives yet an additional reminder (see below) that, “anyone who dials 911 from this line will not be capable of making a call to 911 or dispatching

emergency response personnel.” The customer is “urged to consider the potential consequences” of choosing to decline 911 service, and to consider signing up for the service in the future:



At the same time, Vonage takes pains not to disguise the limitations of its 911 calling service.

In addition to the disclaimers and disclosure of the limitations reviewed above, Vonage customers are provided with this information for a *third* time after they sign-up for the service via e-mail communications from Vonage:



And upon activating 911, the customer receives yet another e-mail alert, the text of which is provided below:

Account Number: XXXXXXXXXX
Telephone Number: 1-(xxx)-xxx-xxxx

Customer Name
Address

Dear Customer,

Thank you for requesting 911 Dialing for phone number [REDACTED].
Please read the following information carefully.

DIALING 911 IS NOT YET ACTIVATED ON YOUR PHONE LINE. THIS PROCESS MAY
TAKE SEVERAL DAYS. DO NOT DIAL 911 FROM THIS PHONE LINE UNTIL YOU GET A
CONFIRMATION EMAIL FROM US.

Please review these steps to better understand how Vonage
DigitalVoice(tm)'s Dialing 911 feature works.

. Using the information you provided, we will map your address and
telephone number to your area's nearest Public Safety Answering Point
("PSAP").

. This process will be completed within several days.

. We will email you a CONFIRMATION LETTER as soon as the 911 Dialing
feature has been activated for [REDACTED]. (Note that if you have
multiple Vonage DigitalVoice(tm) numbers you MUST activate 911 Dialing
for each number separately.)

. When you dial 911 from your Vonage DigitalVoice(tm) phone, your
call is routed from the Vonage DigitalVoice(tm) network over the Public
Switch Telephone Network ("PSTN") to your PSAP's general number, where a
trained professional will provide you with assistance.

PLEASE REMEMBER THAT 911 DIALING IS DIFFERENT THAN TRADITIONAL 911. We
encourage you to login to your Vonage DigitalVoice(tm) account and click
on Features in your Account Dashboard to learn more.

Please contact us by:

Email: customercare@vonage.com
Toll Free Phone: 1-VONAGE-HELP (1-866-243-4357)
Fax: 1732-333-1353
24 hours a day, 7 days a week

Thank You.

Vonage DigitalVoice(tm) Customer Care

C. Information Disclosed in Vonage's User Manual

Finally, Vonage discloses all of this information yet again in the User Guide it provides customers. Set forth in attachment 2 are the relevant pages from the User Guide, which explain the mechanics of signing up for Vonage's 911 service and the limitations of Vonage's service.

III. Conclusion

As the foregoing discussion explains, Vonage fully discloses all the features and limitations of its 911 service to its customers.

ATTACHMENT 3



NENA and Internet communications providers have agreed upon the following action items:

1—For service to customers using phones that have the functionality and appearance of conventional telephones, provide 9-1-1 emergency services access (at least routing to a PSAP²⁸ 10-digit number) within a reasonable time (three to six months) and prior to that time inform customers of the lack of such access.

2—When a communications provider begins selling in a particular area, it should discuss with the local PSAPs or their coordinator (as identified on the NENA website) the approach to providing access. (For example, if routing to 10-digit number, confirm the correct number with the PSAP.) This obligation does not apply to any “roaming” by customers.

3—Support for current NENA and industry work towards an interim solution that includes (a) delivery of 9-1-1 call through the existing 9-1-1 network, (b) providing callback number to PSAP, and (c) possibly in some cases, initial location information. The current timeline for the NENA VoIP/Packet Committee to develop its interim recommended solution is May 2004.

4—Support for current NENA and industry work towards long-term solutions that include (a) delivery of 9-1-1 call to the proper PSAP, (b) providing callback number/recontact information to the PSAP, (c) providing location of caller; and (d) PSAPs having direct IP connectivity. The initial standards development work of the NENA VoIP/Packet Committee should be completed by the end of 2004.

5—Support for an administrative approach to maintaining funding of 9-1-1 resources at a level equivalent to those generated by current or evolving funding processes.

6—Consumer education. This could include projects involving various industry participants and NENA public education committee members to create suggested materials explaining any 9-1-1 differences to customers.

²⁸ PSAP = Public Safety Answering Point.

9180932v4