

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In re)
)
TELECOMMUNICATIONS RELAY SERVICES) CG Docket 03-123
FOR DEAF AND HARD OF HEARING AND SPEECH)
DISABLED PERSONS)
)
To: The Commission)

***COMMENTS IN RESPONSE TO REQUEST FOR REFRESHMENT OF
THE RECORD ON ASSIGNMENT OF NORTH AMERICAN
NUMBERING PLAN NUMBERS TO INTERNET BASED RELAY
USERS AND RELATED ISSUES***

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Summary

GoAmerica, Inc. and its wholly owned subsidiaries, GoAmerica Relay Services, Corp. (collectively “GoAmerica”) and Hands On Video Relay Services, Inc. (“Hands On”) submit their comments on the Consumer and Governmental Affairs Bureau’s (“Bureau”) Public Notice, DA 08-607 (March 19, 2008) whereby the Bureau seeks to refresh the record on assigning Internet Protocol (“IP”) based Telecommunications Relay Service (“TRS”) users 10 digit telephone numbers under the North American Numbering Plan (“NANP”).

GoAmerica and Hands On reiterate their support for assigning 10 digit NANP numbers to relay users. Assigning 10 digit NANP numbers will allow all users of the telephone system (deaf and hearing) to place direct dialed calls to deaf and hard of hearing persons. More importantly, adoption of a 10 digit NANP numbering system for IP based TRS users will facilitate full E911 service, including the capability of reverse 911 calls where locally available.

GoAmerica and Hands On stress that deaf and hard of hearing consumers are entitled to a numbering solution implemented with dispatch as failure to implement such a solution fails to provide deaf users with communications capabilities that are functionally equivalent to those available to hearing users.

Three proposals have been advanced in the record to effect numbering: one by Neustar, one by AT&T, GoAmerica and Hands On, and one by CSDVRS, LLC (“CSDVRS”). The Neustar and AT&T/GoAmerica/Hands On proposals are similar in their basic configuration. However, the Neustar proposal would require local exchange carriers to add a field to the NPAC

database. This will likely complicate implementation of the numbering solution and delay its roll out well past the Commission's December 31, 2008 timeframe. The CSDVRS proposal would require videophone users to acquire an additional, apparently yet to be developed, device in order to participate in the system. With the need to develop and distribute some 100,000 of these devices, there would be substantial and unnecessary delay in system implementation. Moreover, the CSDVRS proposal has serious security deficiencies. The AT&T/GoAmerica/Hands On numbering solution avoids the deficiencies of the Neustar and CSDVRS proposals.

The FCC should afford providers a reasonable time to formulate a consensus proposal. We suggest 60 days from the date of submission of reply comments in this proceeding. If providers are unable to formulate a consensus plan within that time frame, then the Commission should mandate the adoption of the AT&T/GoAmerica/Hands On Joint Proposal no later than June 30, 2008 with implementation no later than the announced December 31, 2008 timeframe. There should be no waivers and no exceptions. The deaf and hard of hearing community has waited long enough for a functionally equivalent numbering solution.

Whatever numbering plan is ultimately adopted, it must provide the same functionality to deaf and hard of hearing persons as hearing persons enjoy from the telephone system. Thus, numbers assigned for IP based TRS must be fully portable so that consumers may freely choose their preferred IP based TRS provider and may likewise freely move to another provider if their chosen provider fails to fully meet their needs. Likewise, the Commission should apply and vigorously enforce anti-slamming rules to IP based TRS so that a consumer's choice of preferred

provider is not frustrated by unethical practices. Finally, the Commission should adopt formal rules applying its CPNI rules to the relay services; in doing so, the Commission should clarify that while IP based TRS providers are not allowed to use customer profile data or call record data for purposes unrelated to completing calls unless with the consent of the relay user, providers are allowed to contact relay users for the purposes of informing them about their relay service, to encourage them to register with the provider, and for general marketing and outreach purposes.

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AND RELATED ISSUES***

GoAmerica, Inc., GoAmerica Relay Services Corp. (collectively “GoAmerica”) and Hands On Video Relay Services, Inc. (“Hands On”),¹ by counsel and pursuant to the Consumer and Governmental Affairs Bureau’s (“Bureau”) Public Notice, DA 08-607 (March 19, 2008) submit their comments in response to the Bureau’s request to refresh the record on the pending proceeding looking to assign Internet Protocol (“IP”) based Telecommunications Relay Service (“TRS”) users 10 digit telephone numbers under the North American Numbering Plan (“NANP”). *See Telecommunications Relay Services*, 21 FCC Rcd 5442, 5459-60 (“*Interoperability FNPRM*”). In support, the following is shown:

¹ GoAmerica Relay Services Corp. and Hands On are wholly owned subsidiaries of GoAmerica, Inc.

I. Introduction.

This proceeding commenced on February 15, 2005 with the filing of a petition for declaratory ruling by the California Coalition of Agencies Serving the Deaf and Hard of Hearing (“CCASDHH”). The CCASDHH petition sought a Commission ruling prohibiting the practice of TRS providers preventing users from accessing other TRS providers via equipment that a provider may allow a consumer to use. In addition, the petition sought the establishment of an open and global database of numbers for IP based TRS which would allow all users of the telephone system to call each other, hearing to deaf and deaf to deaf through such 10 digit numbers. In response to the CCASDHH petition, the Commission issued an order prohibiting providers from blocking consumers from using competing relay providers and initiated this proceeding to determine whether and how best to fashion an open numbering database to allow unfettered inbound and outbound calling. *Interoperability FNPRM*, 21 FCC Rcd 5442. To date, the Commission has protected consumers’ right to make outbound calls through any providers they choose, but has failed to address the need of consumers to receive inbound calls from anyone who chooses to call them.

Comments were submitted on or before July 17, 2006 and reply comments were submitted on or before July 31, 2006. The comments and reply comments universally supported the adoption of an open numbering system tied to the NANP. Since that time there have been a number of ex parte submissions in the record, among them from the Alliance for Telecommunications Industry Solutions (“ATIS”) and from the Interstate TRS Advisory

Council.² In addition, responding to an action item from the North American Numbering Council, the Industry Numbering Council (“INC”) of ATIS evaluated the issue and issued a report dated December 19, 2007. ATIS proposed that VRS users be assigned geographic NANP numbers using currently available call routing methods and that a centralized mechanism administered by a neutral party be provided for obtaining a user’s current Internet Protocol (“IP”) address based on the assigned telephone number. ATIS stated that the same approach would apply for IP Relay, but declined to recommend its applicability for IP captioned telephone service. ATIS further considered the manner in which users might obtain telephone numbers, the

² The Interstate TRS Advisory Council is composed of representatives from consumer organizations, relay service providers, telecommunication service providers and state regulators. The Council was established to provide the FCC with analysis and advice on issues relating to TRS. The Council heard from a number of experts on the various issues relating to Internet based TRS numbering and prepared a list of recommendations on how to implement a functionally equivalent numbering system. Specifically, the Council urged that the numbering system contain, inter alia, the following elements:

- Standardized numbering plan utilizing NANP numbers for end users.
- Secure databases containing current IP or URL addresses and telephone numbers.
- Providers would maintain databases current with end user IP or URL addresses.
- Providers would obtain numbers from existing carriers and assign them to users.
- Providers would be required to comply with CPNI and anti-slamming rules.
- Providers would not discriminate on the basis of who provides the user’s number.
- The FCC would vigorously enforce the requirement of interoperability.
- Consumers should not have to change existing equipment or software.
- Consumers would sign up for a NANP number from their provider of choice.
- Hearing persons would be able to direct dial deaf and hard of hearing persons using the 10 digit number.
- Relay users would be able to direct dial each other using the 10 digit number.
- The 10 digit number would be portable among different relay providers.
- Providers would implement 911/E911 solutions similar to those adopted by VoIP and wireless carriers.
- NANP numbers would be registered in 911 ALI databases.

means for routing calls to these numbers to the user's chosen provider, and the nature of the centralized mechanism for associating users' telephone numbers with their current IP addresses.

The record currently contains three numbering proposals: one submitted jointly by AT&T, GoAmerica and Hands On, one submitted by Neustar, and one submitted by CSDVRS. The chief difference between the AT&T/GoAmerica/Hands On plan and the Neustar proposal is that the AT&T/GoAmerica/Hands On plan would employ an independent central database using DNS, while the Neustar plan would employ additional fields added to NPAC. Both of these plans rely on the provider making a videophone available to a consumer to update that consumer's IP address. In the AT&T/GoAmerica/Hands On plan the consumer's current IP address is then updated in the neutral third party database.³ The CSDVRS plan, on the other hand, requires the consumer's videophone or other customer premises equipment ("CPE") to be equipped with an additional device, apparently not yet designed or manufactured, to update the neutral database directly.

As discussed below, GoAmerica and Hands On support implementation of the AT&T/GoAmerica/Hands On numbering plan. The DNS approach can be more easily implemented than changing NPAC. And the CSDVRS approach raises concerns of additional cost, convenience and security. However, we also support affording the industry a reasonable time period of no more than 60 days to agree on a consensus plan. Only if the providers are unable to reach consensus, should the Commission mandate adoption of any one plan.

³ Where the consumer places a call from a computer, rather than a videophone, the IP address update function would be controlled by software.

In implementing any plan, the Commission should mandate full number portability so consumers may freely choose their IP based TRS preferred providers and move with their number to another preferred provider. Likewise, to prevent providers from hindering the free choice of consumers by unethical practices, the Commission should adopt and vigorously enforce anti-slamming rules. Finally, the Commission should formally adopt CPNI rules that prohibit providers from using consumer profile data or call record data without consumer consent for any reason other than completing calls. Providers additionally should be prohibited from tracking or capturing call information for calls that originate from a competitor's network, other than information required for routing purposes.

In the comments below, we discuss first the key requisites for a functionally equivalent number system. Second, we review the competing plans that have been proffered to implement such a system. As we show, of the three plans that have been proffered so far, the joint AT&T/GoAmerica/Hands On proposal can be most quickly implemented while lacking any serious flaw.

II. The Commission should mandate that IP based TRS providers implement a functionally equivalent, open, global numbering system and place that system in operation on or before December 31, 2008.

The touchstone for decision of the issues in this proceeding must be Section 225's requirement of functional equivalence. *See* Section 225(a)(3) of the Communications Act of 1934, as amended (defining telecommunications relay service ("TRS") as service which allows deaf and hard of hearing and speech disabled persons to communicate in a functionally equivalent manner as hearing persons). Deaf and hard of hearing persons are entitled to relay

service functionally equivalent to the telephone service available to hearing persons. Functionally equivalent relay service also requires that Commission regulation not serve to limit innovation and technological advancement. This is made clear by the express wording of Section 225(d)(2) which exhorts the Commission to encourage the use of existing technology for relay services and cautions the Commission to ensure that its TRS regulations do not have the result of discouraging or impairing improved technology. As shown below, functionally equivalent Internet based TRS service demands that deaf and hard of hearing persons be afforded a numbering system comparable to that enjoyed now by hearing persons.

The record in this proceeding conclusively demonstrates that the Commission should mandate that Internet based TRS providers implement a functionally equivalent numbering system for consumers based on NANP numbers and that it should do so without further delay. Numbering is necessary to allow consumers to make and receive calls from anyone, hearing or deaf, without having to know a deaf person's IP address or preferred Internet based relay provider. Currently, hearing persons seeking to call a deaf person must know whether the deaf person is registered with a particular relay provider and, if so, either that person's IP address or other identifying information, such as an "extension" or faux telephone number. With a NANP numbering system a hearing person will be able to call a deaf person simply by dialing the deaf person's 10 digit NANP number.

Similarly, currently deaf users of Internet based relay generally cannot place a call to another deaf Internet based relay user without knowing that user's IP address. In some instances, providers do assign faux numbers or extensions which allow such call among persons registered

on their networks. For example, Sorenson Communications assigns such faux numbers to persons using its videophone devices, who can call other Sorenson videophone users. However, persons not using the Sorenson video device cannot place such calls unless they know the called party's IP address. With a NANP numbering system, all persons will be able to call all other persons simply using the called party's 10 digit NANP number. Since this is the way the public switched telephone network currently operates, adoption of a NANP numbering system for Internet based relay will bring more functional equivalence to Internet based relay.

Even more important is that implementation of a NANP numbering system is critical to providing deaf and hard of hearing users of Internet based TRS, full 911 services. NANP numbers will allow automatic callbacks from public safety answering points ("PSAP"), and reverse 911 functionality where available from the local PSAP.

The timetable the Commission has set forth in its Interim 911 Decision of issuing an order by the end of June 2008 to be effective by December 31, 2008, is more than reasonable and affords more than enough time for providers to implement a NANP numbering system. It has now been more than three years since the California Coalition raised this critical issue. Assuming a functionally equivalent numbering system is implemented for Internet based TRS by December 31, 2008, it will have taken almost four years for Internet based TRS users to receive this basic functionality. The Commission should resist any call for extending this timetable. Deaf and hard of hearing persons deserve the functionalities now that NANP numbering offers.

A. The ATIS Report provides an excellent framework for implementing a functionally equivalent numbering system.

It is helpful in addressing the issues raised in this proceeding to review the key requisites of a functionally equivalent NANP numbering plan. The December 19, 2007, ATIS Report sets forth in detail the essential requirements for an IP based TRS numbering system. These requirements include: (1) relay users would be assigned geographic NANP numbers; (2) relay users would obtain numbers through relay service providers; (3) relay providers would obtain numbering resources from voice service providers; and (4) a central database managed by a neutral third party would be deployed to support interoperability between relay providers.

ATIS further explains that the system requires a central database that maps the telephone numbers assigned to the VRS and IP relay users to their Internet addresses. This is necessary to enable both point-to-point calls, (i.e., where a deaf person initiates a call to another deaf person), and hearing to deaf calls. Because these calls must traverse the IP network for the broadband Internet leg of the call, an Internet address is essential for routing. As ATIS explains, each provider should have access to the same mapping information for the deaf person's telephone number, so that each provider has the ability to complete a call to any user. ATIS further explains that the authoritative source of mapping information should be maintained by a neutral third party so that each provider has the same access to the same information.

Such a third party, according to ATIS, is an entity that has no ownership or affiliation with any Internet-based relay service provider. The neutral third party should not:

- Be an Internet-based relay provider;
- Be owned by an Internet-based relay provider;
- Be an affiliate of an Internet-based relay provider;
- Have an organizational affiliation with an Internet-based relay provider; or
- Be permitted to have an equity stake in, or a board member involved with, any Internet-based relay provider.

ATIS recommends that the neutral third party maintain an aggregate database of Internet-based relay service telephone numbers and the associated Internet routing information. These numbers would then be assigned to deaf or hard of hearing consumers by relay providers. ATIS notes that the database of the deaf user telephone numbers can potentially be used for inappropriate purposes, such as improper business or marketing practices, and indicates that such use appears inconsistent with FCC policy. ATIS further notes that due to the sensitive nature of information contained in such databases, there must be a privacy requirement for the entities that maintain these databases that limits the dissemination of information contained in these databases. In addition, ATIS advises there must be strict data use requirements for these databases such that these data are only used for establishing sessions for the purposes of communications and are not used for unintended purposes such as telemarketing.

To guard against improper marketing practices, ATIS recommends that Internet-based relay providers not be allowed to receive a copy of the aggregate database of Internet-based relay service telephone numbers. ATIS advises that further, privacy requirements are necessary to ensure that criminal activities (e.g., scams, identity theft, etc.) are not perpetrated using any telephone numbers potentially associated with a deaf or hard of hearing person.

In summary, the key recommendations ATIS makes are the following:

First, ATIS recommends that relay users should be able to be assigned geographic NANP numbers, reflecting their location if desired, as is available today to hearing users. It is expected that these telephone numbers will be routed by voice service providers to the relay service providers chosen by the relay users. Such numbers should also be portable as requested by relay users.

Second, ATIS recommends that relay users should be able to obtain numbers through their relay providers. It is expected that relay providers, through commercial agreements, would be able to obtain local numbers. Additionally, relay users should be able to obtain NANP numbers directly from voice service providers, or utilize existing numbers, if desired.

Third, ATIS recommends that relay providers should be able to obtain numbering resources directly if they are willing to meet obligations under the current guidelines. ATIS suggests that such guidelines could be relaxed in the future, but does not recommend changing guidelines specifically to support relay services.

Fourth, ATIS recommends that a central database solution be employed to support interoperability between relay providers. This central database should be managed by a neutral third party.

ATIS indicates that it examined several alternatives contributed by INC members for how the numbering solution may be accomplished, and discussed two of them. Both of these two approaches rely on a user's equipment updating the relay provider when the equipment's IP address changes. The central database then associates the relay user's telephone number with either a URI identifying the relay provider that holds the current IP address (the Neustar NPAC

proposal) or associates the telephone number with the current IP address as updated by the relay provider (the AT&T/GoAmerica/Hands On DNS proposal). The database thus either makes the IP address directly available to other providers as needed to complete calls or indicates through which relay provider the call must be routed to be completed.

As discussed below, GoAmerica and Hands On fully support the ATIS recommendations. Internet based TRS users should be assigned real NANP numbers. Relay users should be able to obtain their numbers from relay providers or other available sources. A central database managed by a neutral third party should be implemented to support interoperability and calling between relay users. The neutral third party database should have adequate security protection and not be available to any provider for marketing or other purposes not directly related to call set-up and routing. In addition, numbers should be fully portable and the Commission should apply its CPNI rules as applicable to relay.

B. Relay users should use real local NANP numbers to call each other and to be called by hearing users.

This is surprisingly commonsense. Voice users can call each other using real local NANP numbers. Technology has existed for quite some time that would enable Internet based relay users to use real local NANP numbers to call each other. This has not yet happened primarily because the largest video relay provider uses faux proxy numbers in lieu of real local NANP numbers and operates a closed directory system. As a result, relay users must call each other using IP addresses – which can change from time to time -- or faux proxy numbers, if and only if the two relay users are employing equipment obtained from that dominate VRS provider.

This becomes especially confusing when a hearing person tries to reach a deaf person. If the hearing person dials the “faux” number, the call will not go through. Currently, a hearing person can only reach a deaf person who lacks a real 10 digit telephone number if the hearing person knows what provider the deaf person is registered with and places the call through that provider. Faux proxy numbers impede functional equivalence. They should therefore not be allowed. Relay providers should be required to cease use of faux proxy numbers and assign real local NANP numbers in their place.

C. There should be a secure central database managed by a neutral third party for routing calls between any and all devices and providers.

There is no dispute that a central database is necessary to achieve the goal that all Internet based TRS users should be able to call and be called by anyone, deaf or hearing person, using 10 digit NANP numbers. That this database should be administered in a neutral fashion, without favoring any one or more providers, is also unremarkable. ATIS’s recommendations for neutrality are reasonable and in GoAmerica’s and Hands On’s view entirely necessary. Likewise, providers should have access to the central database only for call set-up and routing purposes. It follows that access to the full database should, as ATIS recommends, be restricted and that use of the database for marketing or any other such purpose should be prohibited.

The central database should contain the required information to route a call between end points. This information should contain: the user’s 10 digit number; current Internet location (i.e., IP address); the user’s device protocol (i.e.: H.323, SIP); and responsible number provider

(i.e., relay provider managing the number). Additional, non-demographic, information may be added to the central database only if determined to be beneficial to the routing of calls.

Because of the sensitive nature of the information contained in the database, security of the database is critical to protecting consumer privacy as well as protecting the integrity of the network. Therefore, access to the database should be restricted only to certified TRS providers using the highest-level security protocol. Suggestions that CPE should be able to access the database directly for deaf to deaf calls, are therefore ill conceived. That would open up the database to potential hacking attacks which could potentially cripple the system, compromise private data, increase the risk of fraudulent calling, or otherwise injure the overall telephone network.⁴

D. There should be interconnected networks that allow calls to freely flow between users, devices and providers.

Internet based relay users should be able to call each other across networks using real local NANP numbers. There should be no closed networks and no blocking of access to devices or users. Users should be able to dial a real local NANP number without worrying if the other party is a voice, IP or video user. Users should be able to dial without worrying about the specific customer premises equipment or device being used by the called party — nor what preferred provider the called party has chosen. Relay providers must be required to maintain up to date databases of deaf and hard of hearing persons to whom they have provided equipment

⁴For example, a hacker could delete telephone records, denying service to users, or insert telephone numbers belonging to hearing persons, therefore causing routing ambiguities in the PSTN. In addition, consumers could be exposed to unwanted marketing solicitations, fraudulent solicitations and other inconveniences.

and that information should be required to be uploaded to the central neutral database in real time for query by other providers so that routing and call set-up will be unimpeded.

E. Customers should not be required to obtain additional equipment.

Implementing a functionally equivalent numbering system should not require consumers to obtain any additional CPE. Requiring additional equipment will discourage existing users and impede further consumer penetration of Internet based relay. It will thus further expand the gap between the haves and have-nots.

A requirement for additional equipment would be severely limiting and would be a step back in functional equivalence. Voice users can make and receive phone calls with one device—the landline telephone or a cellular telephone. A requirement of additional equipment is burdensome for many individuals who already require multiple devices including a broadband modem, router, and a computer or videophone to access Internet based TRS. This burden is wholly unnecessary when a functionally equivalent numbering system can be easily implemented without the requirement of additional equipment or software at the customer endpoint.

F. The telecommunications industry should not be required to change how it does business.

The telecommunications industry has developed over the past 75 plus years the systems and processes to efficiently manage and route phone calls from one user to another, regardless of provider or equipment involved. These systems involve many different companies including common carriers, resellers, service bureaus and database administration companies.

Implementing any new changes into these systems requires substantial effort and expense for everyone involved. The implementation of a numbering system for Internet based TRS should not force new requirements upon the existing telecommunications systems, but rather should integrate within these current systems and processes, similarly to how the VoIP industry has evolved.

According to Neustar's proposed solution, new database fields will need to be implemented not only in the NPAC database but also within each carrier and its supporting systems to provision a NANP number for a TRS user. This will undoubtedly delay the implementation of any scalable solution well beyond the Commission's target date of the end of 2008. The management and updating of a central database for IP based TRS services should be accomplished between relay providers and the neutral third party that manages the database directly, and should not require that the universe of carriers to be involved in the process any more than absolutely necessary.

G. Customers should be able to choose their relay provider and port their NANP number to any other provider through current industry standard LNP processes.

Whatever numbering system providers ultimately implement, it must allow full number portability. This is essential to further the policy set forth in the *Interoperability FNPRM*, that consumers should be able to use the TRS provider of their choosing. 21 FCC Rcd at 5454-58. Without regard to how or where an IP based TRS consumer may obtain his or her 10 digit NANP number – whether from the central database administrator, a local exchange carrier, or a TRS provider – he or she should be able to use that number to designate any IP based TRS provider as

his or her preferred provider. And if that consumer finds that his or her designated provider is not meeting his or her needs, the consumer should be able to port his or her number to another provider without unreasonable delay or expense. At the very minimum, consumers should be able to port their telephone numbers by making a request to do so to their new TRS provider. Such a request would be required to contain sufficient identifying information and documentation so as to verify the identity of the requestor and the validity of the request.

Full number portability is required by the concept of functional equivalency as set forth in Section 225 of the Communications Act of 1934, as amended. Just as hearing persons have the right to port their telephone numbers to other local exchange carriers, *see* FCC Rule Section 52.21 et seq. deaf and hard of hearing persons should be able to port their telephone numbers to other TRS providers of their choosing.

H. The routing process should allow for multiple end user protocol (e.g., SIP and H.323) and service (e.g., video or text) identifiers in the system.

To ensure that both current end user relay equipment and future next generation equipment will work within the numbering solution, the central database will need the ability to identify the type of service and protocol which is used by the end user's equipment. This can easily be done at the time of the initial provisioning or through an updating of the user's record in the central database, if done directly by the relay provider to the central database. It should also support multiple service type indicators (video or text) with a single phone number.

I. 911 calls should be automatically routed.

Once users are able to obtain true NANP local telephone numbers (from their relay providers of choice) there is no reason why relay providers cannot implement similar 911/E911 solutions as the VoIP providers have already done. True NANP numbers can be registered in existing dynamic 911 ALI databases without concern for database numbering conflicts that exist today in the VRS industry due to the use of faux numbers. Once the industry utilizes standard NANP numbers, which can be pre-registered in existing dynamic ALI databases, emergency calls can be efficiently passed on to 911 systems for automatic routing to the appropriate PSAP in the same manner as VoIP calls are done today.

J. Consumers should be able to obtain NANP numbers from multiple sources.

Regular voice users can receive NANP numbers from multiple sources—competing telecommunication providers. They have a choice of carriers. Deaf and hard of hearing users should have the same functionally equivalent choice of obtaining their NANP numbers from the equivalent of voice telecommunication providers—relay service providers. The most efficient methodology would be for relay providers to make numbers available for consumers. The idea of a third party issuer has been suggested. We have no objection to allowing the neutral third party database administrator to issue numbers as one alternative; however, the third party issuer would have less incentive than relay providers to efficiently distribute numbers and thus should not be the only option available to obtain numbers. In addition, issues of how the third party provider would be compensated for issuing numbers also arise.

Requiring relay users to obtain numbers directly from their local LECs is highly problematic. Again, if this is one of several alternatives, we would not object. However, a reality check is necessary. Not only would LEC customer service personnel likely be unfamiliar with the relay program, but the costs of administration of a retail numbering program would be substantial. By contrast, LEC wholesale departments regularly distribute blocks of telephone numbers at reasonable charge to other service providers. In addition, creating a third party to manage network connectivity between the PSTN and the various providers would create a potential single point of failure in the networks that could disrupt all calls from hearing to deaf users in the event of a problem. To force deaf and hard of hearing users as well as other relay users to receive phone numbers from a single source is to patronize them and deny them the benefits of the same market forces available to voice users.

K. Relay providers should comply with rules to protect consumer choice and privacy.

In mandating the implementation of an open global IP based TRS numbering solution, the Commission needs to adopt rules to protect consumer privacy. Specifically, the Commission should adopt and vigorously enforce anti-slamming rules so that consumer choice is not frustrated, and adopt rules to protect consumer proprietary network information (“CPNI”) such as customer profiles and call record data.

1. The Commission should adopt and vigorously enforce anti-slamming rules to prevent consumer choice of provider from being frustrated.

The adoption of portability for IP based TRS numbers requires the Commission

concurrently to adopt and vigorously enforce rules against the unauthorized change of a consumer's preferred TRS provider. In essence, the Commission needs to adopt anti-slamming rules for Internet based TRS. Since the means by which a consumer ports his or her number to another provider is to change his or her preferred provider, it is apparent that the incentive may exist for unethical representatives of a provider to effect an unauthorized change of a consumer's preferred relay provider. To prevent this unethical behavior, the Commission should require that a change in a customer's preferred provider must be documented with either a signed hard copy authorization, or an electronic form containing sufficient identifying information to verify the consumer's identity and the validity of the request. Moreover, the Commission should adopt tough sanctions for effecting an unauthorized change of preferred provider and impose forfeitures for the negligent or intentional unauthorized change of preferred provider. By adopting a tough anti-slamming rule and vigorously enforcing it, the Commission will ensure that consumer choice of provider is not frustrated.

2. The Commission should adopt rules to protect consumer privacy while ensuring consumers have access to necessary information to make use of relay services and make an informed choice among Internet based TRS providers.

As discussed above, inherent in any numbering plan for Internet based TRS is the necessity that a consumer choose a preferred provider on whose system his or her 10 digit telephone number will home. Otherwise, an incoming call from the PSTN will not be able to be routed to the consumer. Likewise, there is the necessity for the consumer to provide location and other relevant information in order for the consumer to enjoy E911 and R911 service. Thus, the

consumer's preferred provider will have certain information contained in its databases substantially similar to CPNI. TRS providers also, for billing and audit purposes, must maintain call record data. The Commission in adopting a 10 digit NANP numbering plan for Internet based TRS should adopt rules to protect customer privacy in this data.

The existing CPNI rules, FCC Rule Section 64.2001 et seq., are an appropriate guide for protection of consumer privacy. GoAmerica and Hands On suggest the Commission should simply amend FCC Rule Section 64.2003(o) to include TRS providers as telecommunications carriers for the purposes of that subpart of the rules. The definition of the term "customer" in existing FCC Rule Section 64.2003(f) is broad enough to include users of Internet based TRS. This action would be consistent with past consumer groups' filings arguing that "video and other Internet relay providers should be treated like common carriers and thus required to comply with common carrier requirements."⁵

The Commission should, as part of the process of requiring TRS providers to be treated like common carriers, retract those parts of its recent Declaratory Ruling, which inhibit access to information necessary to use TRS. Specifically, the Commission should take this opportunity to revise the recent *Declaratory Order* to allow providers to encourage registration and clarify that contacts between TRS providers and consumers that do not fall within the prohibitions of the CPNI rules do not violate any law, rule or policy.

⁵ National Association of the Deaf Comments on Relay Service Interoperability (April 15, 2005). Dockets 98-67 and 03-12.

3. Numbering conservation should not hinder the deployment of a numbering system for IP-based TRS.

Although number exhaustion is a substantial concern throughout the industry, it is no reason to deny relay users the benefit of NANP numbers. Number conservation rules and policies would apply to relay users and providers. In addition, many relay users are giving up their TTYs and land-line phone lines in favor of broadband service. Thus, to some extent, telephone numbers are being released as a result of Internet based relay. Furthermore, there is no need for relay providers to obtain blocks of numbers directly from NANPA (as some have suggested). Rather, numbers can be obtained through commercial agreements with LECs or competitive LECs (“CLEC”). This will have a negligible effect on number resources. In fact it will actually help to conserve numbering resources since relay providers will only have to obtain what they need, or in worse case carry a minimal inventory far below the current minimum allocation obtained through NANPA (of 1,000 number blocks or larger).

III. Comparison of proffered numbering proposals.

A. The joint AT&T/GoAmerica/Hands On proposal satisfies each essential element of a functionally equivalent Internet based TRS numbering plan.

AT&T, GoAmerica and Hands On have jointly developed a functionally equivalent numbering system (“Joint Proposal”). The Joint Proposal was developed as a result of intensive collaborative between deaf and hard of hearing consumers, and engineers with VoIP and landline telecommunication expertise. The result of this collaborative effort is a proposal that employs existing technology and architecture to deliver the benefits of functionally equivalent dialing to

deaf and hard of hearing individuals and which can be implemented with dispatch. An overview of our proposal follows.

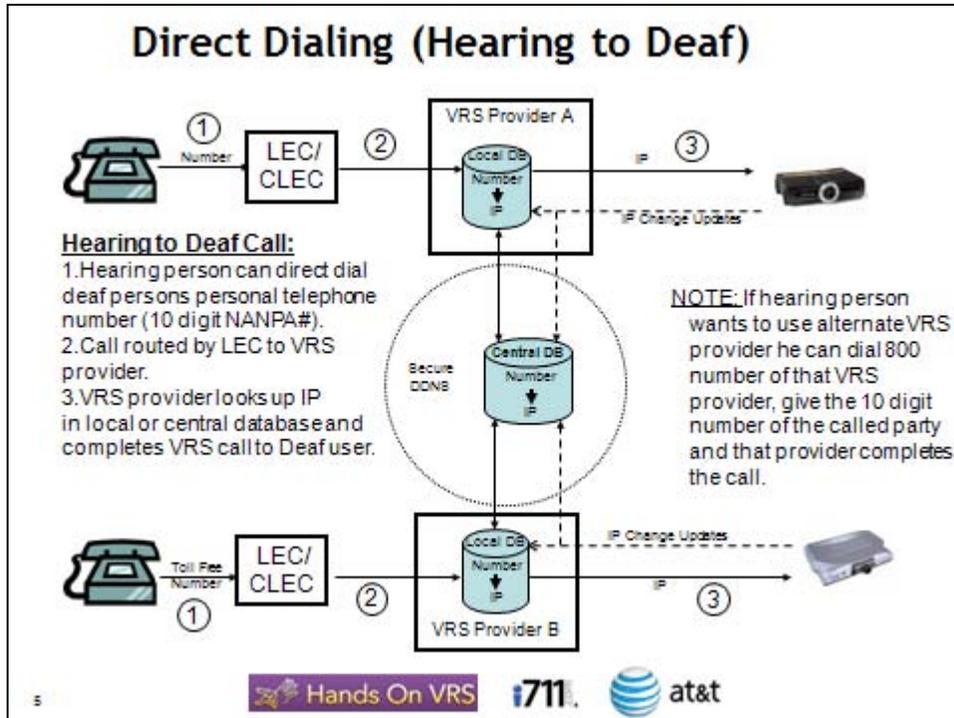
1. The solution for creating dialing parity is simple.

The Joint Proposal calls for creation of a secure third party database containing the current IP address or final routing information associated with the NANP telephone number of the relay user. Each relay provider must keep the central database current with end user address or routing information associated with a telephone number using a secure automated interface. Local NANP numbers may be easily obtained through commercial agreements in the same manner that VoIP service providers do today. Consumers may obtain local NANP numbers from their preferred provider and port their numbers to any other provider. They can disassociate their number from any device and connect it to any other device. This enables consumers to retain their existing videophones or software. Consumers can obtain their numbers from any other source as long as the number is a real NANP telephone number.

2. The Joint Proposal will enable direct dialing by a hearing person to a deaf person.

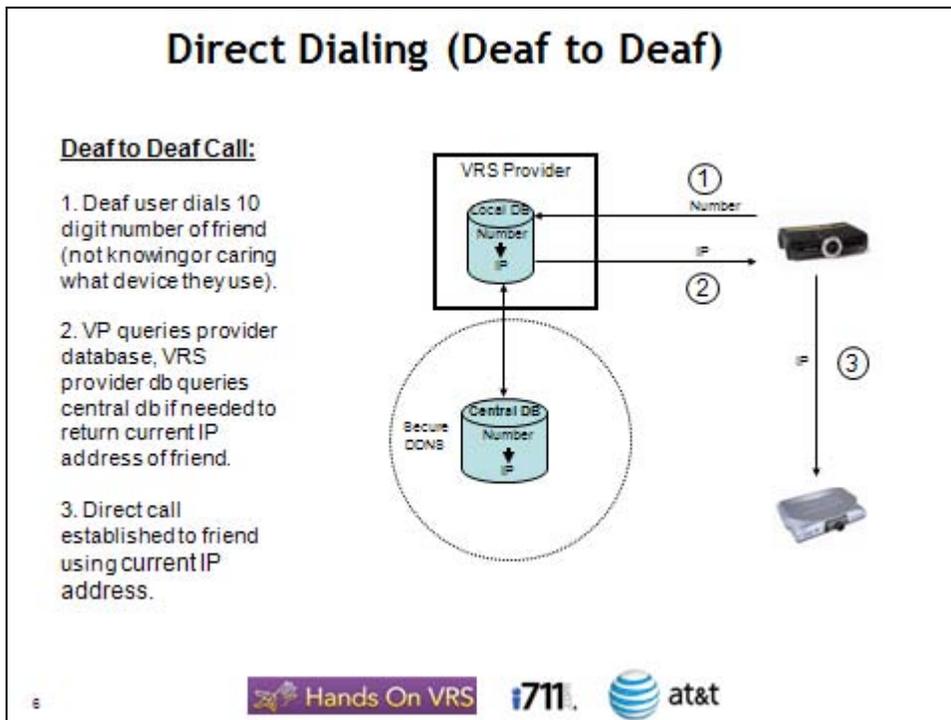
Under the joint proposal, a hearing person can direct dial a deaf person's 10 digit NANP telephone number. The number will be routed by the telephone network to the deaf person's preferred relay provider. The preferred relay provider will complete the call based on routing information contained in its user database. The calling party can also dial around the preferred provider by dialing the incoming number for any other relay provider, and giving the interpreter the called party's 10 digit NANP number. The chosen relay provider will then obtain the routing

information for the relay user from the central database and complete the relay call to the deaf person. This is illustrated below.



3. The Joint Proposal will enable direct calling by a deaf person to another deaf person.

Under the Joint Proposal, a deaf person using Internet based relay can, for the first time, be assured of making a call to another deaf person by direct dialing the 10 digit NANP number of the called party. The user's CPE will query the preferred provider's database. If the number is unrecognizable, the preferred relay provider will query the central database for the routing information. This is illustrated below.



4. Impact on deaf and hearing end users.

The Joint Proposal endorses the principle that no specialized CPE or software should be required to operate with the numbering system. Consumers should be able to obtain 10 digit NANP telephone numbers from their providers of choice. They should be able to dial any other relay user through a 10 digit number without regard to type of equipment or provider used by the party being called. There need be no further worries about IP addresses changing from time to time.

5. Impact on relay providers.

Relay providers will be required to manage end user devices, dynamic addresses and provide call routing instructions based on 10 digit number inputs from end users. Providers will

need to obtain NANP numbers from LECs or CLECs through commercial agreements in the same manner as VoIP service providers now do and offer them to end users.

Relay providers will be required to interconnect their user databases to the neutral central database to peer routing information via a secure data connection. This secure connection will update the central database on a near-real time basis with current and changed end user routing information and query the central database for call routing information as appropriate. Relay providers will need to set up procedures and controls to protect CPNI and of course would be prohibited from discriminating between calls based on the source of the caller's NANP number.

6. Impact on PSTN Carriers/System.

The Joint Proposal will require no change to existing PSTN systems or processes. Current numbering rules and network management rules should continue to apply. All current telecommunication surcharges, fees and taxes continue to apply as usual to the current responsible parties. PSTN carriers should continue to offer reasonable commercial solutions to relay providers for the assignment of NANP numbers and access to the PSTN—similar to what VoIP providers have used for the past several years. Current local number portability regulations and processes should apply—enabling end users to easily switch preferred relay providers while keeping their local telephone numbers.

7. Impact on regulatory groups.

The Joint Proposal will require no change to current numbering rules governed by NANPA. However, the reasonable costs for implementation and operation of the system would be cost elements for future relay reimbursement rates. The Commission would adopt an order to

require use of a central routing database and require relay companies to maintain accurate information in the central database on near-real time basis. The Commission should also require relay providers to maintain and provide local NANP numbers for their end users. Additionally, the Commission would apply consumer protection rules to relay providers including CPNI and Anti-Slamming—similar to voice carriers today while enforcing multi-directional interoperability regulations.

In sum, the Joint Proposal incorporates the features necessary to implement a functionally equivalent Internet based TRS numbering solution in a timely and efficient manner. For the Commission's convenience we present as Appendix A, hereto, a comparison of the Joint Proposal with the Neustar and CSDVRS proposals. Problems with both of those proposals are discussed below.⁶

⁶ We emphasize that although we believe the Joint Proposal is the best of the plans proffered in this proceeding, we prefer the Commission to afford providers a reasonable period to arrive at a consensus plan for implementation of a functionally equivalent Internet based TRS numbering system. It could be that one or more of the various elements discussed herein, with the benefit of the knowledge and expertise of all stakeholders involved, may turn out to be unnecessary or require modification. That being said, in our view, the most important thing is to bring up a workable system as soon as possible. Given that full 911 service is dependent on implementation of a numbering solution, safety of life and property is at stake. Thus, if providers are unable to come to a consensus proposal within 60 days of the filing of reply comments in this proceeding, the Commission should mandate adoption of the Joint Proposal. If one or more elements of the system are found on experience to require modification, it should not be difficult to effect that modification in the future.

B. The Neustar Proposal, while similar to the Joint Proposal, is not as flexible as the Joint Proposal.

The Neustar proposal is similar to the Joint Proposal and would provide similar benefits in terms of security of consumer information, while not requiring any changes in the user's endpoint. The biggest drawback to the Neustar proposal, however, is that a new NPAC field will be required. The proposal requires all PSTN carriers and their associated service bureaus to develop processes and systems to populate this new NPAC field. Carriers will be required to update and manually make changes to their database structures. There is no clear path to achieve this result in a timely manner. As a result, adoption of this proposal would likely serve seriously to delay implementation of the numbering system for Internet based relay. Thus, as a threshold matter, absent assurance that the Neustar proposal could be timely implemented, it is simply not a viable vehicle for delivering a functionally equivalent numbering system to deaf and hard of hearing consumers of Internet based TRS.

The reliance of the Neustar proposal on a single NPAC field additionally limits the relay user's ability to obtain multiple services from two or more distinct providers for a single 10 digit number. Today, relay users often obtain video relay service from one provider and text relay from a separate provider. The Neustar proposal would prevent this user from obtaining both services while using a single 10 digit number. The Joint Proposal supports this solution without additional changes.⁷

⁷ For example, the Joint Proposal is flexible enough to support a platform where a user may assign his or her telephone number to both a text device and to a video device. An incoming call from the PSTN could be routed to the device of user's preference or whichever

Further, the Neustar proposal's reliance on a single URI field in NPAC and the requisite necessity of relay providers to secure the relay user's endpoint to register and be managed by the relay provider's gatekeeper or proxy server likely will cause additional delays in deployment of a central numbering system. The requirement of each provider to transition all currently deployed CPE devices to the manager gatekeeper or proxy would likely cause delay while the various relay providers deploy configuration and possibly firmware changes to the CPE in question to support the new model. The Joint Proposal allows relay providers to immediately provision the direct IP endpoint data required to connect the CPE into the central database while providers and consumers determine preference as to the use of a URI.⁸ Once the relay provider has completed the necessary changes, the provider can transition the central database records to their gatekeeper URI instead of the direct endpoint. The flexibility of the Joint Proposal insures this transition can be accomplished without significant delay.

The need for NPAC changes is also likely to be a source of push back on the part of LECs, with the potential for many waiver or extension requests that will serve to frustrate achievement of the goals of this proceeding. It also engenders unnecessary complexity and cost to implement, thus violating the statutory requirement that the Commission administer TRS "in

device might be in service at the time. Similarly, if the consumer were receiving a text call from another deaf or hard of hearing user, the system could route the text call to the user's text device, and if the user were receiving a video call from another deaf or hard of hearing user, the system could route the call to the video device.

⁸ It should be noted that although the proposal does not itself call for use of URIs, it is flexible enough to accommodate their use.

the most efficient manner.”⁹ Thus, adoption of the Neustar proposal, which requires modification of the NPAC, will make it exceedingly difficult and unnecessarily costly for the industry to implement a functionally equivalent numbering system by the Commission’s intended date, December 31, 2008. Simply put, the numbering provision process under Neustar’s proposal is overly complex and cumbersome. This is shown by the following chart which compares the numbering provision process between Neustar’s and the Joint Proposal.

NPAC Numbering Provisioning Process	Joint Proposal Number Provisioning Process
<ol style="list-style-type: none"> 1. LEC Provides numbering resources to Relay Service Provider (RSP) 2. Relay End User signs up for a number from RSP 3. RSP notifies LEC of the number assignment and associated URI information. 4. LEC receives URI information for assigned number 5. LEC notifies NPAC of URI information needed to update number record 6. NPAC updates number record 7. NPAC updates 3rd party NPAC database providers of number update 8. NPAC confirms update to LEC 9. LEC confirms update to RSP <p><i>Number is now provisioned</i></p>	<ol style="list-style-type: none"> 1. LEC provides number resources to Relay Service Provider (RSP) 2. Relay End User signs up for a number from RSP 3. RSP notifies Central Database (non-NPAC) of number and associated Internet address 4. Central Database updates number record 5. Central Database confirms update to RSP <p><i>Number is now provisioned</i></p>

C. CSDVRS’s ONS proposal represents a major step backward from efforts to establish a functionally equivalent numbering system.

The essential difference between the CSDVRS ONS plan and the Joint Proposal is that the CSDVRS proposal would implement a Dynamic DNS (“DDNS”) at the end user location.

⁹ 47 U.S.C. § 225.

There are several problems with this approach. This approach would require end users to obtain and/or configure an additional piece of CPE which has apparently not been designed or manufactured to support this solution at an added and unnecessary cost and likely delay.

In addition, the CSDVRS proposal, was advanced only recently in this proceeding. As such, it was not studied by ATIS, and in fact appears inconsistent with the ATIS recommendations. The lack of full vetting of the CSDVRS proposal serves to limit critical scrutiny of the proposal; however, it would appear that the CSDVRS proposal would lock the industry into a single technology to update end user location information (DDNS) and would hinder future technology development for CPE.¹⁰ Moreover, it is simply not a 10 digit dialing solution. Deaf and hard of hearing customers would instead have to dial the full DDNS address, e.g., 321.555.1212.myvp.tv, instead of just dialing a 10 digit phone number. Additionally, this proposal would serve to stifle innovation of the introduction of new features by segregating relay

¹⁰ It appears that the CSDVRS proposal lacks flexibility in the same way as the Neustar proposal in that it cannot handle a situation where the consumer wishes to employ his or her telephone number for both text and video devices.

providers and consumers from the innovative VoIP services and providers which do not follow the DDNS approach.¹¹

The requirement for the creation of the new equipment presents a number of significant challenges ranging from the development and roll out to actual usage. To our knowledge, there are no current design plans or manufacturing agreements for this particular device. The design, development and manufacturing of this unique device could take substantial time.

Moreover, the rollout of this device will undoubtedly take years. Other providers have repeatedly stated that they face logistic and other barriers in the distribution of videophones. Intensive community education and technical customer support is required. Despite VRS having been around for a number of years, there are still a large number of individuals without videophones. The distribution of CSDVRS's unique CPE add on will encounter similar delay prior to saturation—frustrating the intent of this proceeding to bring a functionally equivalent numbering system to the deaf and hard of hearing community without further delay. In our view, any further delay is unacceptable.

The requirement for this CPE add on also inhibits mobility. More consumers are accessing Internet based relay services (both video and text) through portable devices (such as

¹¹ It also appears the motivation behind the CSDVRS proposal is to remove management of videophone devices from the providers who supply such devices in light of certain past abusive practices and other competitive concerns. Although we are sympathetic to those concerns, they cannot drive a process that would result in less than a full functionally equivalent numbering solution. The customer's relationship with the provider is essential to ensure that the customer have control over his or her own service and maintain the provider's attention on needed quality controls as well as the development of long-needed functionally equivalent features.

the Ojo). CSDVRS's ONS proposal will require individuals to carry additional CPE along with their portable devices. Individuals visiting remote locations (such as a relative's house or a hotel business center) will need to find a way to attach CSDVRS's unique device to the location's routing network—or otherwise receive permission to download specialized software at that location.

The unique device also raises questions of whether people in the same office or household can have their own equipment with their own telephone numbers. If that is not possible, then what happens when one consumer leaves the house and needs to take the equipment with him or her to receive Internet based TRS calls at a different location? Will the other individuals staying behind in that particular office or household lose the capability to receive calls? There are too many unanswered questions flowing from the lack of adequate vetting of this proposal.

CSDVRS's advocacy of a unique entity with unique equipment and protocols contributes to the isolation of deaf and hard of hearing individuals by setting them outside existing protocols and systems currently used by the analogous VoIP industry. This segregation will likely hinder deaf and hard of hearing individuals from taking advantage of new technological or systematic developments occurring in the VoIP industry.

The worst aspect of the CSDVRS proposal, however, is its weak security features. Because customer premises equipment would directly access the central server, consumer information would be hosted on the Internet with minimal access controls. The central database would be subject to be hacked, with all the potential for mischief that would occasion. Service

could be disrupted or denied or the database completely destroyed and private consumer data could be compromised.

IV. Conclusion.

The record in this proceeding is manifest that the Commission needs to implement with dispatch a 10 digit numbering system based on NANP numbers for Internet based TRS. The essential elements of that system are assignment of 10 digit NANP numbers to consumers, the establishment of a neutral central secure database, the ability of any Internet based relay user to call or be called using a 10 digit NANP number, and the ability to be implemented in a cost effective and timely manner.

Of the proposals now before the Commission, the proposal that best incorporates the necessary elements is the joint AT&T/GoAmerica/Hands On plan. The Neustar proposal suffers from its reliance on NPAC and would therefore be time consuming, complicated and costly to implement. The CSDVRS proposal would require videophone users to install additional unnecessary equipment and is not a true 10 digit dialing system. Moreover, the CSDVRS proposal is decidedly less secure than the Neustar proposal or the Joint Proposal.

The Commission should allow TRS providers no more than 60 days to agree on a consensus numbering plan. If providers are unable to agree on such a plan in that time the Commission should mandate adoption of the Joint Proposal and require it be placed in operation no later than its December 31, 2008 deadline.

In adopting any numbering plan, the Commission should mandate full number portability to ensure that users may have free choice of their preferred Internet based relay providers. In

addition, the Commission should adopt and vigorously enforce anti-slamming rules so that consumer choice will not be frustrated by unethical practices. Finally, the Commission should protect the privacy of TRS users by applying to TRS its CPNI rules, while retracting those portions of its recent *Declaratory Ruling*, which address matters other than financial incentives to make calls.

For the Commission's convenience, we summarize in Appendix B, the key policy decisions and rule changes the Commission is required to make to implement a functionally equivalent numbering solution for Internet based TRS.

Respectfully submitted,

GOAMERICA, INC.

GOAMERICA RELAY SERVICES, CORP.

HANDS ON VIDEO RELAY SERVICES, INC.

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April 8, 2008

Appendix A

This matrix represents the different positions and proposals set forth to date.

		Hands On / i711 / AT&T	NeuStar	CSDVRS
Numbers	Follows VoIP Model	Yes	Yes	No
	Real NANP Numbers required	Yes	Yes	Yes
	End User obtains number from....	Relay Provider	Relay Provider	Central ONS Group
	End User Dials by...	Dialing 10 Digit Number	Dialing 10 Digit Number	Need full URI 9164353388@ONS.org
	Numbers are Portable between providers	Yes - industry standard LNP	Yes - industry standard LNP	Yes, handled through new ONS systems and process yet to be developed
	Requires new Customer equipment or software	No	No	YES
	Minimal End User Change	No customer equipment change	No customer equipment change	Requires either new hardware equipment or software
	Dial Around	Yes	Yes	Yes
	Potential delay to develop customer software or equipment	No	No	Yes
	Satisfies requirements outlined by ATIS-INC and NECA TRS Advisory Council	Yes	Yes	NO
	Other info		Current location info not in NPAC database, but kept by Relay provider Carrier must update NPAC on behalf of Relay provider	Confidential ONS database open to attack by all users

		Hands On / i711 / AT&T	NeuStar	CSDVRS
Central Database	Central Database	Yes, Neutral 3 rd Party provider	Yes, based on NeuStar's own NPAC database	Yes, new ONS organization
	Development required	Yes, focused effort on relay requirements	Yes, NPAC fields & Requires Carriers develop process & systems to populate new NPAC fields	Yes, new organization as well as systems
	Function	Provide destination location directly to requesting service provider	Redirect call to another relay provider for call completion	Resolve call routing from end user directly
	Data Elements Contained	End users NANP number and current network location	URI to direct calls through other service provider	URI <u>and</u> end user physical 911 address information
	Who interfaces to database	Relay providers only	PSTN Carriers (to provision URI) <u>and</u> Relay providers (to query system)	Relay providers & end users directly
	Design focus	Design specifically for Relay requirements	NPAC is designed for Telco systems and restrictive	Designed as central control system for entire relay industry

		Hands On / i711 / AT&T	NeuStar	CSDVRS
E-911	Equivalent E911 Service	Use current VPC /911 providers	Use current VPC /911 providers	Would develop single VPC for industry??
	Automatic Routing of 911 call	Yes / depends on Relay provider set up	Yes / depends on Relay provider set up	Yes, goes through single ONS system
	Reverse 911	Yes / depends on VPC/911 provider	Yes / depends on VPC/911 provider	Unknown
	End User Choice of provider	Yes	Yes	No – provided by ONS
	End User Registration	Required	Required	Required

CG Docket 03-123, GoAmerica, Inc., GoAmerica Relay Services, Corp. and Hands On Video Relay Services, Inc. Comments Refreshing Record Concerning Numbering and Related Issues, April 8, 2008

Appendix B

FCC actions required to implement functionally equivalent numbering solution for Internet based TRS

1. Adopt rules requiring all Internet based TRS providers to establish and interconnect with a neutral central Internet based numbering database. Any third party database administrator would be prohibited from having any ownership or financial interest in a TRS provider.
2. Adopt rules requiring providers to obtain and make available local 10 digit numbers for Internet based TRS users.
3. Make clear that the numbers assigned to Internet based TRS users shall be fully portable among providers.
4. Adopt rules requiring providers who supply equipment or software to users to facilitate Internet based TRS to manage the consumer end point in order to track the consumer's IP address, and to report this IP address to the neutral third party database.
5. Adopt rules requiring Internet based TRS providers to deliver incoming calls to relay users of their managed equipment or software without discrimination.
6. Amend the CPNI rules, FCC Rule Sections 64.2001 et seq. to include TRS providers under the definition of telecommunications carriers for the purposes of those rules.
7. Adopt rules prohibiting the unauthorized change of an Internet based TRS user's preferred provider, modeled on FCC Rule Section 64.1100 et. seq.