created, it will impose massive, ongoing costs on the TRS Fund merely to support an utterly generic offering, which will presumably become even more anachronistic over time as incentives to innovate remain non-existent. In contrast, in today's competitive environment, providers have competitive incentives to update and maintain their applications, to continue to innovate, and to provide the best customer service for their hardware, software, and services as a whole.

5. *What off-the-shelf hardware and operating system platforms should be supported? Should users be responsible for procuring their own off-the-shelf equipment, or should providers be involved in the acquisition and distribution of end user equipment to VRS users?*

This question is also fundamentally misguided. As discussed above, there is currently no off-the-shelf equipment that can provide the same VRS user experience as videophones designed for use by the deaf and hard-of-hearing that optimize frame rates and video rather than prioritizing audio quality like mass-market equipment for hearing users. Nor is there likely to be any deaf-centric off-the-shelf equipment in the near future—the deaf and hard-of-hearing market is simply too small to attract significant attention from companies that target the hearing mass market. Of course, in the event that the Commission nonetheless *does* mandate the use of inferior off-the-shelf equipment for VRS, it would make no sense to compound that error by dictating to VRS users *which* off-the-shelf equipment they may use.

At the same time, preserving for consumers the choice between inferior off-the-shelf solutions will be costly—the problems discussed above of updating and maintaining a generic application developed by a third party will be complicated by the need to keep the endpoint operable across multiple platforms. These problems, again, involve both forward- and backward-looking compatibility; the application must be continually revised to work on new devices as they are released, but must also be kept functional on older (even outdated) equipment.

At some point, however, even concerted efforts will not keep applications functioning on older equipment. Moreover, as product cycles become shorter and shorter—for example, the time between the release of the iPad 3 and iPad 4 in 2012 was only about seven months—the timeframe for which it is possible to ensure backward compatibility also becomes shorter. As a practical matter, then, a regulatory model where consumers are given a one-time stipend to buy an off-the-shelf device simply will not work. Such devices have an increasingly limited useful lifespan, as technology renders them obsolete faster and faster. VRS consumers will therefore need to receive stipends to replace their off-the-shelf equipment on a regular basis if an application developer is to have any chance of keeping a generic VRS application functional for all VRS users. Once again, this will impose enormous economic burdens on the TRS Fund.

6. *How should consumers be involved in the development, selection, certification and on-going enhancement of either the core or the application?*

This is another insoluble problem for ZVRS's approach as set forth in the PN. Today, consumers have a straightforward and efficient way to express their preferences in VRS applications—they simply choose among the competing products on the market. But there is no remotely equivalent way to capture consumers' input in the absence of market forces. It is no more than unrealistic, wishful thinking to imagine that a third-party application developer with no real experience of the VRS market could gather worthwhile information about VRS consumers' needs and preferences through a focus group, or a survey, or some other non-market-driven approach to consumer involvement.

Again, this problem would be particularly acute for the maintenance and on-going enhancement of an application. In today's market, VRS consumers provide continual feedback to service providers on their preferences and problems with VRS equipment, applications, and service, and VRS providers are extremely motivated by competition to address that feedback.

Asking how to replicate that sensitivity to customer needs and desires in a market with only a single, unified VRS application developed by a third party is tantamount to asking how to get nimble, top-quality service from a government-run monopoly—simply put, it cannot be done.

7. *How would users obtain support for issues relating to the application or its use on their equipment (e.g., network firewall issues, troubleshooting problems)?*

This issue was briefly addressed above in connection with Question 2, but it bears reemphasis that this is an enormous problems with ZVRS's proposal that will lead to a severe degradation in the quality of VRS service, widespread consumer dissatisfaction, and higher costs for the TRS Fund.

To begin, as noted above, consumers simply will not know who to call for help in a VRS world that divides equipment and application developers from service providers. Moreover, to the extent that a consumer does seek customer service from an application developer, the developer will have little incentive to resolve problems. The likely result is that the developer will push the consumer back to the VRS provider for all problems, even those with the application itself.

As a general matter, customers will likely call the VRS provider in the first instance whenever there is a problem, because that is the entity with whom the consumer has a relationship. The VRS provider will then need to devote time and resources to determining that the problem in many cases is actually with the application. Even then, however, there is likely to be finger pointing back and forth between the VRS provider and the application developer as to which entity can actually resolve the problem, how it can be resolved, how quickly, and so on. The end result will be worse service for the consumer and duplicative costs for the TRS Fund because both entities (VRS provider and application developer) will need to support separate customer service staffs to resolve (too slowly) a single customer's problems.

Moreover, the introduction of a single, standardized application will introduce serious new support problems in connection with integrating that endpoint with all providers' backend systems. These problems are likely to be particularly significant with respect to firewalls. It is impossible to predict exactly where or why firewall problems will occur, but they will be legion in this kind of cross-ecosystem effort, because providers do not take a uniform approach to firewall traversal protocols. Firewall problems are, moreover, particularly difficult to troubleshoot and pinpoint, sometimes requiring visits to the premises by highly trained technicians versed in the complexities of firewall problems. And it is not clear whom the customer should even call to diagnose a firewall problem in the context of disaggregated applications and VRS providers—firewall problems are not clearly either a VRS provider issue or an endpoint issue, but rather result from integration issues between the two. Again, the end result is likely to be poor customer service and high expenses, as compared to today's system in which providers control their own ecosystems from front to back and have clear incentives to solve all problems quickly and seamlessly. ZVRS's proposal would again be a leap backwards.

8. *What other approaches might be considered to select an application or applications for use in the VRS system? For example, should the Commission host a competition among existing VRS access applications and/or commercial standards-based off-the-shelf video conferencing applications? What would be the benefits and drawbacks of these or other alternate approaches?*

The bottom line here is simple—the current competitive environment for the development of VRS applications is vastly superior to a central planning regime. As discussed above, the existing competitive environment takes direct account of consumer preferences, encourages innovation, provides incentives for efficiency, and leads to high quality operations and customer service. A VRS market in which a government-sanctioned monopolist develops a single, lowest-common-denominator application does none of those things.

With respect to the possibility of a competition among existing applications, Sorenson is confident that its VRS applications would prevail in any well-designed competition. After all, consumers overwhelmingly prefer Sorenson's VRS service to those of its competitors. But this approach would engender a host of new problems. In particular, Sorenson has, of course, made massive investments into its equipment and applications—and it is unclear how it could or would be compensated appropriately if other industry participants were to begin using its applications. What is clear, however, is that the government could not simply expropriate Sorenson's investments without just compensation. Moreover, no matter what method is used to select a single VRS application, eliminating competition in favor of a government-sanctioned monopoly application would, of course, destroy any incentive for further innovation and improvement of the application.

9. *How would a transition to a VRS system that relies exclusively on a common application be accomplished, and over what period of time?*

It is extremely unclear how such a transition could be accomplished—but what is clear is that the transition would be devastating for VRS users, for the TRS Fund, and for the VRS industry. First, as noted above, VRS users today overwhelmingly choose Sorenson's deaf-centric videophones to make VRS calls. Taking that choice away from those users and telling them that they need to employ an inferior method of obtaining VRS will confuse, anger, and alienate enormous numbers of VRS users, no matter how it is done. That said, however, if at least some users of Sorenson's videophones would continue to have a relationship with Sorenson after this transition, the Commission must make it extremely clear to them that it is the *Commission and not Sorenson* that is depriving them of the ability to use the equipment that they count on. Of course, no matter how the Commission chooses to break this shocking news to VRS users, many will blame their VRS provider for the Commission's decision, and the relationship that providers

have with those users will be destroyed. Dealing with furious complaints from customers will require enormous resources.

Any attempt at such a transition would also have a devastating effect on Sorenson's field staff, which is overwhelmingly where Sorenson's deaf and hard of-hearing employees work. While the largest block of Sorenson's employees is video interpreters, those interpreters must by definition be hearing individuals. The people who currently handle equipment installation and repairs for Sorenson, however, are primarily deaf and hard-of-hearing. But if Sorenson were to no longer have any role in developing and installing endpoints, as envisioned by the PN, Sorenson would have no need for many of its deaf and hard-of-hearing employees.

As discussed above, Sorenson would also need to devote enormous resources to reconfiguring its back office operations (queuing, billing, routing, data collection, and so on) so that they would work with a single lowest-common-denominator endpoint. Without knowing more about the hypothetical endpoint it is impossible to quantify these costs, but there is no question that they would place substantial burdens on the TRS Fund.

10. What changes to the Commission's rules would be necessary to adopt this proposal or one of the alternatives described above?

This question is difficult to answer in the abstract, without knowing the precise contours of the proposal's single-application regime. But it is clear that a transition to such a regime would require wholesale recalibration of the Commission's VRS rules to distinguish between the obligations of the application developer (and, presumably, servicer) on the one hand, and those of the VRS service providers, on the other hand. There would need to be a clear regulatory delineation of obligations—as well as liabilities for compliance lapses—for parties in different positions in the chain. Moreover, the Commission would need to articulate this delineation of responsibilities with great clarity—which would present challenges of its own—so that any

prospective developer could understand precisely what the final product would be required to do. To the extent the Commission were to use a competitive bidding process (or something similar) when selecting a developer, this clear delineation of responsibilities would need to be completely settled in advance of putting the project out for bid.

As an example, 911 provisioning rules would have to be completely reimagined. Currently, different VRS providers provision data to PSAPs in a variety of different ways—and they each work with dedicated 911 access providers. A regime with a single, unified VRS application might involve moving to a single 911 access provider—or it might involve reconfiguring existing provisioning between VRS providers and multiple 911 providers to function with the new application. In either event, the existing regime could not survive and the rules would need to be revamped from top to bottom to ensure a workable replacement.

C. Mandating the Use of Off-the-Shelf Equipment, Imposing a Single VRS Application, or Otherwise Preventing Consumers from Using the VRS Equipment and Software of Their Choice Would Violate the Commission's Statutory Mandates.

While the PN raises the prospect of radical intervention in the VRS equipment market, it does not attempt to advance any rational policy reason for such heavy-handed regulation. It bears emphasis, however, that the kinds of market intervention proposed in the PN are not merely poor policy—adopting unjustifiable equipment, application, and networking mandates would also violate both the Commission's duty to engage in reasoned decision-making, and its statutory obligation to ensure functional equivalence of VRS to the extent possible.[122]

1. Restricting Consumers' Choice of VRS Equipment Would be Arbitrary and Capricious on the Existing Record.

The courts of appeals must, of course, set aside FCC actions that are "arbitrary,

[122] While Sorenson discusses the networking disaggregation proposal in Section IV, below, the statutory infirmities analyzed here apply to the proposal as well.

capricious, an abuse of discretion, or otherwise not in accordance with law."[123] All new VRS rules, including those governing equipment and applications, must therefore reflect "reasoned decisionmaking."[124] Commission action falls short of that hurdle if it "offer[s] an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it [cannot] be ascribed to a difference in view or the product of agency expertise."[125] ZVRS's proposal to prevent consumers from using the VRS equipment and applications of their choice would fail this bedrock test.

Although the Commission has not yet endorsed or attempted to justify these proposals at all, Sorenson's competitors have suggested that preventing consumers from selecting the VRS equipment and applications of their choice would somehow *help* them—but the opposite is obviously true. This would be like trying to help consumers by banning the iPod (another tightly integrated product) in favor of a non-proprietary MP3 format player. As discussed above, when Sorenson entered a VRS market already populated with numerous established competitors, consumers were drawn to its service by the quality and ease of use of its videophones designed specifically for the deaf and hard-of-hearing. Consumers in great numbers chose those phones—and continue to choose those phones—because they provide users a better VRS experience than other equipment on the market. Today's Sorenson videophones, for example, offer Sorenson's unique "LightRing"® system that can flash different patterns for stored contacts—a uniquely useful feature that is obviously absent from off-the-shelf equipment not designed for the deaf. Relegating deaf users to such mass-market equipment and a generic VRS application will

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[123] 5 U.S.C. § 706(2)(a).

[124] *See, e.g., Allentown Mack Sales & Serv. v. NLRB*, 522 U.S. 359, 374 (1998).

[125] *State Farm Mut. Auto Ins. Co.*, 463 U.S. at 43.

deprive them of this sort of unique, deaf-specific feature and accordingly degrade their experience.

As also discussed above, moving strictly to a generic application running on off-the-shelf equipment also will not—contrary to competitors' claims—solve interoperability problems for point-to-point calls. So long as VRS providers deploy different communications infrastructures, a standardized application will not solve all interoperability problems, which are not limited to *software* problems but also include issues of communication *between* VRS providers' "clouds." Again, those problems must be solved through the adoption of interoperability standards applicable to the systems deployed by VRS providers.

ZVRS's suggestion that the Commission should seek to create artificial "competition" by "unbundling" the provision of VRS equipment, software, and network operations from interpreter services is also flawed in a way reminiscent of the debate surrounding unbundled network elements ("UNEs") in the wireline context. There, the Commission was subject to a statutory mandate that it *must* "unbundle" certain network elements—that is, make incumbent carrier UNEs available to competitive local exchange carriers on terms established by regulators—when the failure to provide such access would "impair" competitors' ability to provide service.[126] Notwithstanding this statutory mandate, however, the D.C. Circuit proved extremely skeptical of unbundling given its incentive effects on competition—*i.e.,* unbundling obviously "reduces the incentives for innovation and investment" by competitors in their own facilities.[127] More specifically, in *USTA I*, the D.C. Circuit found that the Commission's "belief in the beneficence of the widest unbundling possible" was arbitrary and capricious given the

[126] *See* 47 U.S.C. § 251(d)(2).

[127] *U.S. Telecom Ass'n v. FCC*, 290 F.3d 415, 425 (D.C. Cir. 2002) ("*USTA I*").

clear "disincentive to invest in innovation" that arises from unbundling.[128] Of course, the same concerns exist here—unbundling the provision of VRS equipment, software, and networking functions from interpreter services undermines competitors' incentives to attempt to match (or even exceed) Sorenson's innovations in those areas.

In short, the record in this proceeding amply demonstrates that consumers would suffer from limitations on their choice of VRS equipment, applications, and networking functions, and provides no reason to think that they would experience offsetting benefits. Indeed, Sorenson's competitors do not very seriously insist that *consumers* would experience such benefits at all. Instead, those competitors suggest that *they* would benefit from restrictive regulations because they would no longer have to compete against Sorenson's combination of superior equipment, superior applications, and superior service. ZVRS argues, for example, that mandating a switch to "standard VRS software" would result in a more "competitive market" based on "Interpreter Quality not Video Phone."[129] ZVRS does not explain, however, why the Commission should favor competition based on "interpreter quality" over competition based on "interpreter quality" *and* equipment quality. Of course, as the Commission has recognized, it should not.

Against this backdrop, it is clear that Sorenson's competitors are really seeking a regulatory "thumb on the scales" to permit them to compete more successfully against Sorenson's combination of superior equipment and superior service. But such competitive

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[128] *Id.* at 425-27; *see also U.S. Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004) (observing that the order challenged in *USTA I* was not "rationally related" to the goals of the statute because the Commission had failed to "balance" any advantages of unbundling against the costs, including "spreading the disincentive to invest in innovation").

[129] *See* ZVRS July 10 Letter, Attachment 2 at 7. ZVRS does not explain where this "standard" VRS software would come from. As explained in Sorenson's reply comments in response to the FNPRM, however, forcing Sorenson to share the benefits of its investments—whether in the form of superior proprietary equipment or superior software and enhanced features—with competitors that have failed to make such investments would represent a taking without just compensation. *See* Sorenson FNPRM Comments at 25-28.

gerrymandering would be arbitrary and capricious. Helping unsuccessful competitors to compete more successfully in the marketplace while harming consumers does not constitute reasoned decisionmaking. Indeed, as the Commission itself has long held, its job is to be "pro-competitive," not "pro-competitor."[130] The Commission should not and does not "determine which competitors will be 'winners' and 'losers'" in the marketplace, but rather "ensure[s] that all [service providers] receive an equal opportunity to compete."[131] In this proceeding, the Commission should accordingly continue to focus on allowing consumers to select their preferred provider of VRS, *and* their preferred equipment and networking solution, and should refrain from addressing interoperability, portability, and off-the-shelf issues in such a way as to engineer market gains for competitors at Sorenson's expense.

2. Restricting Consumers' Choice of VRS Equipment and Applications Would Violate the Commission's Mandate to Ensure Functional Equivalence.

As noted above, there is no question that Sorenson's industry-leading VRS equipment enables the provision of a VRS experience far more "functionally equivalent" to the telephone services available to hearing individuals than off-the-shelf equipment is capable of providing. That is because off-the-shelf products are not optimized for VRS, and manufacturers targeting the hearing mass market have little incentive to make the necessary changes and improvements—the deaf and hard-of-hearing market is simply too small.

But, of course, it is more than Sorenson's equipment alone that ensures the most "functionally equivalent" VRS user experience. Sorenson's tightly integrated equipment,

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[130] *See, e.g., Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, FCC 96-325, 11 FCC Rcd. 15,499, 15,812 ¶ 618 (1996) (emphasis omitted).

[131] *MTS and WATS Market Structure*, Memorandum Opinion and Order, FCC 85-551, 102 F.C.C.2d 849, 860 ¶ 22 (1985).

software, networking and transmission operations, back office functions, customer service, and so on combine to create the best possible VRS experience. The PN's proposals to fragment the functions of endpoint development, service, and interpreting would destroy the existing VRS experience, which has made such enormous progress toward achieving the functional equivalence mandated by the ADA.

Preventing consumers from choosing the best VRS equipment and applications available—as proposed by ZVRS—will undermine functional equivalence, and thus violate the Commission's statutory responsibilities. As set forth in Sorenson's comments and reply comments in response to the FNPRM, the Commission should therefore eschew heavy-handed intervention in this market, and instead focus on advancing VRS industry standardization based on SIP while allowing market forces to continue to drive the evolution of VRS equipment and applications.

IV. Shifting Network Functions and Features from VRS Providers to a Centralized Communications Provider Would Result in a Substantial Backwards Step for Consumers and Providers.

For many of the same reasons that it should reject ZVRS's proposal regarding a government-mandated standard VRS endpoint application, the Commission should also discard ZVRS's proposal to disaggregate networking functions and certain enhanced features from the interpreting function. Although couched in terms of changes to the iTRS "database", the proposal contained in the PN extends far beyond just "database" operations. Rather, the proposal calls for the creation of a central communications service provider that would handle and route all calls and provide the core communications platform over which both VRS and point-to-point communications occur. But it is impossible to discern any benefit from such a transformation—there is simply "no evidence of a public-interest problem to which [ZVRS's] proposal would be

a solution."[132] It certainly would not help the Commission detect any remaining fraud in VRS, as it obviously fails to address minute-pumping incentives and likewise has no bearing on other features of the VRS program—like the guest-user rule and current verification requirements—that might conceivably lie at the root of misconduct. Like the centrally-planned endpoint, a centrally-planned network operations system would also destroy innovation, lead to complex and burdensome customer support experiences, and place greater burdens on the TRS Fund. [133] Beyond those harms, the disaggregation proposal would also pose an unacceptable risk to deaf and hard-of-hearing users' privacy interests.

A. ZVRS's Proposal to Disaggregate Network Functions Would Do Nothing to Address Fraud—But It Would Expose the TRS Fund to Greater Waste.

The PN notes in its opening paragraph that "the Commission's goal" in its long running reassessment of VRS has been to reform a program "which for many years has been beset by waste, fraud, and abuse."[134] Sorenson wholeheartedly endorses that stated goal and believes that the Commission has made great strides in addressing critical weaknesses, like white-label providers, subcontracted call-center operations, and brazen minute-pumping schemes. But the Commission's impressive track record on this score highlights the fact that the disaggregation proposal presented in the PN would have absolutely no discernible effect on fraud. It would certainly increase costs and waste (as explained in more detail in the subsections that follow), but it would do nothing to address whatever remnants of fraud remain in the program.

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[132] Katz PN Declaration ¶ 3.

[133] *See also id.* ¶¶ 25-30 ("Adoption of [ZVRS's] "proposal to isolate the provision of video communication services could be expected to harm deaf and hard-of-hearing consumers" by undermining "accountability to customers," introducing more room for error by the Commission in setting rates, and by leading to "distortions in investments.").

[134] PN at 1.

Though the PN is notably silent on the subject, the disaggregation proposal might be viewed by some as a way to address ongoing misconduct, as it would centralize data collection in a manner that arguably permits the Commission to more closely monitor the industry. The reality, however, is that centralizing data collection would impose enormous costs and jeopardize privacy interests (as detailed below) *without having any discernible impact on misconduct.* While some have expressed concerns that the existing guest user rules and the current verification requirements may create space for fraudulent conduct,[135] the network and data-gathering disaggregation proposal would do nothing to address them even if they were responsible for some amount of fraud.[136] Nothing about centralizing the data collection and storage functions would alter the rules permitting VRS users to make calls after they register but before they verify their eligibility, nor would it have any impact on the specific eligibility criteria that VRS subscribers must meet to qualify for service. Simply put, centralizing these functions would not improve the Commission's (or providers') ability to detect unauthorized users, pumped minutes, or non-compensable calls.

Moreover, the Commission and TRS Fund Administrator already have access to virtually all of the data that would be centralized under the proposal. Through current monthly data

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[135] *See 2008 VRS Report and Order*, 24 FCC Rcd. at 809-10 ¶¶ 37-38; *see also Consumer & Governmental Affairs Bureau Reminds Video Relay Service (VRS) and Internet Protocol Relay Service Providers of Their Outreach Obligations and Clarifies Their Call Handling Obligations for Unregistered Users after the November 12, 2009. Ten-Digit Numbering Registration Deadline*, Public Notice, DA 09-2261, 24 FCC Rcd. 12,877, 12,879 (2009) ("We emphasize that the provider must handle calls to or from such callers, to the extent technically feasible, even if the provider has not completed verifying that information, assigning the caller a new ten-digit number, and provisioning that number to the iTRS database.").

[136] Sorenson is not aware of evidence validating concerns that the current guest user rule and verification requirements are the source of any material misconduct in the VRS industry. While IP Relay affords users a measure of anonymity that can enable non-eligible individuals to use the service, it is simply hard to imagine how a non-eligible user could meaningfully use a service that requires real-time ASL communications with a video interpreter.

submissions, routine provider audits, and annual cost submission requirements, providers already submit much of the data that the PN would entrust exclusively to the "enhanced" database administrator. For example, Sorenson already provides the TRS Fund Administrator with a call detail record for every billed and abandoned VRS call, and the TRS Fund Administrator's auditors have access to records for every call—whether or not completed and whether or not Sorenson seeks compensation for it. Moreover, to the extent that the Administrator believes it needs additional data to monitor fraud, it can request that information. In Sorenson's experience, however, auditors have not generally required call detail information beyond that in the call detail records in order to complete their reviews.

In fact, the disaggregation proposal may actually *increase* opportunities for fraudulent conduct, as it will be less clear where the FCC should direct inquiries or enforcement actions in a disaggregated world. As a result of the rule changes adopted in the last two years (including the elimination of white label providers and subcontracting operations), it is comparatively easy at present for the Commission to identify precisely which provider is responsible for handling a particular call or providing the service that generates a complaint. But that clarity would largely evaporate in the disaggregated system ZVRS proposes, as joint provision of VRS would blur lines between the entities responsible for the three components of the service and as the providers would have strong incentives to pin the blame for any shortcoming on someone else.

In other words, adopting this proposal would not somehow give the Commission access to additional information that might help combat fraud—but it would generate substantial new costs, sow confusion and frustration for consumers, and expose consumers to potential breaches of their privacy rights. If the Commission were inclined to adopt this proposal, therefore, it must

first explain the proposal's justification considering its failure to advance the Commission's core goal of fighting waste, fraud, and abuse.

B. Disaggregating Network Functions Would Disserve Functional Equivalence by Threatening VRS Consumers' Privacy Interests, Expanding the Burden on the TRS Fund, and Eroding Quality of Service.

Barring VRS providers from providing standard network-related functions in connection with the provision of VRS—and instead entrusting that role to the iTRS Database Administrator or a similar entity, as ZVRS proposes[137]—would create unprecedented privacy-related exposure for every VRS user in the country, generate redundant expenses that would further strain the TRS Fund, and result in severely degraded service quality. Before addressing these core flaws with ZVRS's proposal, however, it is important to step back and recognize again what ZVRS is hoping to achieve. ZVRS's proposal would eliminate the competitive dynamic in which Sorenson has succeeded by providing the superlative and comprehensive service that consumers demand. ZVRS is pushing a centrally-planned model in which consumers would be assigned a network provider by regulatory fiat, not through the competitive forces that have sparked innovation and enabled VRS to become a life-changing technology for deaf and hard-of-hearing end users.

Among the long list of harmful impacts this proposal would produce, perhaps none is more troubling than the intense threat it would pose to VRS users' privacy interests. Distilled to its core, the proposal would result in the iTRS Database Administrator maintaining sweeping and detailed account and usage information for every VRS user in the country. Pooling all of this information—including user registration information (name, address, and phone number), verification information, call routing processes, and user usage accounting—in a single

[137] *See* PN at 4-5.

repository to which multiple providers (and perhaps other entities) must have some degree of access creates an enormous and unnecessary risk of disclosure, whether inadvertent or due to nefarious efforts. Adopting the proposal would therefore require the Commission (in conjunction with the iTRS Database Administrator) to establish clear and robust protocols, most properly via a separate rulemaking process, to ensure safeguards for the consumer proprietary network information and other personal data that have never before been concentrated in a single location to which multiple entities must have some degree of access.[138] Among other things, the Commission would need to address with great care questions related to who can access the various kinds of sensitive information stored in the centralized repository and for what purpose, how providers and consumers can identify and correct errors, and so on. In short, the proposal to assign many network-related operations and storage functions to the iTRS Database Administrator must be preceded by a careful assessment of the privacy risks the proposal poses and possible approaches to address or mitigate them.

In addition to the privacy-related dangers, the proposal would have a profoundly negative impact on consumers for many of the same reasons that mandating a centrally-planned endpoint would be so harmful. Just as the developer of a "standardized app" may not understand the end users nearly as well as VRS providers themselves, the iTRS Database Administrator has no familiarity with many of the VRS-specific functions that the proposal would assign to it. Stripping those functions away from providers and implementing them within the iTRS Database Administrator's operations would be hugely disruptive to ongoing operations, and the transition

[138] While VRS providers currently maintain much of this information for their own customers, they can protect confidentiality and privacy interests by controlling access tightly and completely. The challenge is exponentially greater with respect to a single industry-wide database, however, because multiple entities will need to have access to it—possibly including access to data associated with competitors' customers.

would also generate great expense as the administrator would need to design, build, and operate systems that replicate VRS providers' current platforms.

Unlike VRS providers, moreover, the iTRS Database Administrator would not have competitive incentives to keep improving the services it provides. Simply put, it would have little competitive incentive to search for solutions or upgrades that help optimize video transmission or speed up routing operations in a manner that might result in faster "speed of answer" data or more seamless connections. This is the clear consequence of turning to a centralized solution instead of relying on competition—the provider will have little incentive to innovate and improve. The Commission could theoretically pay the iTRS Database Administrator for service improvements, but that would impose new costs on the Fund and also entail the nearly impossible task of identifying what sorts of improvements would merit additional compensation, and how the compensation system should be structured. In the competitive environment that exists today, of course, VRS providers have competitive incentives to update and improve their network operations—or else they risk losing customers. Command economics simply cannot produce comparable results.

The proposal would also generate a disjointed experience for consumers—and doubly so if it were adopted alongside the "standardized endpoint" proposal discussed above. With as many as three separate entities providing service to a single consumer (the endpoint provider, the network operations provider, and the interpreting provider), VRS end users would frequently have no idea where to turn when problems and glitches inevitably arise. In many cases, it would be equally difficult for the providers themselves to pinpoint the source of the problem without engaging in expensive, time-consuming, and duplicative assessments of the issues. As explained in detail in the context of the standardized endpoint, technical support issues would become

overwhelmingly problematic and expensive to resolve in the disaggregated system described in the proposal. Because they often will not know whom to call, consumers would frequently register complaints with the interpreting provider (since they are in direct face-to-face contact during every VRS call), but the interpreting provider may have no insight into the technical problem at the root of the complaint. And, as to all service providers, there will "likely be less accountability to customers" because there will no longer be a "single point of responsibility so that a customer does not get bounced among multiple providers, each of which claims that the problem the consumer is facing is due to the actions of another provider."[139] Getting to the source of a problem associated with a service co-provided by three separate entities would burn time, money, and consumers' patience. Overall, this approach would degrade the customer support function while making it more expensive, because all of the entities involved in providing service would need to maintain separate customer service staffs to resolve a single customer's problem.

In addition, this proposal would require the Commission to overhaul the existing compensation regime in ways that have not been identified or addressed anywhere in the record. Although the issue does not appear in the PN, it is critical to recognize the difficulty in compensating the administrator in a way that could establish incentives for it to continue some of the innovations and efficiency improvements that VRS providers currently pursue for competitive reasons. The lack of attention to this issue in the PN suggests that the Bureau might understand ZVRS's proposal to rely on a continuation of the administrator's fixed-price contract—but that approach would essentially eliminate competitive incentives to improve service or respond swiftly to technical problems after the contract has been signed. It would also

[139] Katz PN Declaration ¶ 29.

effectively ignore the fact that the administrator would need to provide ongoing support for point-to-point traffic that would not touch the interpreting provider. The Commission could implement a new stand-alone rate for point-to-point calls, but that would mean the addition of yet another rate-setting process with different stakeholders on top of developing new compensation systems for the application developer and the interpreting providers. The existing system, of course, avoids these problems. VRS providers have market-based incentives to provide cutting edge and efficient network operations and to provide highly responsive customer support—all of which is supported through a single compensation system.

C. The Specific Questions Posed in the PN Underscore How the Proposal Would Raise Costs While Undermining the Consumer Experience.

The PN's specific questions related to ZVRS's proposal help reinforce the conclusion that it would completely disserve VRS consumers and overburden the TRS Fund:

1. What functions and services should the enhanced iTRS database provide?

The Bureau's first question focuses on the functions that could be assigned to the iTRS Database Administrator, beginning with the prospect of directing it to handle the development of a standardized VRS endpoint or application.[140] This proposal would be deeply harmful for all of the reasons identified in the previous section. In short, centralizing the development of a single

[140] *See* PN at 5. The Bureau also asks whether the iTRS Database Administrator should be charged with handling TRS Directory functions and "per-call user verification (authentication)." Sorenson does not object to these assignments of responsibility because they reflect the role that the iTRS Database Administrator already fills efficiently in the current system. While the phrase "per-call user verification (authentication)" is not defined or explained in the PN, Sorenson understands it to refer to a process to ensure that only registered users make VRS calls. In the current system, VRS providers are able to check their own customer databases to ensure that their own customers are registered, and they rely on the Database Administrator to determine if a dial-around caller has registered with another provider. If the VRS provider gets a hit when dipping the iTRS Database when handling a dial-around call, it can infer that another provider has registered the user and provided his or her number to the Database Administrator. Sorenson does not object to preserving the Database Administrator's role in this process.

common application would be regressive, achieving at great cost and disruption a stripped-down endpoint that is vastly inferior to existing options. The harm would be sharpened by directing the iTRS Database Administrator to take on the job; while the Database Administrator has deep expertise in many areas, programming and coding capabilities for communications endpoints are not among them.

The Bureau also asks whether the iTRS Database Administrator should be charged with handling registration and validation functions.[141] While the Database Administrator might be able to store this information effectively (subject to the critical privacy concerns noted above), it simply lacks the capacity to gather the information from end users. This responsibility currently rests with the providers themselves. Sorenson meets it by employing a nationwide staff of deaf trainers and installers who can deploy to the homes of customers and prospective customers to gather needed registration or verification information directly from the end user. The iTRS Database Administrator simply does not have comparable resources. It was never envisioned as a provider that would have direct contact with tens of thousands of end users—and certainly not tens of thousands of *deaf* end users. If the administrator were charged with this task all the same, enormous numbers of potential VRS users would effectively be denied service—because the administrator does not have the outreach staff or experience necessary to reach users nationwide, nor would it have a clear incentive to do so.[142] Sorenson fears that it might become something

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[141] PN at 5. Though the word "validation" is not defined in the PN, Sorenson understands it to refer to the verification requirements adopted in the Commission's December 2008 Order. *See 2008 VRS Report and Order*, 24 FCC Rcd. at 809-10 ¶¶ 37-38.

[142] Moreover, if the administrator were to rely more heavily on non-direct and quasi-anonymous contacts (such as electronic communications and documents submissions) rather than the face-to-face approach Sorenson employs for most registration and verification, this disaggregation proposal could in fact *increase* the potential for fraud and abuse.

like the Department of Motor Vehicles: a central office that performs a gatekeeping role without a clear incentive to do it well.

The PN asks further whether the iTRS Database Administrator should bear responsibility for "usage accounting."[143] While that phrase is not defined or explained in the PN, it could refer to tracking the date on which a number was last used (that is, tracking whether it is active) as well as storing data related to individual customers' actual VRS usage (calls, minutes, numbers, endpoints, etc.). While the latter possibility is certainly more troubling than the first, they both raise critical privacy concerns. As noted above, storing this kind of information in a centralized location to which multiple (often competing) entities must have access would pose pronounced risks for the VRS end users and present critical questions: precisely who would have access to the data and for what purposes, how it would be protected, and how could users and providers identify and correct errors? And, even more centrally, is there really any need or benefit in directing the iTRS Database Administrator to manage this data instead of the providers themselves? As noted above, these possibilities increase the threat to privacy interests because they make all of this sensitive information available to more parties. Unlike the current system, under which VRS providers have clear incentives to preserve privacy and control access tightly with respect to their own customers' data, relying on a central database administrator (or administrators) with which all providers must interact greatly exacerbates privacy concerns. The reasons *for* this proposed shift in responsibility are unclear at best, though there can be little doubt that it would jeopardize privacy rights and impose additional costs on the Fund related to developing data tracking systems that largely mirror the systems providers already maintain. For this reason alone it should be rejected.

[143] PN at 5.

The Bureau also seeks comment on whether the iTRS Database Administrator should handle "call routing" functions.[144] This would create enormous logistical and technological challenges—for the administrator, for providers, and ultimately for the consumers that are forced to endure the disruptions that this transition would cause. Unfortunately, a standalone provider for all call routing would lack competitive incentives to improve or optimize service—which would by definition result in lower quality and less efficient service. And reaching this counterproductive result would generate new costs (to develop infrastructure solutions that duplicate comparable systems already adopted by providers) and cause consumer frustration (as this adds an additional point of failure managed by a different provider relying on a different customer support team).

Shifting the call routing function to the iTRS Database Administrator would also pose an unnecessary risk to public safety, as it would complicate emergency calling for virtually every VRS customer. At present, VRS providers manage PSAP data provisioning and emergency call routing in different ways and via different E911 solution providers. If a single entity were to bear responsibility for all call routing, it would need to develop protocols enabling it to process the various emergency call delivery systems currently employed in the VRS marketplace. That will result in increased cost and, more ominously, the possibility of dropped connections or faulty provision of emergency data to the PSAP. In short, disaggregating network operations in this manner would be dangerous and disruptive.

The PN turns next to the idea of entrusting the Database Administrator with providing "video mail and address book" functions.[145] As explained above with respect to a standardized endpoint, however, it is not clear that these functions could be centralized at all without forcing

[144] *Id.*

[145] *Id.*

providers to substantially retrofit their existing back office operations (at substantial cost) to be compatible. And even if it were possible to provision these features centrally, they would have to be "dumbed down" to a plain vanilla level to make them operable within each provider's ecosystem.[146] Providers like Sorenson, of course, would effectively be required to discard the superior video mail and address book features they have spent time and money developing. Moreover, because a single provider of these lowest-common-denominator features would have no competitive incentive to improve them, adopting this proposal would mark a deeply regressive (yet expensive) step for functionally equivalent features that VRS consumers depend on.

2. *How would ASL relay CA service providers interface with the enhanced iTRS database? Would each ASL relay CA service provider be required to establish its own internal routing system for distributing calls among its call centers, or should the enhanced iTRS database allow providers to specify provider-internal call routing rules?*

This second question is vague, but appears to be asking whether the iTRS Database Administrator should have some involvement in the providers' internal operations (such as routing among call centers) or whether the Database Administrator should simply hand the call off to the provider in some fashion. Because the proposal suggests broadly that the Database Administrator should handle a variety of core functions, and because those functions are currently handled in materially different ways by different VRS providers, the "interface" between the Database Administrator and providers will present a laundry list of technical challenges that will vary and grow along with the list of functions that the Database

[146] Sorenson assumes that the proposal envisions that current VRS providers would handle the interpreting function for video mail messages created via the proposed centralized video mail function. This kind of joint provision of video mail—with one entity supporting the technical functionality and another handling the interpreting—would of course require costly and time-consuming implementation efforts. Otherwise, the Database Administrator would need to employ ASL interpreters of its own to handle the video mail messages.

Administrator handles. The PN flags one excellent example—call routing among a single provider's call centers. While the notice asks whether the Database Administrator should handle that function (pursuant to "rules" submitted by providers), it would be infeasible to make such a system work smoothly and without disclosing too much sensitive information about the providers' internal operations. Call center routing depends centrally on critical company decision-making that simply cannot be outsourced, including decisions related to staffing availability, costs, interpreter abilities, and other core operational factors.

Setting aside the impracticalities inherent in allowing the iTRS Database Administrator to manage call routing at the call center level, it is important to note that the proposal envisions two separate entities handling call routing and transmission (and maintaining the parallel and duplicative systems necessary to do so). The iTRS Database Administrator would handle call routing outside of the provider's ecosystem (namely to and from the TRS Directory, and to and from the other party's carrier), but the provider itself would remain responsible for routing to and among its call centers. Relying on two entities to manage these routing and transmission functions would result in duplicative functionalities and, correspondingly, the added cost of maintaining them. Moreover, rather than have these functions contained within each provider's own ecosystem, where problems can be detected and addressed efficiently, the bifurcated nature of the routing and transmission function would lead to greater costs to monitor traffic flows and coordinate responses to resolve problems.

3. *CSDVRS' proposal appears to contemplate the existence of multiple video communication service providers. Is this necessary? How would the user or application choose among these providers? If the choice of the communication service provider is independent of the ASL relay CA service, based on what criteria or metrics would users or applications make that choice? Given that VRS providers currently compete primarily on quality of CA service, should the Commission contract for a single provider of the enhanced iTRS database functions, including video communication service, that allows*