PROCEEDINGS

'87

VOICE I/O SYSTEMS APPLICATIONS CONFERENCE

OCTOBER 6 -7 -8, 1987

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ALEXANDRIA, VIRGINIA

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AMERICAN VOICE I/O SOCIETY (AVIOS)

AN ACD AND VRU CAN PROVIDE MUTUAL BENEFITS

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INTRODUCTION

Voice response units (VRUs) are used in many applications today. Account management, information services, status requests, and order entry are at the heart of most existing VRU applications. Typically they are installed as stand-alone units with direct connections to the public telephone network. (Refer to Figure 1 for a block diagram of a stand-alone VRU installation.) Incoming calls go directly to the VRU for handling. If human assistance is required, then the call is transferred over a separate line or trunk from the VRU to a PBX or ACD (automatic call distributor) for handling.

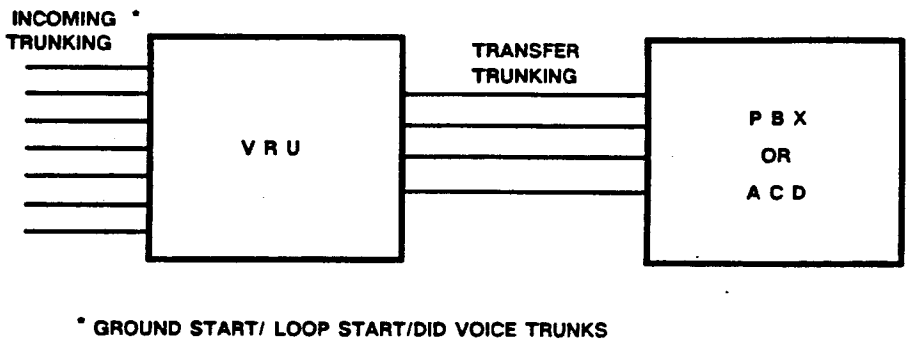

Figure 1 Stand Alone VRU Installation

Call transfer capabilities are required for those people who don't have the proper telephone, who don't like to use a VRU, who become confused while using the VRU, or who simply require more service. In a stand-alone installation, additional hardware is required within the VRU to terminate the transfer lines and to connect the calls. However, with this type of transfer arrangement, it is very difficult to pass forward to the agent any information already received from the caller. This results in longer call holding times and frustration to the caller.

A stand-alone VRU requires its own trunking. In small applications this may be fine. However, when the call traffic could just as legitimately arrive by tieline, MEGACOM, foreign exchange as well as in-WATS, then trunking can be a problem when port limitations on the VRU must be considered. A trunk concentrator and handler device connected between the trunks and VRU would be appropriate for this situation. The device would interface to the various kinds of trunks and concentrate the call traffic into a single type of trunk pipeline into the VRU. The end benefit in off-loading the unique trunk hardware and software interfaces from the VRU to the device would be to reduce the VRU hardware and software costs.

Again consider a stand-alone VRU and how it would handle call loads during peak and busy hour and during those times when the VRU has out-of-service conditions. The most typical approach is to let the calls get blocked at the central office, or to provide no answer at the VRU. However, this doesn't help overall, it simply results in very poor service conditions. Again, a device is needed which can queue calls and overflow them to agents for handling if the delay while waiting for an available VRU port becomes too long. Reasonable service can then be provided with these capabilities.

The device which can provide all the desirable capabilities just described is an automatic call distributor (ACD) system. An ACD is designed to accept high volumes of inbound calls from a variety of sources and to react favorably under call load conditions. The original ACD systems distributed calls only to human agents, but current systems can incorporate VRUs just as easily. In fact, the hardware and call processing functions can be integrated so well that the two units complement and benefit each other.

An ACD uses software queues to hold calls awaiting distribution. Each queue is called a gate or split. The gate servers are the human agents or, just as easily, the ports of a VRU. When the VRU ports are uniquely identified to the ACD software, rather than masqueraded as PABX extensions, then not only the VRU, but the ACD also will receive benefits from the relationship. Figure 2 provides a block diagram for an integrated ACD and VRU installation. The diagram shows the agent workstation consisting of a voice console assigned to gate X on the ACD and a CRT connected to the host computer system. The alternative is the VRU with voice ports assigned to gate Y on the ACD and a data link connection to the host computer system.

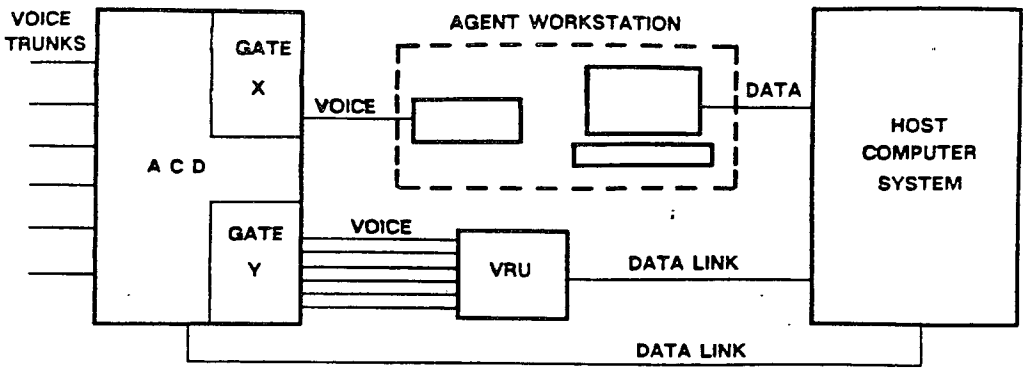

Figure 2 Integrated ACD and VRU Installation

The ACD is very good at collecting performance information. The VRU ports can be included in this information in an integrated system. Both real time reports and displays can be provided to the call center managers regarding the performance of the VRU. The VRU can then be compared with the agents, and the performance of the entire call center can be evaluated.

A simple voice signaling interface protocol can be defined between the ACD and VRU for call initiation, transfers, and disconnects. Failure of a VRU port to adhere to this protocol can indicate individual card failures in the VRU. The ACD can report these failures and automatically redistribute the call traffic to other gate servers when this occurs. The VRU alarm reporting, maintenance and support can generally be combined with the ACD to be enhanced and reduced as a result.

If call traffic builds and the VRU can't handle the calls in time to provide good service according to user set parameters, then the ACD can automatically redistribute calls to other gate servers. Or, if redistribution is not desired, then the ACD can provide delay recordings and music while waiting for a VRU port. With either approach, the caller is either handled in an alternate manner or receives positive feedback that their call has been recognized and will be handled as soon as possible.

The opposite situation can also occur: if call traffic builds and the ACD agents can't handle the calls in time to provide good service, then the ACD can automatically redistribute calls to the VRU. Using the voice messaging capability within the VRU, the VRU can answer the call and take call-back information, such as name, phone number and the reason for calling. After the call peak passes, agents can call into the VRU and retrieve the call-back information. The call center provides a better level of service as a result.

The interface protocol between the ACD and VRU can allow for call referral from the VRU. By using a flash hook signal and dialing to the ACD, the VRU can direct where to best refer a call, based upon decisions made within the VRU software. The referral may be to another gate or specific extension within the ACD or to an associated PABX system connected by tie lines. If a longer path has to be taken, the ACD can even provide least cost routing for the VRU. The transfer and release of the VRU port can then be accomplished within the ACD without additional hardware on the VRU.

Take again the case of call transfer to an agent on the ACD. The ACD can identify the VRU port requesting call transfer and the agent who will receive the call. This information can be provided over a data link to the host computer system running the agent CRTs. Assuming that the VRU is also connected to the same host, then the call database information already derived by the VRU can be passed to the agent's screen. The benefit is that the agent can immediately continue where the VRU stopped, and the caller receives better service.

Call transfer situations can also occur from agent to VRU. The VRU can be used to provide completion or wrapup messages for the agents. The VRU can provide messages which would otherwise be mundane and tiring for the agents, thereby freeing them for more useful work.

Call screening and call setup for the agents, complete call handling, and call wrapup for the agents can all be handled by VRU units when integrated with an ACD. The VRU helps the ACD and agents provide better service. At the same time the ACD provides trunk interface concentration, queuing, and redistribution capabilities for the VRU. It is a mutually beneficial relationship which results in better service for the user.