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## **Applicability of Voice Message Processing to U.S. Army Directorates of Engineering and Housing Operations**

by

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Field observations at Fort Leonard Wood, MO, revealed that, during working hours, a typical U.S. Army installation Directorate of Engineering and Housing (DEH) Work Order Reception Desk may receive 500 telephone calls daily. After hours, service request calls are forwarded to the Fire Department, whose job expands to include answering, redirecting, and prioritizing both emergency and nonemergency calls. Telephone congestion causes many calls to go unanswered, or to be incorrectly processed.

A possible solution to the telephone congestion is to supplement DEH staff with a voice message processing system, which could prioritize emergency or important calls, and could fill or redirect routine information requests. This interim report summarizes an evaluation of DEH Work Order Reception practices and needs, and an investigation into commercially available voice message processing systems. The report concludes that the addition of a voice-processing system to existing DEH telephone and computer equipment can be a cost-effective way to enhance productivity of limited staff. The final planned stages of this study are to install voice message processing systems at Fort Leonard Wood and Fort Eustis, VA, and to monitor, test, and evaluate their performance and cost-effectiveness.

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## FOREWORD

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The work was performed by the Real Property Maintenance Activities Team of the Facility Systems Division (FS) of the U.S. Army Construction Engineering Research Laboratory (USACERL). The principal investigator was Mr. Donald Hicks. Mr. John Crane, Jr. and Mr. Glenn Rasmussen were associate investigators. Mr. Robert Neathammer, Team Leader, assisted with the development and supervised its progress. Dr. Michael O'Connor is Chief, USACERL-FS. The USACERL technical editor was Mr. William J. Wolfe, Information Management Office.

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# **APPLICABILITY OF VOICE MESSAGE PROCESSING TO U.S. ARMY DIRECTORATES OF ENGINEERING AND HOUSING OPERATIONS**

## **1 INTRODUCTION**

### **Background**

U.S. Army Directorates of Engineering and Housing (DEHs) are large, integrated organizations whose responsibilities include the construction, maintenance, and repair of all the real property on the installation grounds. A typical installation DEH Work Order Reception Desk may receive as many as 500 telephone calls daily. After hours, service request calls are forwarded to the Fire Department, whose job expands to include answering, redirecting, and prioritizing both emergency and nonemergency calls. Telephone congestion causes many calls to go unanswered, or to be incorrectly processed.

A possible solution to the telephone congestion is to supplement DEH staff by installing a voice message processing system, which could prioritize emergency or important calls, and could fill or redirect routine information requests. However, such an automated system must first be evaluated to find if it can assist present DEH staff by cost effectively improving DEH telephone service.

### **Objectives**

The objectives of the first part of this study were to: (1) review current practices of the DEH Work Order Reception Desk at Forts Leonard Wood and Eustis, (2) determine the unmet telephone answering needs of those DEHs, (3) identify the capabilities of commercially available voice message processing systems, and (4) recommend whether such a system could cost-effectively relieve the telephone congestion at DEH Work Order Reception Desks. Once this preliminary task is complete, the objectives of the second part of the study are to install, monitor, and evaluate the performance of the selected system at Forts Leonard Wood and Eustis, and to recommend the applicability of such systems to the DEH environment.

### **Approach**

Phone interviews were made with personnel at the Work Order Reception Desk at Fort Leonard Wood, MO, and Fort Eustis, VA. Later, field visits were made to those two locations. To review practices at DEHs in general, phone interviews were also made with personnel at Fort Belvoir, VA, Fort Lee, VA, Fort Hood, TX, Fort Ord, CA, Fort Meade, MD, and Fort Riley, KA. A list of 49 manufacturers of voice message processing systems was compiled (Appendix A), from which six representative systems were chosen for further analysis and comparison. The remaining manufacturers were interviewed by phone to ensure that none of the unselected manufacturers offered systems with features not provided by the six selected systems.

## **Scope**

This investigation identified, analyzed, and specified a voice message processing system for Forts Leonard Wood and Eustis. However, the study into the DEH Work Order Reception Process, and the evaluation and adaptation of a voice message processing system to that process, are relevant to all U.S. Army installation DEHs.

## **Mode of Technology Transfer**

The field test results of this study, along with recommendations from USACERL, will be forwarded to the U.S. Army Engineering and Housing Support Center (USAEHSC) for distribution through DEH workshops. Further information will be disseminated through USAEHSC newsletters, DEH Digest, and FEAP flyers.

## **2 SYSTEM CONCEPT**

### **DEH Practices**

A representative DEH must serve an installation with as many as 30,000 military personnel, employees, and family members either working or residing on the installation. At Fort Leonard Wood, for instance, a total of 20,000 military personnel, employees, and family members live on base. This large population makes an average of 250 to 500 telephone calls to the DEH daily, the bulk of which come early in the work week. All nonemergency calls to the DEH during working hours are answered by the Work Order Reception Desk, which processes and routes calls appropriately, and forwards misdirected calls to other offices within the DEH. After hours, service request calls are diverted to the Fire Department, which acts on calls by their importance; all calls to the other DEH divisions go unanswered.

The primary task of neither the Work Order Reception Desk nor the Fire Department is to answer the telephone. The high volume of telephone activity routed through these two single points results in a conflict between telephone answering and primary duties. Telephone calls are often unanswered, processed out of sequence, or prioritized incorrectly. Furthermore, the current telecommunications systems on most installations have never been completely modernized; they are still composed of both touch-tone and rotary-dial (pulse) telephones. There is a need for a system that alleviates telephone congestion, creates more efficient communication within the DEH divisions, and provides continuous 24-hour telecommunications service.

### **DEH Needs**

Consultation with the DEH personnel at Forts Leonard Wood and Eustis, and at other DEHs revealed that a typical DEH requires the following capabilities of a voice processing telecommunications system:

1. The system must accommodate both touch-tone and rotary-dial telephones in an unattended environment without operator intervention. The callers with a touch-tone telephone should have the option either to key in digits from the phone, or to speak into the voice messaging system.
2. A turn-key system must be capable of managing a multitude of incoming and/or outgoing calls and should simultaneously handle a greater number of telephone inquiries than is currently possible with existing staff. The system should provide improved service without exceeding the cost of present staff or salaries, and should be capable of expanding to meet the future demands of the installation.
3. The system should reduce or eliminate the number of lost and blocked calls coming into the DEH facility by decreasing the waiting time to receive information and expanding the capacity to handle simultaneous callers.
4. The system must allow the DEH staff to change outgoing messages quickly and easily, yet provide security through the use of access codes and passwords.
5. The system should have the capacity to contain and/or retrieve statistical or installation support information, to link the entire DEH by telephone. Such a system should be able to gather information on



a wide variety of concerns, such as work orders, claim benefits, and summary reports, and to remotely transcribe messages onto the system from clients requesting information or placing orders.

6. The system should allow access to installation support information on a virtually unlimited number of subjects to incoming callers.

7. The system should automatically identify incoming calls from specific telephones to give priority to important, sensitive, and priority calls.

8. The system should allow callers to transfer or self-direct calls to a DEH (or other) agent automatically, during or after listening to recorded information, to receive further assistance or information.

9. The system should be able to generate detailed management information reports so that system administrators can accurately monitor the usage patterns of the system.

10. In summary, a voice processing system should fully automate the numerous functions and services performed by the DEH by maximizing the use of telephone and data base automation techniques to improve service to callers, improve DEH efficiency, and substantially reduce DEH costs. It is important to recognize that a voice processing system should not replace existing DEH telephones or computer equipment, but should act as a supplementary component that adds a level of automation to enhance workforce productivity.

## **Current Technology**

An overview of the current voice-message technology was developed by reviewing general industry literature and attending national industry-sponsored trade shows. Forty-nine current voice processing companies were selected for review from the *Data Sources*.<sup>1</sup> Through a company literature review and a subsequent telephone survey, the products of each manufacturer were reviewed. The group was reduced to six, comprised of the single manufacturer that meets the DEH need for a system serving both rotary and touch-tone telephones (Microlog), and five manufacturers whose systems offer a range of features that represent the industry as a whole and the current state of voice-messaging technology (manufacturer size and reputation, storage capacity, number of simultaneous users, number of ports, hours of message storage, and price):

1. Brooktrout Technologies
2. Data Acquisition Services
3. Microlog Corporation
4. VMX Incorporated
5. Wang Laboratories
6. Xerox Corporation.

All manufacturers in the voice message processing industry offer three basic features, available in either a stand-alone system (requiring the purchase of hardware), or in a subscription service provided by the manufacturer:

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<sup>1</sup>*Data Sources*, 2nd ed., vol. 3 (Ziff-Davis Publishing, 1990).

1. An Automated Attendant system assists incoming callers with dialing extensions, consulting directories, leaving messages, getting product information, and accessing a DEH operator. The Automated Attendant operates continuously, 24 hours per day, every day of the year.

2. A Voice Mail system networks a series of "voice mailboxes." The sender records his or her message and stores that message in the recipient's "mailbox." The recipient calls into the mailbox to play back the recorded message.

3. A Voice Response system stores data such as questions or numbers on commonly requested information or inquiries. For example, questions about employee benefits and accumulated vacation time are often asked of the DEH support staff. Through Voice Response, the caller can access this information and choose from a wide variety of prerecorded messages. Banks and mail-order businesses already use this system to allow clients to verify bank account balances or place orders over the phone.

Table 1 lists the characteristics and individual features of the six selected voice-processing systems (all of which provide the three standard features listed above). Appendix B lists further manufacturer information and study results.

### **Development Alternative**

Since most voice message processing systems accommodate only touch-tone telephones, DEHs that plan to install such a system should consider replacing rotary-dial with touch-tone telephones. This conversion must be complete and consistent throughout the base, and should include housing divisions, to allow the system to operate to its full capability. In the long run, a complete touch-tone telephone system would encourage other voice processing companies, which currently produce systems with only touch-tone capability, to develop or modify voice processing systems that meet DEH needs, thus creating a more competitive environment among voice processing companies and resulting in a better product at a lower price.

Table 1

## Features of Selected Voice Message Processing Systems

| Maker            | Product Name                         | Standalone/Subscription | Touch-tone/Rotary | Simul. Users | Ports | Hrs. Storage | Initial Cost                                         | Annual Fee | Supplementary Features                                                                                                                                                                                                      |
|------------------|--------------------------------------|-------------------------|-------------------|--------------|-------|--------------|------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brooktrout       | Operator Plus                        | Standalone              | Touch-tone        | 25-500       | 2-6   | 2-24         | \$15,000-\$60,000                                    | No         | <ul style="list-style-type: none"> <li>Will modify/upgrade system for additional charge</li> </ul>                                                                                                                          |
| Data Acquisition | Multi-Line Disk System (MLDS)        | Standalone              | Touch-tone        | 100          | 2-100 | 20-40        | \$18,500-\$156,000                                   | Yes        | <ul style="list-style-type: none"> <li>Can provide computer link to host computer</li> </ul>                                                                                                                                |
| Microlog         | Voice-Connect System (VCS 3500)      | Standalone              | Both              | 100          | 4-20  | 30           | \$16,000-45,000                                      | Yes        | <ul style="list-style-type: none"> <li>Automated Transaction Processing</li> <li>Interactive Voice Response</li> <li>Generates printed reports</li> <li>Will modify and maintain the system at additional charge</li> </ul> |
| VMX Inc.         | VMX 1000 Series                      | Standalone              | Touch-tone        | 50-100       | 4-16  | 13-64        | \$35,000-\$104,000                                   | No         | <ul style="list-style-type: none"> <li>Will modify/upgrade system for additional charge</li> </ul>                                                                                                                          |
| Wang             | Digital Voice Exchange (DVX)         | Standalone              | Touch-tone        | 500          | 8-20  | 5-60         | \$20,000-100,000                                     | No         | <ul style="list-style-type: none"> <li>FORMServer</li> <li>Generates printed reports</li> <li>Subscription service billed monthly, dependent on no. of mailboxes</li> </ul>                                                 |
|                  |                                      | Subscription            | Touch-tone        | 500          | 8-20  | 5-60         | \$28/mailbox/mo plus fee for toll-free phone service | No         |                                                                                                                                                                                                                             |
| Xerox            | Xerox Voice Message Exchange (XV-MX) | Subscription            | Touch-tone        | 100          | 2-64  | 526          | \$25,000-\$100,000                                   | No         | <ul style="list-style-type: none"> <li>Will modify/upgrade the system for additional charge</li> </ul>                                                                                                                      |

### 3 CONCLUSIONS AND RECOMMENDATIONS

This study reviewed current practices at the DEH Work Order Reception Desks at Forts Leonard Wood and Eustis, and the procedures at a number of other DEHs. It was concluded that there was unmet demand for telephone answering services at those DEHs, especially during peak periods and after office hours.

This study also reviewed 49 commercial manufacturers of computerized voice message processing systems, and analyzed six systems judged to be representative of current technology. Voice message processing systems commonly offer three services, available in either a standalone (purchased) hardware package, or a subscription service: (1) Automated Attendant, (2) Voice Mail, and (3) Voice Response. A review of the features offered by the voice-messaging industry shows that integration of a voice message processing system with current DEH Work Order Reception Desk procedures may improve DEH telephone services and may yield a long-run, beneficial return on investment by increasing services with no increase in staff.

This study will conclude by installing, monitoring, both qualitatively and quantitatively testing, and evaluating a voice message processing system at Forts Leonard Wood and Eustis. Results from this study will be used to recommend the applicability of such systems to the DEH environment from the standpoints of utility and return on investment. Since Forts Leonard Wood and Eustis have combinations of rotary-dial and touch-tone systems, the tested system must accommodate both types of telephones. The results of this field test should be forwarded to the U.S. Army Engineering and Housing Support Center at Fort Belvoir, VA, for further consideration regarding Army-wide fielding.

It is further recommended that any DEH considering installation of a voice message processing system consider conversion of all rotary-dial telephones to touch-tone technology, to take advantage of the wider range of applications (and correspondingly lower prices) available to that technology.

**APPENDIX A: List of Manufacturers**

| <b>Name</b>                          | <b>Address</b>                                                  | <b>Telephone</b> |
|--------------------------------------|-----------------------------------------------------------------|------------------|
| Advanced Voice Technologies          | 1865 Arlane Dr.<br>Nashville, TN 37210                          | 615-885-4170     |
| American Digital Voice Systems, Inc. | PO Box 523<br>Holmdel, NJ 07733                                 | 201-946-9288     |
| American Telesystems Corp.           | 7 Piedmont Center, Ste. 200<br>Atlanta, GA 30305                | 404-266-2500     |
| Amtel Systems Corp.                  | 11629 W. Dearborn Ave.<br>Milwaukee, WI 53226                   | 800-999-8903     |
| Applied Voice Technology, Inc.       | 11410 Northeast 122nd Way<br>Kirkland, WA 98033                 | 800-443-0806     |
| AT&T Data Systems Group              | 100 Southgate Pkwy.<br>Morristown, NJ 07960                     | 800-247-1212     |
| BBL Industries, Inc.                 | 3039 Amwiler Rd., Ste. 100<br>Atlanta, GA 30360                 | 800-241-5240     |
| Boston Technology, Inc.              | One Kendall Sq.<br>Cambridge, MA 02139                          | 617-225-0500     |
| Brooktrout Technology                | 144 Gould St., Needham Executive<br>Center<br>Needham, MA 02192 | 617-449-4100     |
| Centigram Corp.                      | 4415 Fortran Court<br>San Jose, CA 95134                        | 800-942-4942     |
| Comverse Technology, Inc.            | 170 Crossways Park Dr.<br>Woodbury, NY 11797                    | 516-921-0470     |
| Data Acquisition Services, Inc.      | 1782 La Costa Meadows Dr.<br>San Marcos, CA 92069               | 800-829-4246     |
| Data Plus, Inc.                      | 7420 Fullerton Rd.<br>Springfield, VA 22153                     | 800-368-3747     |
| Digital Sound Corp.                  | 2030 Alameda Padre Serra<br>Santa Barbara, CA 93103             | 805-569-0700     |
| Electronic Telecommunications, Inc.  | 3620 Clearview Pkwy.<br>Atlanta, GA 30304                       | 800-237-8424     |
| Enhanced Systems, Inc.               | 6961 Peachtree Industrial Blvd.<br>Norcross, GA 30092           | 404-662-1503     |
| Ericsson Information System          | 715 N. Glenville Dr.<br>Richardson, TX 75081                    | 214-997-0492     |

| Name                                  | Address                                                                           | Telephone                    |
|---------------------------------------|-----------------------------------------------------------------------------------|------------------------------|
| Executone Information Systems, Inc.   | 6 Thorndal Circle<br>Darien, CT 06820                                             | 203-655-6500                 |
| Genesis Electronics Corp.             | 3078 Prospect Park Dr.<br>Rancho Cordova, CA 95670                                | 800-458-5540                 |
| Hitachi                               | (Telecommunications Division)<br>2990 Gateway Dr. Ste. 1000<br>Norcross, GA 30071 | 800-65-7500<br>404-446-8820  |
| IBM (International Business Machines) | Lod Orchard Rd.<br>Armonk, NY 10504                                               | 800-426-2468<br>914-765-1900 |
| Innovative Technology, Inc.           | PO Box 767370<br>1000 Holcomb Woods Pkwy.<br>Ste. 422<br>Roswell, GA 30076        | 800-879-NITA<br>404-998-9970 |
| Intellisystems, Inc.                  | 9430 Topanga Canyon Blvd.. Ste.<br>205<br>Chatsworth, CA 91311                    | 818-341-7000                 |
| Iwatsu America, Inc.                  | 430 Commerce Blvd.<br>Carlstadt, NJ 07072                                         | 201-935-8580                 |
| Kerygama Technologies, Inc.           | 60 Modular Ave.<br>Commack, NY 11725                                              | 800-955-2422<br>516-864-2357 |
| Lanier Worldwide, Inc.                | (Facsimile Products Division)<br>1700 Chantilly Dr. NE<br>Atlanta, GA 30324       | 404-329-8000                 |
| Lynx Communications Corp.             | 53 Winchester St.<br>Newton, MA 02161                                             | 617-965-2000                 |
| Me-Di-Co, Inc.                        | 2233 Northwestern Ave.<br>Waukegan, IL 60087                                      | 708-249-1213                 |
| Mesa Computers, Inc.                  | 4406 Birch Circle<br>North Olmstead, OH 44170                                     | 216-779-9292                 |
| Miami Voice                           | 5215 Northeast 74th Ave<br>Miami, FL 33166                                        | 305-593-6077                 |
| Microlog Corp.                        | 20270 Goldenrod Lane<br>Germantown, MD 20874                                      | 800-562-2822<br>301-428-3227 |
| Microvoice Corp.                      | 1 Vanderbilt<br>Irvine, CA 9271                                                   | 714-859-1091                 |
| Mitel, Inc.                           | 5400 Broken Sound Blvd., NW<br>Boca Raton, FL 33487                               | 800-648-3587<br>407-994-8500 |
| MPSI                                  | 8848 Red Oak Blvd.<br>Charlotte, NC 28217                                         | 704-527-8888                 |

| Name                                                                       | Address                                                                        | Telephone                                            |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------|
| Octel Communications Corp.                                                 | 890 Tasman Dr.<br>Milpitas, CA 95035-7539                                      | 408-942-6500                                         |
| Omnivoice, Inc.                                                            | PO Box 830, 280 N. Park Ave., Ste.<br>108<br>Warren, OH 44482                  | 216-393-3246                                         |
| Spectrum Communications and Electronics Corp.                              | 62 Bethpage Rd.<br>Hicksville, NY 11801                                        | 800-828-8255<br>516-822-9810                         |
| Tel Electronics, Inc.                                                      | 705 E. Main St.<br>American Fork, UT 84003                                     | 800-824-7451<br>801-756-9606                         |
| Telenova, Inc.                                                             | (Lexar Business Systems Division)<br>201 Flynn Rd.<br>Camarillo, CA 93012      | 800-221-7399<br>800-535-7757<br>(CA)<br>805-388-5000 |
| Tie/Communications, Inc.                                                   | 4 Progress Ave.<br>Seymour, CT 06483                                           | 203-888-8000                                         |
| Toshiba America Informations Systems, Inc.                                 | (Telecommunications Systems Division)<br>9740 Irvine Blvd.<br>Irvine, CA 92718 | 800-222-5805<br>714-583-3700                         |
| VMX, Inc.                                                                  | 110 Rose Orchard Way<br>San Jose, CA 95134                                     | 408-943-0878                                         |
| Voice Systems & Services, Inc. (VSSI)                                      | One Technology Center<br>Cleveland, OK 74020                                   | 918-358-5801                                         |
| Voicetek Corp.                                                             | 19 Alpha Rd.<br>Chelmsford, MA 01824                                           | 508-250-9393                                         |
| Votan                                                                      | 4487 Technology Dr.<br>Fremont, CA 94538-6377                                  | 800-288-4756<br>415-490-7600                         |
| Wang Information Services Corp.<br>(Subsidiary of Wang Laboratories, Inc.) | One Industrial Way, Mail Stop 014-A1B<br>Lowell, MA 01851                      | 800-835-9264<br>508-459-5000                         |
| Win Communications<br>(Subsidiary of Nissho Iwai American Corp.)           | 200 Oser Ave.<br>Hauppauge, NY 11788                                           | 516-435-1100                                         |
| Xerox Corp.<br>(U.S. Marketing Group)                                      | PO Box 24<br>Rochester, NY 14692                                               | 800-832-6979                                         |

# **APPENDIX B: Manufacturer Information and Evaluation**

| Company                         | Address & Phone                                                  | Contact                       | Advantages                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Disadvantages                                                                                                                                                                                                |
|---------------------------------|------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Brooktrout Technology, Inc.     | 110 Cedar St.<br>Wellesly Hills, MA 02181<br>617/235-3026        | Sales Mgr.                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>• Not on General Services Agreement (GSA) schedule</li> <li>• Requires touch-tone system</li> </ul>                                                                   |
| Data Acquisition Services       | 1782 La Costa Meadow Dr.<br>San Marcos, CA 92069<br>619/471-0342 | VP Marketing                  | <ul style="list-style-type: none"> <li>• Outgoing messages can be changed by micro-phone, tape, or telephone</li> <li>• Statistical reports can be user-generated</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ul style="list-style-type: none"> <li>• Not on GSA schedule</li> <li>• Requires touch-tone system</li> </ul>                                                                                                |
| Microlog                        | 20270 Germantown Lane<br>Germantown, MD 20874<br>800/562-2822    | National Account Manager      | <ul style="list-style-type: none"> <li>• On GSA schedule</li> <li>• Outbound dialing capability</li> <li>• Documents all calls</li> <li>• Multilingual system</li> <li>• Password capable</li> <li>• Messages can be changed remotely</li> <li>• Nationwide maintenance program</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                              |
| VMX, Inc.                       | 17217 Waterview Parkway<br>Dallas, TX 75252<br>800/843-5399      | Sales Rep.                    | <ul style="list-style-type: none"> <li>• Mailbox capability</li> <li>• Modifiable system</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Not on GSA Schedule</li> <li>• Requires touch-tone system</li> <li>• Circuit boards must be set-up/maintained by VMX</li> </ul>                                     |
| Wang Information Services, Inc. | 300 Park Blvd.<br>Suite 400<br>Itasca, IL 60143<br>312/250-4614  | Senior Voice Services Rep.    | <ul style="list-style-type: none"> <li>• On GSA Schedule</li> <li>• Voice Response can be integrated with data base</li> <li>• Voice Mail is optionally a subscription service (10 mailboxes @\$28/mo, plus charge for toll-free "800" calls over 30 s in length)</li> <li>• Distributes announcements to specified user groups</li> <li>• Outdials to nonsystem recipients</li> <li>• Password capable</li> <li>• Does crew scheduling</li> <li>• Options include: <ul style="list-style-type: none"> <li>- Digital Networking</li> <li>- Automated Attendant</li> <li>- Paging Notification</li> <li>- Voice Questionnaire to Callers</li> <li>- Audiotex (repeats information delivery)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• Requires touch-tone system</li> </ul>                                                                                                                               |
| Xerox Corp.                     | P.O. Box 431<br>East Rochester, NY<br>800/832-6979               | Lead Telemarketing Sales Rep. | <ul style="list-style-type: none"> <li>• Unlimited service</li> <li>• No hardware purchase</li> <li>• Service/maintenance provided</li> <li>• 24-hr service</li> <li>• Modifiable system</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>• Not on GSA schedule</li> <li>• Depends on remote server</li> <li>• Requires touch-tone system</li> <li>• Reports generated monthly by Xerox, not by user</li> </ul> |



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