THE

COMPLETE

VOICE MAIL

WORKSHOP

CONDUCTED BY:
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THE COMPLETE VOICE MAIL WORKSHOP

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1. History Of Voice Messaging

10 years ago:

> **Voice Messaging** has been around for approximately ten years. The early systems were expensive ($200,000. and up), difficult to use and had limited features. They were designed for large installations. They required computer environments. They were not integrated which meant that only subscribers/boxholders could benefit from the system.

1980:

> Advances in technology and declining costs of computer chips and storage medium had set the stage for the **introduction** of inexpensive, feature rich, integrated **voice mail** systems.

1983:

> At this time the installed base of voice store and forward systems amounted to less than 50 million dollars.

1985:

> Two dozen manufacturers were now marketing voice mail systems. End user prices were as low as $10,000.

Today:

> VMX, Inc. has held the broad patent on the concept of digital **voice storage and forwarding** since the mid seventies. Some manufacturers have accepted VMX's patent and are paying VMX licensing fees, while others believe the patent is too broad and therefore unenforcable.

Future:

> Future prices will continue to fall as more features are added to existing VM&F systems and as new manufacturers develop completely new and advanced systems.
>
> Some analysts believe the market for VS&F will grow to over a billion dollars a year by 1990.
>
> Whatever the size of the market in the future, the industry is poised for explosive growth beginning in 1986.

1. The Computerized Voice Messaging Concept

Computerized voice messaging, also known as voice mail, voice store and forward, and voice storage and retrieval, is the digitizing of human voice and the storage of that voice information on hard disk. The hard disk is divided into separate electronic mailboxes.

Think of this as post office mailboxes where **voice messages** are deposited instead of letter messages.
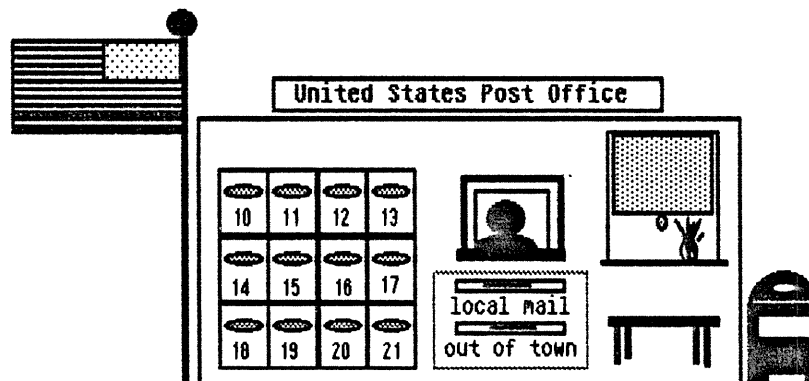
Voice messaging is interactive; mail box holders can communicate with each other.

- users can have **non—simultaneous conversations.** This ability to communicate without having a two party, simultaneous conversation is the essence of voice messaging.

- users can broadcast group messages to other box holders.

- users can give individual messages to other box holders.

Think of it as:

| Detailed message Conversation, Interaction | Voice, Access | Store, Retrieve, Forward & Time | Distribution Mail boxes Postal Services |

Date

Letter. Memo + [Voice Mail] + Computer + US POST OFFICE =
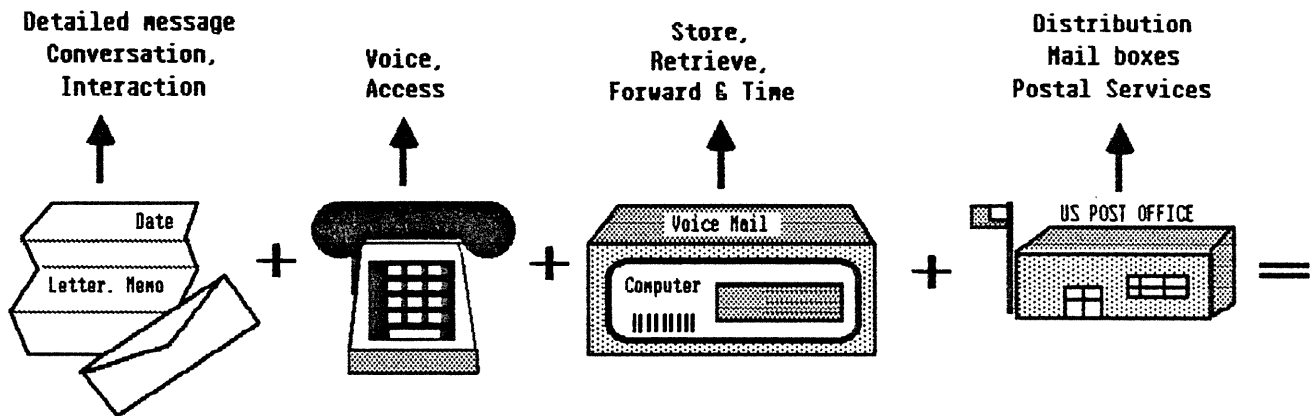
The Computerized Voice Messaging Concept

Computerized voice messaging can also:

* stamp a time and date on message.
* give messages to other voice mail box holders.
* save some messages and delete others.
* guide callers by voice prompts through the message leaving process.
* notify you when you have a message.
* give the same message to a specified group with only one call.
* back up and jump ahead while checking and selecting messages remotely.

2. Tape vs Digitized Voice

Tape

- Records human speech as analog.

- Records, stores and accesses voice messages sequentially. Storing on tape does not allow for randon access.

- Does not compress human speech.

Digitized Voice

- Turns analog into binary bits, (1's and 0's) and back to analog.

- Compresses human speech.

- Stores voice messages on disk.

- More voice messages can be stored on disk, (described in message hours) than on tape.

- The benefit of storing voice messages on disk is the ability for random access.

Converts to 1's and o's

Analog   Analog
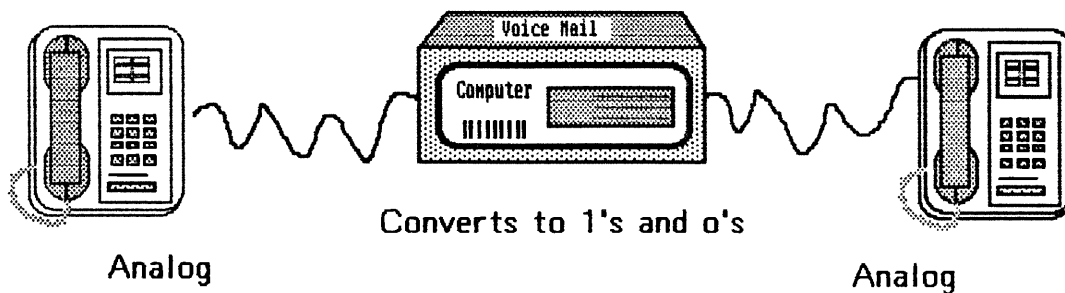
1. Qualifying For Voice Mail: Identify Your Current Messaging Situation.

Evaluate your message handling situation by asking qualifying questions. Think in terms of costs, applications and problem areas. Do a complete internal survey.

Qualifying questions identify specific voice mail applications.

Message Handling Costs

- How is your company presently handling voice communication?
- Does the console operator write up pink slips?
- Does your company have message centers? How many?
- Do you use answering machines?
- How are memos distributed? Are they typed? Is there copying and distribution of internal memos?
- Examine the time and costs in each of these areas.

Productivity Enhancement

- Can employees presently answering phones and preparing and distributing memos be assigned to more productive work? What other work would this be?
- Can a **portion** of their time be spent on more meaningful projects?

Multiple Locations and Time Zones

- Does your organization have:
  - branch offices around the country?
  - sales or service people in the field?
  - executives or other personnel who do a great deal of travel?

Number Of Potential Users

- Can any individual in your organization use voice mail?

- How many potential voice mail users are there within your organization?

- What department can use voice mail?

What additional ways might your organization use voice mail?

_____

_____

_____

_____

1. System Types: Advantages and Disadvantages

"It means we're
fully integrated.
I think."

PBX

Voice Mail
System
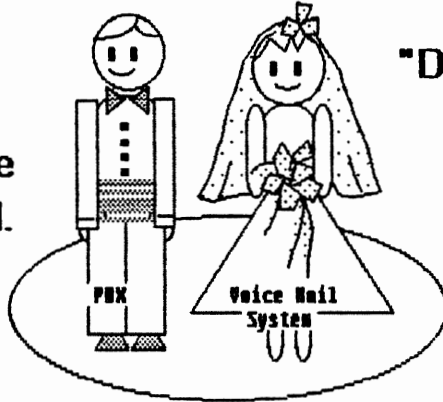
"Does this mean we're
Interfaced or
Intergrated?"

"I think I'm
a Stand Alone."
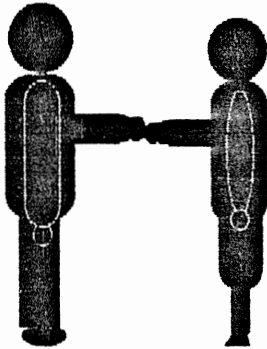
"We're Interfaced
aren't we?"

"I'm sure I'm a
Stand Alone!"

STAND ALONE
_____

INTERFACED
_____

INTEGRATED
_____

CONFUSED?

YOU'RE NOT ALONE!

1. System Types: Advantages And Disadvantages

Stand-alone systems:

- This voice messaging system is simply a stand alone computer. A stand alone system works independent of a phone system.
- Callers and subscribers call directly into the voice mail system.

Advantage: Does not need PBX or key system to work.

Disadvantage: Not applicable in office environment where needed to answer phones when people are away from their phones.

Stand alone
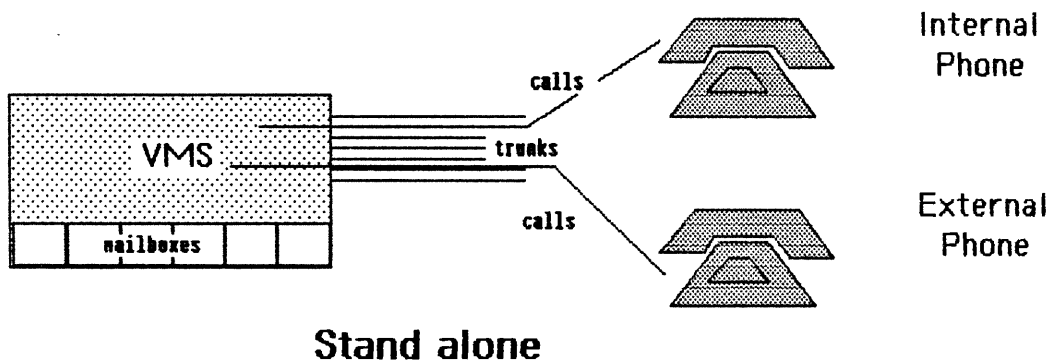
Interfaced systems:

- With an interfaced system, a boxholder's call can be forwarded to the voice message system when:

  1) the phone rings, no answer

  2) the phone is busy

  3) "Do Not Disturb" is turned on.

- Because the voice mail system does not know from which extension the call was forwarded, it will prompt the caller to re-enter the mailbox number.

- This means the caller has to know the mailbox number and have a touch tone phone.

  Advantage: Can be used for telephone answering.

  Disadvantage: Caller must key in mailbox number.
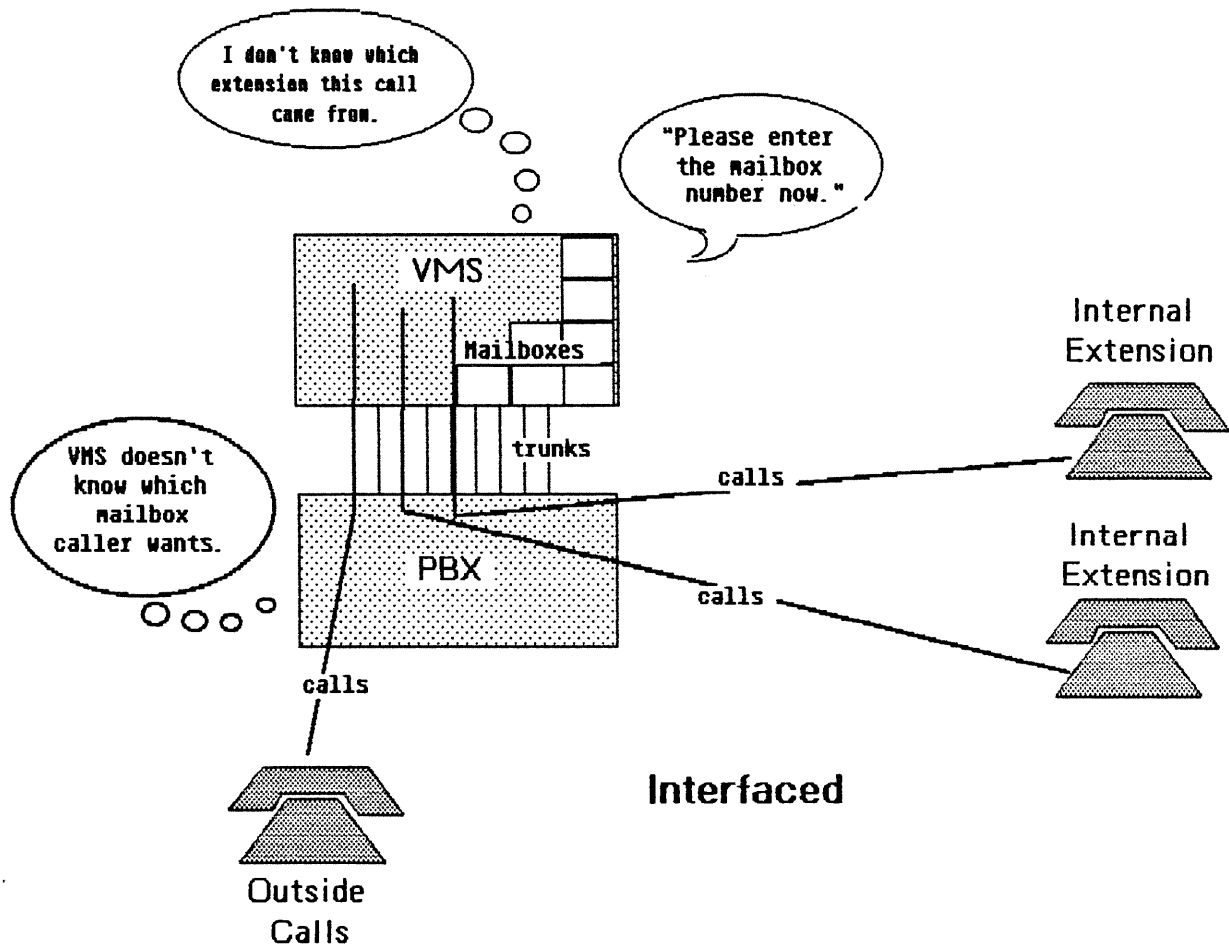
Integrated systems:

- With an integrated system the caller is forwarded directly into the proper mailbox.

- The fist thing the caller hears is the boxholders personal greeting requesting the caller leave a message.

- The caller needs neither a touch tone pad, nor the extension or mailbox number of the person being called.

- Has ability to provide message waiting light or other form of notification that message is waiting in mailbox.

      Advantage: A superior application/system match.

      Disadvantage: None compared to stand alone and interfaced.
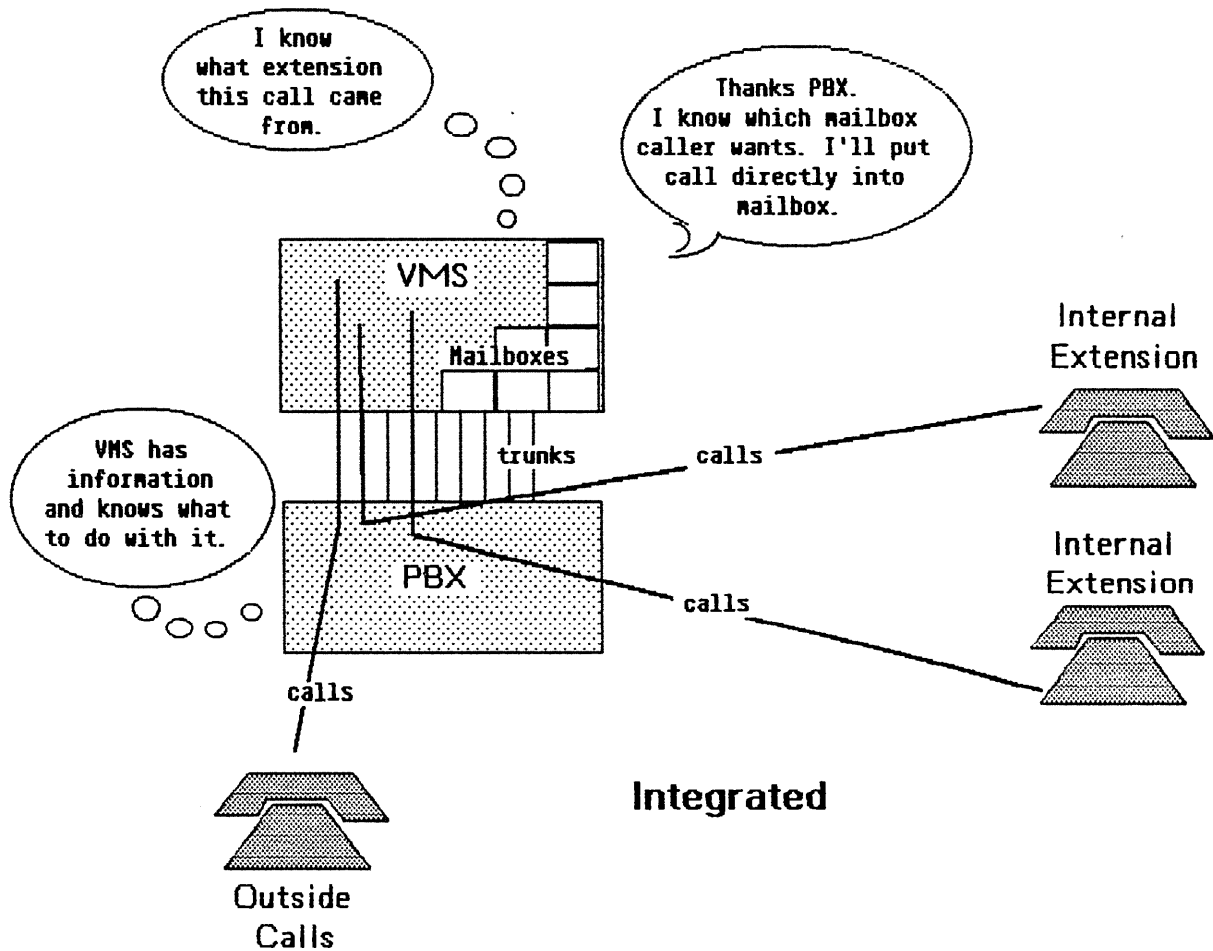
2. The Components Of A System

The proprietary technology of VSF systems lies in the:

- *voice digitization rate and consequent voice quality,*

- *application software which determines the systems features and ease of use, and*

- *specialized hardware architecture which supports VSF functions.*

Interface to outside world

- Extension off PBX
- Tie line
- Direct line
- DID/Centrex
- RS 232 connection

Hard Disk

- Prompts
- Directory/passwords
- Messages
- Management information
  - usage statistics
  - billing
  - traffic

Floppy disk

- Back up directory
- Diagnostics
- Service/maintenance
- Program updates

Processing functions

- Digitizes voice
- Directs to box
- Controls interface
- Clock

Power supply

Cooling fans

Some systems

- terminal

- printer

1. Recording And Retrieving Voice Messages

System access

- Voice mail systems are accessed by using a touch tone pad.
- Open-access allows non—subscribers to access the system.
- Authorization codes provide security for boxholders. Only a boxholder can retrieve messages from the mailbox.

Prompts

- Voice prompts tell user how to use system. Prompts lead user step by step through the recording and the retrieving procedures.
- User can override prompts once procedures are learned. Codes can be entered without waiting for prompts.
- Prompts can be alpha or numeric.

Repeat prompts

- Voice prompts are automatically repeated if user does not enter key stroke.

Control features

- Gives users control of the recording and retrieving features. Users can direct system to jump ahead, back up, review or delete messages.
- Allows users to determine and control the length of the messages.

Time and date stamp

- Voice prompts inform boxholder of the time and date that each voice message was recorded.

2. Retrieving Voice Messages

Notification

- Alerts subscriber to waiting messages.

   1. A light on the phone indicates a message is in mailbox.
   2. A tone beeps indicating a message is in mailbox.
   3. The system dials a beeper.

- Voice prompt states the number of messages in mailbox before giving the messages.

Scanning

- Allows boxholder to "speed read" or scan messages.

- A key stroke is used to jump ahead or backwards to select a message.

Speed control

- Allows boxholder to speed up or slow down a particular voice message being retrieved.

Redirection

- Allows boxholder to transfer or "give" messages to another mailbox.

Saving

- The system **stores** voice messages on the disk.

- Boxholder can enter a designated letter or numeric code to save voice messages.

- Auto purge deletes saved messages after a specific period of time.

3. Transmitting Voice Messages

Distribution capabilities

- Message distribution allows subscribers to address a large group of other subscribers simultaneously.

- Most systems allow for a number of different distribution groups within the system.

- Message distribution is also called group messaging.

- Group messaging reduces memos.

Timed delivery

- Allows user to record message and designate a delivery time.

Verification of delivery

- Think of this as certified mail. The system notifies the message sender that the message has been received.

- Groups message sender is notified who received the message, who didn't and when.

Redirection with additions

- Allows user to add comments to messages before giving it to another mailbox.

Broadcast message

- Voice messages are recorded and delivered to all users on the system. Think of this as a news broadcast. This is not group messaging.

4. System Administration

Access to system administration

- Terminal:
  - Produces hard copy.
  - System manager administers system, i.e. adding and deleting mailboxes, only from terminal

- Telephone:
  - System manager administers system, i.e. adding and deleting mailboxes remotely from any touch tone pad.

Administration functions

- Mailbox maintenance
  - create
  - delete
  - set password

- Set message length

- Set retention time

- Update new programs

- Class of service selection
  examples: — unlimited
              — limited: to send/receive with members of group.
              — restricted: no send/receive to other boxholder.
              — no greeting
              — greeting only

- Message notification program

- Disk maintenance
  - maximizing disk space usage by using messaging lengths and retention time.

- Extend messages from rotary callers to appropriate mailboxes.

Management reports

- Port traffic
- Disk usage
- Numbers of messages
- Features usage
- Billing reports
- Directory

System diagnostics

- Hard disk track verification
- Error log files
- On site diagnostics via floppy disk, terminal

5. Additional Features

"Urgent" messages

- Allows callers to mark messages "urgent". Urgent messages are delivered ahead of other messages.

Message editing

- Allows users to edit messages by insert comments anywhere within a message. Users can delete or re—record parts of messages.

Auto attendant

- System automatically answers and routes incoming calls without operator intervention.

Transfer to operator

- System enables caller or subscriber to transfer out of mailbox to live operator.

Transfer to telephone extension

- System enables call or subscriber to transfer out of mailbox to individual telephone extension.

Networking

- Enables individual voice mail computers in various geographic locations to operate as one unit.

1. A New Way Of Doing Business

*In the beginning there was the telephone. Inherent limitations in using the telephone for business, (only 25% of all business calls are completed), led to the introduction of the answering machine. It wasn't long before answering machine limitations were recognized. Mainly, that only brief messages could be exchanged, not much more than call back information. These limitations along with advances in technology led to a new way of doing business. **The voice mail way.***

2. Who Needs Mailboxes And Why?

Anyone who uses a telephone for business, particularly those who need to communicate with others in different locations and time zones need mailboxes.

Never miss another message

- The **intent** of voice mail is to never miss another message because every call is completed.

Vacant desks

- Business gets done even when the person is away from his desk because the information reaches his mailbox.

- A person may miss the call but not the information.

Non—simultaneous conversation

- People can converse, exchange information and do business **without talking to** each other simultaneously.

- Remember the purpose of voice mail is to have non—simultaneous conversation, not simply collect names and phone numbers.

- **Voice mail is not a $50,000. answering machine.**

3. The Psychological Issues

Voice vs paper messages

- Many people are uncomfortable conducting business of any kind without paper documentation on everything they do.
- If companies are not to be swallowed up in paper, changes is attitude must be encouraged.
- Voice mail gives users the option of having both.

Reacting in real time vs planned response

- Real time conversation requires an on the spot response. Time is often needed to get answers, and then follow up with another phone call.
- Voice mail provides the time to think and plan a response, to gather the pertinent information, and then answer the necessary questions.
- Voice mail speeds the process of relaying information and eliminates phone calls.
- 70% of all long distance calls are call backs.

4. Integrating Voice Mail Into Business Functions:

Specific voice mail applications are found by asking qualifying questions. (Refer to module 2 for some preliminary questions and applications.) When looking for specific applications, ask yourself the following:

- Can I identify a clear "community of interest", that is, a group of people within the organization who need to exchange information on a regular basis?

- Can a significant number of the phone calls of this group be made through one way communication, (non-simultaneous communication)?

- Are these same people frequently unavailable to answer their phones? Are they often away from their desks, traveling or on the phone?

- Does the organization produce short memos that can be converted to voice memos?

- Is there a time value placed on the information being exchanged? Sales, for example are often dependent on getting prompt replies from the main office to the sales person in the field.

Exercise:

Identify 4 more specific voice mail applications within your own organization.

- Think in terms of **$ value** and **time efficiencies.**
- To do this you will have to:

    1) Identify your current situation. (What are you doing now?)

    2) Identify the inefficiencies or downsides of current situation.

    3) Propose a solution to downsides.

    4) Justify your solution in terms of benefits to your organization. (Why this solution?)

- Could you sell this plan to your organization?

1._____

2._____

3._____

4._____

Specific voice mail applications can be found in the following departments of most companies.

- Sales and marketing
- Order entry
- Customer service and support
- Branch office communication
- Personnel
- Security
- Field service
- Field sales

Field Sales

- A field sales force in **geographically dispersed** making two way communication difficult.
- With voice mail sales people can **place orders,** keep in touch with sales managers, request and receive information from engineering, sale support, or customer service.
- The home office can **distribute** price changes, meeting schedules, etc.

Field Service

- Record keeping, dispatching, and scheduling can be done non—simultaneously.
- Technical bulletins and administrative notices are **distributed faster.**

Order Taking

- Mailboxes can be used for **direct order taking.**
- Used for **overflow,** voice mail can take orders after hours.
- Individual mailboxes can be given to preferred customers to place orders either after hours or when **order taking department phone lines are busy.**

5. Vertical Markets

Many voice mail manufacturers are having success marketing their products by focusing on one or more vertical markets. Some of these markets are:

Hospitals

- Nurses and doctors are usually away from their desks.
- The lab and radiology departments transmit diagnostic information faster using voice mailboxes.

Hotels

- Mailboxes are optional to guest at check in time. Mailbox numbers are normally the same as the room number.

Insurance Companies

- Here is a strong need for two way communication from branch offices to home office.
- Claims processing, customer account status, policy questions.

News Media

- A geographically dispersed situation. Reporters and advertising sales people are usually on the road.

Professional Service Firms

- Professional people are normally well paid and place a high value on time. They spend much of their time in meetings with clients and on the road.
- Public Relations
- Law Firms
- Accounting Firms
- Advertising Agencies

What applications would the following markets have for voice mail?

- Outside Service Organizations
- Trucking Firms
- Real Estate
- Brokerage Firms
- Engineering and Construction Companies
- Travel Agencies/Tour Operators

Add to the list.

_____

_____

_____

1. What Goes On During A Voice Mail Purchase?

This is an applications sale/purchase, not a hardware sale.

"First" call objectives

```
┌─────────────────────────────────────┐   ┌─────────────────────────────────────┐
│         CLIENT OBJECTIVES           │   │        VENDOR OBJECTIVES            │
│ • Identify problems solved by       │   │ • Is this a suspect or a prospect? │
│   voice mail.                       │   │ • Identify applications, (problems │
│ • Rate vendors' ability to solve    │   │   to be solved by voice mail).     │
│   problems.                         │   │ • Ask; am I talking to decision    │
│ • Recruit allies from within to     │   │   maker?                           │
│   support your solution.            │   │                                     │
└─────────────────────────────────────┘   └─────────────────────────────────────┘
```

```
        ┌───────────────────────────────────────────────────┐
        │                 COMMON OBJECTIVES                 │
        │ ▪ Client & vendor agree on shared objectives.     │
        │ ▪ Each agrees client has problem solvable be      │
        │   voice mail.                                     │
        │ ▪ Common objectives exist when vendor and client  │
        │   share same goal or vision.                      │
        └───────────────────────────────────────────────────┘
```

```
            ┌───────────────────────────────────┐
            │       AGREEMENT TO PROCEED        │
            │ ▪ Is not assumed.                 │
            │ ▪ Is a verbal agreement.          │
            │ ▪ Is based on decision parameters.│
            └───────────────────────────────────┘
```

Clients' and Vendors' responsibilities

- Determine decision making parameters.

  Client: — Identify and state decision making criteria.

  Vendor: — Ask: the decision to buy will be based on what?
               — Do **not** proceed without clear understanding of how you can win or loose.

- Identifing applications. Don't look for general voice mail applications.

Use rifle approach,

rather than a shot gun.
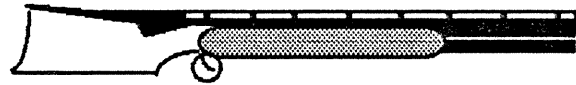
- Identify specific applications.

  - How do sales people communicate with home office?
  - How do you dispatch service people?
  - How do you handle your "order entry" department?

- Agree on specific applications.

| Can't reach agreement?
Need more time to investigate? | ➔ | Have client demo to better
understand voice mail uses. |

| Specific applications still not clear? | ➔ | Do applications survey. |

Systems demo:

Client: — Insist on vendor demo.
        — Compare demos keeping in mind how your people will use system.
        — Become familiar with the differences.

          1. Voice quality
          2. Prompts
          3. Easy system to use.

Vendor: — Can't sell voice mail without it.
        — Your product may be demonstrably superior.
        — Don't give away the advantage by only talking about it.
        — Show it.
        — Be sure your company is using it.

Applications survey:

- Needed to find specific voice mail applications.
- Find one or more strong applications.
- Vendor and client do survey together. Each must agree on application.

Survey results

Client: — Expand upon these results by looking for additional applications. (Perhaps by department.)

Vendor: — Put into proposal.

Proposal:

Include:
- Price of system
- System configuration, (number of ports and hours of storage.)
  — Optional system features
- Training: initial and ongoing.
- System warranty
- Service contract:
  — how long?
  — list services covered.
- History and background of company
- References

Negotiating the price:

Vendor:
— **Never drop price unless you have a commitment to buy!**
— Decide willingness to negotiate.
— Decide how you will negotiate.
— Determine your bottom line.
— Determine your game plan. (Do you add to list price in order to lower it?)

Client:
— **Price is always a function of value!**
— Decide what is justified in cost.
— Ask: can I get it for less?
— Give vendor a reason for lowering price. "If I buy today, can I get it for less?"

Trial Installations

- **Client and vendor** have responsibilities for making trial work.
- This guarantees a successful trial.
- Does not guarantee a sale.

Client responsibilities:

- Equipment may have to be added.
    1. PBX hardware
    2. PBX software
    3. Jacks
    4. Electrical outlets
    5. Additional trunks
- Support and compliance from workers to use system.
    1. List of department people to assign mail boxes.
    2. Agreement to stop old procedures during trial.

Vendor responsibilities:

- Set the structure by verbalizing client's responsibilities in terms of equipment and support.
- Get "agreement to buy" up front, based on attaining measurable goals.
- Get agreement on measurable goals.

Trial installations must have measurable goals.
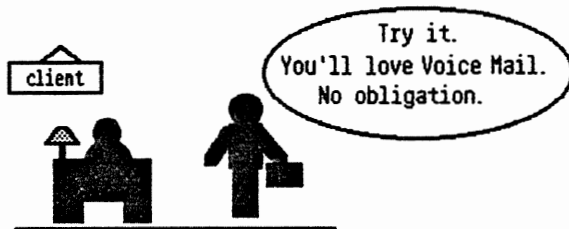
TOO VAGUE!
WON'T WORK!
DON'T DO!

Client and vendor must go to trial in agreement on measurable goals.
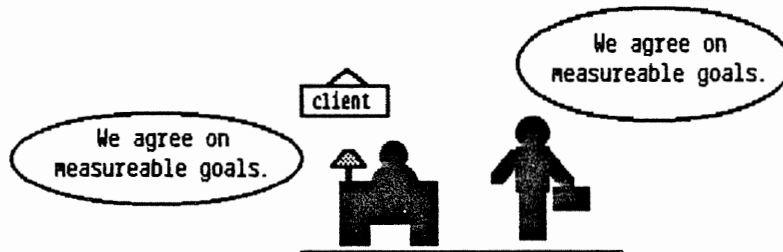
Identify and agree on:

- a specific application.
- a specific problem to solve.
- a specific length of time for the trial.

Tangible costs

- The cost of equipment listed under client responsibilities. These costs should be absorbed by the client because:

    1. This qualifies client as a serious prospect.

    2. Client will receive acceptance and cooperation internally because it is costing the company money.

Intangible costs

Client: Employee time spent on setting up trial, using system and training.

Vendor: Cost of sales process. The sellers time and sales support activities.

1. Direct And Indirect Savings

Too many decision makers look at communication capabilities as a cost to be reduced, rather than as resources to be managed. It is often difficult to cost justify the purchase of a voice mail system to the clients and vendors satisfaction.

An   is less expensive than a   but........
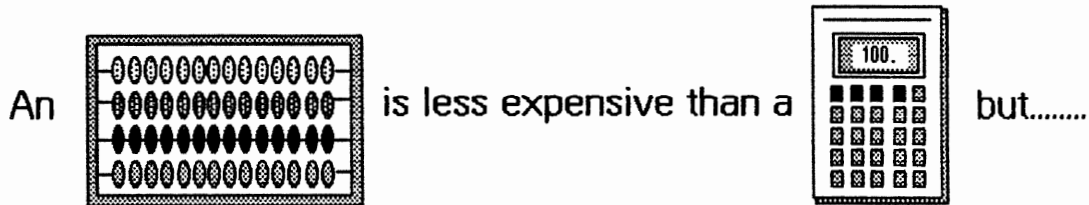
Telephone expense

Call back costs:

- 70% of all long distance calls are call backs.

- 75% of all business calls are uncompleted.

- Fewer call backs are necessary with voice mail because complete messages and specific information is exchanged not just name and phone number as with answering machine or secretarial service.

Phone call length:

- Call time is reduced when information is exchanged in non—simultaneous conversation. People chit chat more in real time conversations then they do when simply leaving information.

Lower rate calling:

- Because caller's intent is to leave specific and complete information, calls do not have to be made only when someone is available at the other end. Therefore,

- Calls can be made at time of day when phone rates are lowest.

- Calls can cross time zones during non—productive business hours.

Telephone Expense Savings (Assuming long distance communication)

Fewer uncompleted calls:		
Number of uncompleted calls eliminated per day	2.0	
Estimated length of uncompleted calls (min.)	1.0	
Total minutes saved per day	2.0	
Cost per minute of phone time	$ .30	
Total savings per day per subscriber	$ .60	
Monthly savings per subscriber (20 days)	$12.00	
Annual savings for 500 users	$72,000.00	

Shorter phone calls:		
Average length of call (mins.)	4.50	
Average voice message (min.)	3.00	
Time saved per call (mins.)	1.50	
Cost per min. of phone time	$ .30	
Total savings per call/per subscriber	$ .45	
Monthly savings per subscriber (20 days)	$9.00	
Annual savings per 500 users	$54,000.00	

Memo expense

Clerical and
mailing
costs:

- Additional savings using voice mail comes in the reduction of written material, particularly internal memos.

- Using group messaging, an individual can broadcast to large and small groups within the organization.

- Messages are instantly distributed and require no typing, proof reading or copying.

- The cost of a 1 page memo varies depending on location but generally the cost of creating, typing, distributing, filing, wage rate and amount of word processing, is between $5.00 and $12.00.

- Mailing costs reduced are postage, mailgram, Telex, etc.

Memo and Mailing Savings
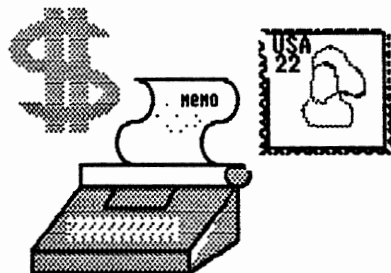
Average cost per memo	$5.00
Eliminate 1 memo per week	
Monthly savings per user (4 week month)	$20.00
Monthly savings (500 users)	$10,000.00
Annual savings (500 users)	$120,000.00

Equipment and personnel replacement

- Replace answering machines
- Replace messaging center personnel.
- Replace attendant console equipment.
- Replace console attendant.

Enhanced productivity

- "Lost memos" are eliminated with certified messaging.

- Messaging tasks can be done during non—productive time, making prime business hours more productive.

- Internal written memos are reduced because voice messages are distributed in mailboxes.

- Small and large group memo distribution is faster and more accurate with group messaging.

- A total voice mail operation creates uninterrupted work time with only periodic voice mailbox checks.

2. Revenue Generation

- improve sales or order taking
- order processing
- handle greater number of customers (after hours and overflow)
- give customers ability to leave orders 24 hours a day.
- improve sellers' productivity.

3. Expense Reduction

- reduce or reassign tasks:
  - dispatchers
  - order takers
  - operators
  - secretaries
- reduce:
  - credit card calling, (no call backs)
  - long distance expenditures, (with fewer calls)
  - eliminate answering machines
  - are regional sellers stealing business when they leave?xx
- dispatching and checking in from:
  - truckers
  - service people

1. Price vs System Configuration

COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE COMPARE

- Compare systems on a **Price per port** basis.
- Compare systems on a **Price per mailbox** basis.
- Compare system **features**.
- Compare **upgrade ability:**
    - how easy to upgrade?
    - how costly to upgrade?

2. Voice Quality

VOICE QUALITY VARIES FROM MANUFACTURER TO MANUFACTURER.

- Compare by calling **long distance**.
    - get phone number from vendor or manufacturer of an installation in another state. Call it.
- Voice quality is affected by longer distances.

3. Reliability Issues

ASK QUESTIONS. ASK QUESTIONS. ASK QUESTIONS. ASK QUESTIONS. ASK QUESTIONS. ASK QUESTIONS. ASK QUESTIONS.

- Get list of users and **call them.**
    - **Ask,** how long has your system been **installed?**
    - **Ask,** do you have any **problem areas such as:**
        Has system ever crashed?

        Have there been intermittent problems?

        Have there been problems of any kind?
    - **Ask,** how easy is the system to use?

4. System Population

INVESTIGATE. INVESTIGATE. INVESTIGATE. INVESTIGATE. INVESTIGATE. INVESTIGATE. INVESTIGATE. INVESTIGATE.

- Find out how many systems have been installed.
- Find out how long each has been in the field.
- Find out how many distributors are in your local area.

5. References

GET REFERENCES. GET REFERENCES. GET REFERENCES. GET REFERENCES. GET REFERENCES. GET REFERENCES.

- Get a **complete** list of users from the manufacturer or the distributor.
- Check them at **random.**

6. Warranties

PROTECTION PROTECTION PROTECTION PROTECTION PROTECTION PROTECTION PROTECTION PROTECTION

- Does a warranty come with the system? What does it cover?
    - From the **distributor?**
    - From the **manufacturer?**
- Does the voice mail computer have **remote diagnostics?**
- Who will **service** the system?
- Are service people **trained** on the system?
- How much will **service** or **service policy cost** when **warranty expires?**

1. Training And Follow Up By Vendor

DO:

- Schedule **specific** training sessions. Set specific times and content based on clients needs.

- Keep training **brief** and **to the point.**

- Use a **speaker phone** for training sessions. Walk new users through procedures step by step.

- Point out the **benefits** as they relate to employee jobs.

- Plan a **follow up** training session after **30 days.**

DO NOT:

- Do not **hand out 20 page instruction manuals** to every user. Most users will disregard the manuals and conclude the system is too complicated to use.

- Do not **assume** new users will automatically perceive the **benefits** from using voice messaging.

2. Getting People To Use The System

This job may be assigned to any number of people within an organization. The key points to remember for whoever has the responsibility of getting employees to use a newly installed voice mail system and to use it correctly, are:

- **Get agreement** on the need for the system.

- **Get a commitment** to use the system.

3. New Operating Procedures

- Eliminate the **old ways** of communicating. The console operator, for example, will no longer use pink slips but will forward callers to the appropriate mailboxes instead.
- Eliminate **message centers**.

4. Seeding The Mailboxes

- Leave **system bulletins** so that others begin to appreciate the benefits of voice messaging and are reminded of its uses.
- Leave **group messages**.
- **Leave heavy breathing from Christie Brinkley and Robert Redford in mailboxes.**

5. Finding New Uses For The System

- Ask **what else** voice mail can do to save your organization time and money?
- Stimulate **users** to **create** new applications.

6. Monitor Usage

- **Spread usage** horizontally throughout the organization.
- Provide **additional training** when necessary.

MANUFACTURERS PRICING AND CAPABILITY COMPARISON

Manufacturer:	**AT&T Information Systems**
Product:	Audix (Audio Information Exchange)
Integrated with:	AT&T System 85 Enhanced Dimension
# ports	2—32
# users	up to 4000
# storage hrs.	up to 200
Price:	$140,000. — 432,000.
Side note:	A closed system, i.e. designed to be used only by mailbox holders. Has feature called Unified Messaging which ties together electronic mail, voice mail and telephone messages all in one electronic mailbox.

Manufacturer:	**AT&E**
Product:	RSVP
Integrated with:	
# ports	1
# users	24
# storage hrs	4.3
Price:	$3,500.
Side note:	RSVP is designed specifically for Key System users.
	It is a small and inexpensive tape based system.

MANUFACTURERS PRICING AND CAPABILITY COMPARISON

Manufacturer:	**Brooktrout Technology, Inc.**
Product:	V—Mail 100 V—Mail 470
Integrated with:	
# ports	2—6
# users	up to 200
# storage hrs	1.5—8
Price:	$13,000.—22,000.
Side note:	V—Mail 100 is an "add-in card" for the IBM PC, which provides 1 port, 10 user voice mail for $695.
	Brooktrout sells software tools called Phoneware, to develop custom applications that either run independently or as a subsystem to the V—Mail 470 software.

Manufacturer:	**Centigram Corporation**
Product:	Voicememo, Receptionist
Integrated with:	Mitel Lexar SL—1 Siemens Hitachi Enhanced Dimension
# ports	2—14
# users:	up to 2000
# storage hrs.	5—30
Price:	$30,000.—80,000.
Side note:	Centigram Receptionist automatically answers, screens and forwards calls 24 hrs. a day, seven days a week.
	Since entering voice messaging market in September, 1983, Centigram has shipped nearly 450 units.

Manufacturer:	**Commterm, Inc.**
Product:	EVX—OMS (Electronic Voice Exchange—Office Messaging Systems) EVX—NMS (Electronic Voice Exchange—Network Messaging Systems)
Integrated with:	Matsushita (Executone) Siemens Saturn III Northern SL—1 Ericsson ASB—900 Plessy
# ports	2—64
# storage hrs	3,1/2—200
# users	up to 9000
Price:	$45,000.— 500,000. and up.
Side note:	Offers two lines of systems:

— EVX—OMS, supports up to 2000 users
— EVX—NMS, supports 9000 usersxx

EVX systems allow you to custom—program the message taking features on a per user basis.

Manufacturer:	**Digital Sound Corporation**
Product:	DSC—2000 Voiceserver
Integrated with:	Northern SL—1 Centrex Mitel DEC—ALL—IN—ONE
# ports	4—64
# users	100—8000
# storage hrs	11.9—224
Price:	$35,000.—450,000.
Side note:	Voice Application Processor runs voice mail, SMDR, facilities management, Telex/TNX and electronic mail concurrently.

T1, Ethernet, X.25 compatible for office automation integration.

MANUFACTURERS PRICING AND CAPABILITY COMPARISON

Manufacturer:	**Genesis Electronics Corporation**
Product:	CINDI (Central Information Dispatch)
Integrates with:	Northern Telcom SL—1 Dimension
# ports	2—8
# users	up to 5l6
# storage hrs	1—16
Price:	$10,000.—40,000.
Side note:	Genesis is marketing to the small to medium market segment.

Genesis is currently developing further integration capabilities to eventually design a single generic software package which will operate with all PBX's.

Manufacturer:	**Message Processing Systems, Inc. (MPSI)**
Product:	EVE (Electronic Voice Exchange)
Integrate with:	
# ports	2—6
# users	25—400
# storage hrs	10—100
Price:	$30,000.—49,000.
Side note:	EVE 6000 is a user friendly, 2—6 port system that has networking capabilities.

A unique feature of EVE 6000 is its message editing capabilities which allows users to insert comments anywhere within a message, delete or rerecord parts of messages and to use "markers" to help locate particular sections of a message.

Manufacturer:	**Octel Communications Corporation'**
Product:	ASPEN (Automatic Speech Exchange Network)
Integrated with:	Northern SL—1 Rolm Lexar Centrex Hitachi Siemens
# ports	4—24
# users	up to 3000
# storage hrs	7—63
Price:	$25,000.—171,000.
Side note:	Enhanced Call Processing (ECP), is one of many ASPEN innovative features. It has two major functions:

- **customized call routing** which allows callers to press a single key to reach:
    1) a predetermined extension,
    2) a voice messaging mailbox where callers can leave a message, and
    3) an Information Center Mailbox where callers can listen to a series of recordings giving frequently requested information.
- **automated attendant** which instructs callers to dial the extension number they want to connect with.

Manufacturer:	**OPCOM**
Product:	DIAL (Direct Access Link)
Integrated with:	TIE Ultracom DCX PBX
# ports	4—16
# users	1000 (400 for voice mail)
# storage hrs	4—33
Price:	$25,000.—80,000.
Side note:	DIAL answers and routes incoming calls without operator intervention.

Opcom's dial system is an automated attendant computer which has some voice mail features.

MANUFACTURERS PRICING AND CAPABILITY COMPARISON

Manufacturer:	**Rolm Corporation**
Product:	Phonemail
Integrated with:	Rolm CBX, CBXII
# ports	8 orxx—16
# users	1050
# storage hrs	7.5—52.5
Pricing:	xx
Side notes:	Rolm's Phonemail, announced in Dec. 1982, was the first proprietary voice store and forward system by a PBX manufacturer.

Manufacturer:	**Sudbury Systems**
Product:	RTAS (Rapid Telephone Access System)
Integrated with:	N/A because of its specific application. See side note.
# ports	6—64
# users	Hospitals with 100 beds or more.
# storage hrs	6—160
Price:	$50,000.—150,000.
Side note:	Sudbury sells to hospital radiology departments. It allows x-ray technicians to report on patient x-rays.
	Sudbury holds the patent on "Rapid Simultaneous Multiple Access Information Storage and Retrieval System".

Manufacturer:	**Voicetek Corporation**
Product:	VTK500, VTK 700
Integrated with:	Northern SL—1
# ports	2—8, 2—32
# users	50—500, 100—2000
# storage hrs	1—20, 3,1/2—58
Pricing:	$20,000. and up
Side note:	Voicetek units are microcomputer based. They are also based around the UNIX operating system. This enables most UNIX computers to serve an application processors for the system. DEC, IBM, Sperry and leading edge micros are currently supported.

Manufacturer:	**VMX, Inc.**
Product:	VMX
Integrated with:	
# ports	16, 32, 48, 64
# users	up to 8000
# storage hrs	16—147
Pricing:	up to $535,000.
Side note:	VMX recently signed a patent agreement with IBM allowing IBM to use VMX voice messaging technology for Rolm's, (an IBM subsidiary) Phonemail.
	VMX and IBM have a cross licensing commitment which gives VMX the right to use any IBM's 10,000 existing patents related to voice processing for the life of the VMX patent.
	Other VMX licensees are: NEC, Wang, Voicemail International, Octel, Natural Microsystems, Commterm, BBL, Voicetek, Zaiaz Communications, MPSI and OPCOM.

Manufacturer:	**Wang Laboratories**
Product:	DVX (Digital Voice Exchange)
Integrated with:	NEC 2400 Intecom
# ports	4—16
# users	to 2000
# storage hrs	19—76
Price:	$56,000.—317,000.
Side notes:	Wang has sold over 140 DVX systems to date and has some of the most extensive networking capabilities in the industry.

Wang has entered the service bureau business with a mailbox rental of $35. per month.

FEATURE COMPARISON CHART BY VENDOR

Manufacturer	Automatic Attendant	Broadcast Message	Call Placement	Timed Delivery	Group Messaging	Managm't Reports	Mark Msgs. Urgent	Message Editing	Message Forwarding: out of system	Message Notification	Message Scanning
AT&T	no	√	yes	yes	25 lists 10 names ea.	√	√	no	yes	Forced Delivery	yes
BROOKTROUT	no	yes	no	no	yes 256/list	yes	yes	no	yes	yes	yes
CENTIGRAM	yes	yes	no	no	32 gps 125/grp	yes	no	no	yes	yes	yes
COMMTERM	no	yes	no	no	20 lists 20/list	yes	yes	no	√	yes	√
DIGITAL SOUND	yes	yes	yes	yes	100 grps. unlimited	yes	yes	future	yes	yes	yes
GENESIS	no	yes	yes	no	8 grps 32/grp	yes	no	no	yes	limited	yes
MPSI	√	√	√	√	√	√	√	yes	yes	yes	√
OCTEL	yes	yes	no	yes	15 lists 25/list	yes	yes	no	yes	yes	yes
OPCOM	yes	√	no	√	yes	√	√	√	yes	yes	√
ROLM	no	√	√	no	50 lists 10/list	yes	√	√	no	m. w. lite, spec. tone	yes
RSVP	no	√	no	no	6 lists total	no	√	√	no	optional	√
VOICETEK	√	yes	yes	yes	yes variable	√	no	√	yes	yes	√
VMX	√	√	no	√	yes unlimited	√	√	√	yes	yes	√
WANG	√	yes	√	√	√	yes	√	√	yes	yes	√

√ = Information unavailable at time of printing.

FEATURE COMPARISON CHART BY VENDOR

Manufacturer	Message Transfer (redirect)	Certified Message	Networking Capabilities	Override Prompts	Playback Speed Control	Repeat Prompts	System Diagnostics	Time & Date Stamp	Transfer to operator	Transfer to phone extension	Administer from terminal	Administer from telephone
AT&T	yes	yes	no	∫	yes	∫	∫	yes	N/A	∫	∫	∫
BROOKTROUT	yes	yes	no	yes	no	yes	yes	yes	∫	∫	yes	some
CENTIGRAM	yes	group only	future	yes	no	yes	yes	yes	yes	no	yes	yes
COMMTERM	yes	no	future	yes	no	no	yes	yes	yes	yes	yes	∫
DIGITAL SOUND	yes	no	yes	yes	no	yes	yes	yes	yes	no	yes	no
GENESIS	no	yes	no	yes	no	yes	yes	yes	yes	yes	no	yes
MPSI	∫	∫	yes	yes	∫	∫	∫	∫	yes	∫	∫	∫
OCTEL	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
OPCOM	yes	yes	∫	yes	no	∫	∫	yes	yes	∫	∫	∫
ROLM	yes	yes	no	yes	no	no	yes	yes	yes	∫	∫	∫
RSVP	yes	∫	no	yes	no	∫	∫	yes	∫	∫	∫	yes
VOICETEK	yes	yes	future	yes	no	no	yes	yes	yes	yes	∫	∫
VMX	∫	no	yes	yes	no	no	yes	yes	yes	yes	∫	∫
WANG	yes	yes	yes	yes	no	yes	yes	∫	∫	∫	yes	∫

∫ = Information unavailable at time of printing.