

# ViaVoice for e-business



**IBM Worldwide OEM Software Executive Briefing**

# Conversational Computing: A Paradigm Shift



1960

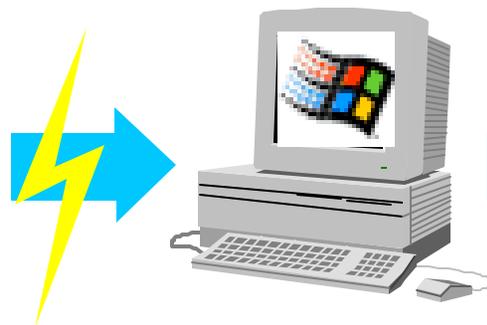


## TEXT-BASED PARADIGM

### UNMET NEEDS:

- ▶ Dedicated CPU time
- ▶ Greater productivity
- ▶ Better user interface

1980

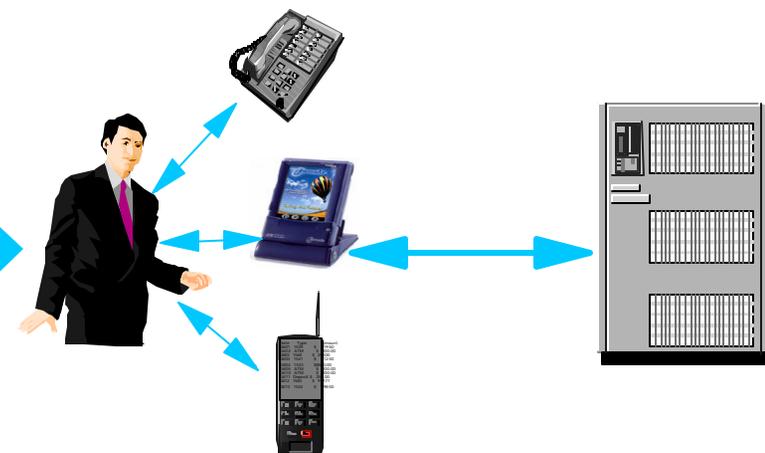


## PC / GUI PARADIGM

### UNMET NEEDS:

- ▶ Natural access to information network
- ▶ Anytime, anywhere, any device

2000



## CONVERSATIONAL COMPUTING PARADIGM

# ViaVoice Product Family Evolution



## Desktop

- Faster and easier document creation for busy people with limited leisure time
- ViaVoice Millennium Standard, Web, and Pro

## Telephony

- Accuracy and robustness for IVR applications
- Directory Dialer, Large Vocabulary, Natural Language

## Embedded

- Small footprint and noise tolerance for embedded systems
- Speech recognition, Text-to-speech, and distributed operation

- Global leader in speech recognition products for the desktop
- Over 30 years of R&D

## Architecture for e-business

- Connect the architectures of voice and the Web
- Encompasses telephony, embedded, and desktop
- Open standards: VoiceXML, JSAPI, VoiceTIMES, ...

# On the Desktop: ViaVoice Millennium



## Three editions at various price points

- ✓ **Standard - \$59.95**
  - ✓ for novice users and users with very basic needs for dictating and editing documents.
- ✓ **Web - \$79.95**
  - ✓ for those wanting to surf the Net using speech.
- ✓ **Pro - \$179**
  - ✓ adds the ability to navigate the desktop and applications by voice and create voice-initiated shortcuts, or macros
  - ✓ special vocabularies are available for the most commonly used business, finance, and computer terms.



IBM ViaVoice voice recognition software

## Available for nine languages

- ✓ American English, Brazilian Portuguese, British English, Chinese, French, German, Italian, Japanese, and Spanish.

## Available on Windows 95, 98, NT 4.0

- ✓ Macintosh available soon

# ViaVoice Millennium: What Others Are Saying

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**"IBM introduced an improved version of ViaVoice, a tool that's sure to make life easier..."**

- PC World Daily Newsletter, 09/09/1999

**"I don't know how they've done it, but the accuracy of this thing is absolutely phenomenal..."**

- John Stewart (Audio Computer Information), on Business News Network, 09/10/1999

**"For computer users who are looking for interactive software that responds to voice command, look no further..."**

- Gadget Guru Home Page, 09/09/1999

# ViaVoice Millennium: OEM Friendly



- ✓ Audio Set Up and Install Screen bitmaps can be removed or replaced

- ✓ On-line documentation contains no IBM contact information

- ✓ Unique Product Registration Tool (PRT) number for each OEM

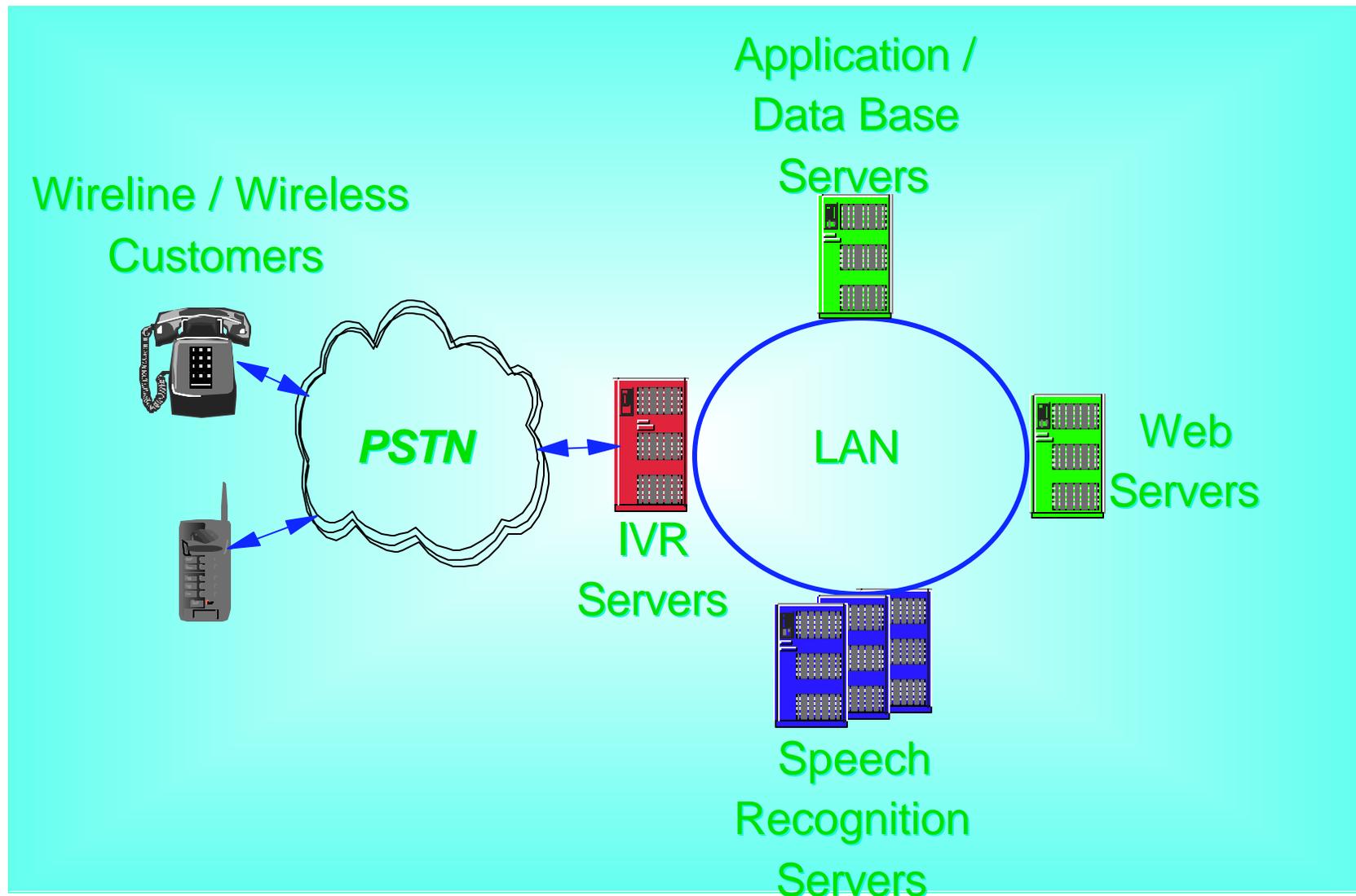
- ✓ Extensive press coverage

- ✓ Launch coverage included Bloomberg, BNN, BusinessWire, c|net, Computergram ComputerWire, Dow Jones News Service, Forbes, Gadget Guru Home Page, IDG News, Infoworld, Infoworld Electric, New York Times, PC Week, PC World, PC World Daily Newsletter, ZDNet



IBM ViaVoice voice recognition software

# ViaVoice Telephony: Scalable Architecture for IVRs



# ViaVoice Telephony: Key Benefits



- ✓ Lower customer support costs by automating more transactions
- ✓ Handle a growing volume of customer requests without increasing service staff
- ✓ Lower phone line costs by shortening the time customers spend on-line
- ✓ Improve effectiveness and extend the hours of call center operations
- ✓ Establish a competitive advantage across access points: rotary phones, kiosks, and the Internet
- ✓ Improve customer satisfaction and service delivery



# ViaVoice Telephony: Application Range and Vision



Simple

## Opportunities

### **Name Dialer/Auto Attendant**

### **Call Centers**

- Call routing
- Data input

### **Customer care**

- Provisioning
- Help desk
- Order entry
- Price quotes
- Status lines

### **Information Access**

- Schedules
- Sport Scores
- Weather
- Movie Info lines

### **Unified Messaging**

- Intelligent Agents
- Voice/E-Mail Integration

### **Dictation/Command Control**

Complex

"Making the world's  
most ubiquitous  
personal and professional  
productivity tool  
even more useful"

# ViaVoice Telephony: Highlights

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## Bringing IBM leading-edge technology to the telephony space

- ✓ Largest commercially available vocabulary size: 64k words
- ✓ High quality accuracy and small hardware resource footprint

## Tools and e-business solutions for telephony

- ✓ ViaVoice Directory Dialer
  - ✓ ViaVoice Telephony Speech Engine and Tools
  - ✓ Natural Language Understanding
- Application Templates: Mutual Funds, Stock Quotes, ...

## Operating System Support

- ✓ Available: NT, Solaris, AIX
- ✓ Planned: DEC Unix, linux

## IVR Platform support

- ✓ Available: DirectTalk (Corepoint Voice Response)
- ✓ Planned: Periphonics, ...

# ViaVoice Embedded: ~~Highlights~~ *Preview*



## Bringing IBM leading-edge technology to the embedded space

- ✓ Small footprint
- ✓ Noise tolerance

## Key market segments

- ✓ Car Clients
- ✓ Smart Phones/Cellphones
- ✓ Handheld devices
- ✓ Set Top Boxes/Video Games

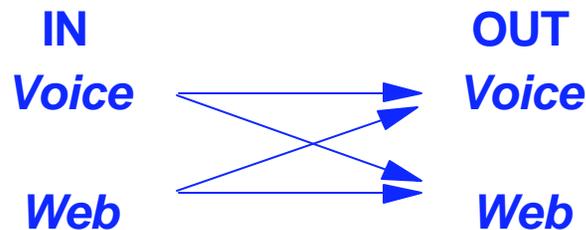
## Offerings:

- ✓ Speech recognition (Command & Control)
- ✓ Text-to-Speech
- ✓ Choice of footprint and vocabulary size
- ✓ Planned: integration of speech and GUI

# The Future of Voice: Market Trends



## ■ Convergence of Web and IVR servers



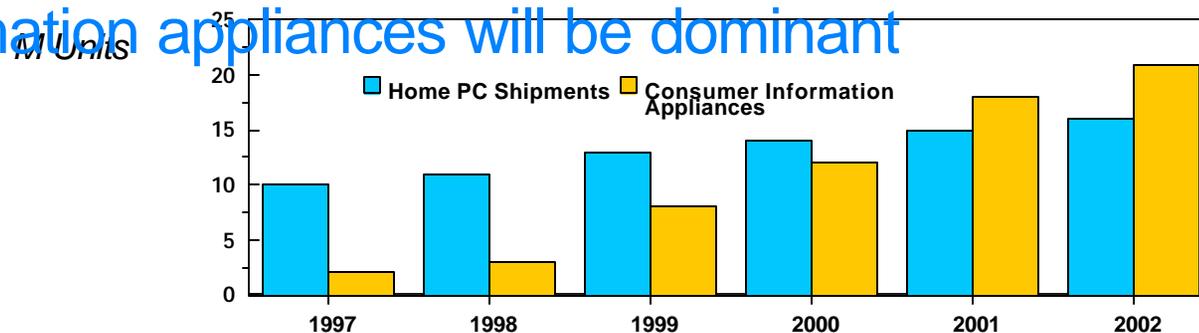
Examples:

- ✓ IVR support for screen phones
- ✓ Web access by telephone

## ■ Proliferation and convergence of devices



## ■ Information appliances will be dominant



Source: GMT 1999

# The Future of Voice: Travel Reservations



## Current/evolutionary scenario

## Target/"revolutionary" scenario

You have been verified. What can I do for you?

Show me the direct flights from New York to San Francisco after 7:30pm today

There are five direct flights from New York's LaGuardia airport to San Francisco after 7:30pm today: Delta flight nnn departing 7:30pm, American flight nnn departing 7:55pm, United flight nnn departing 8:30pm. Tower Air flight nnn

Book me on the United flight

Show me the direct flights from New York to San Francisco after 7:30pm today

FROM	LGA		
TO	SFO		
NON-STOP			
FLIGHT	DEP	ARR	
DLnnn	7:30p	10:55p	
AAnnn	7:55p	10:55p	
UAnnn	8:30p	11:55p	
TOnnn	8:45p	0:10p	
MWnnn	9:15p	0:45p	

Book me on the United flight

Select seat 3A

# The Future of Voice: "voice surfing"



Hello, where can I go?

You can go to Calendar, Books.com, or Home Banking

Go to Calendar

Welcome to calendar. What day please?

Tomorrow. Create an appointment with George Smith from 10:00am to 11:00am. The subject is Speech Technology.

Your appointment with George Smith from 10:00am to 11:00am has been created. You have 1 reminder and 2 appointments today



Go to Books.com. I'd like a book by Anne Aldous

No books found

Give me the best-seller list

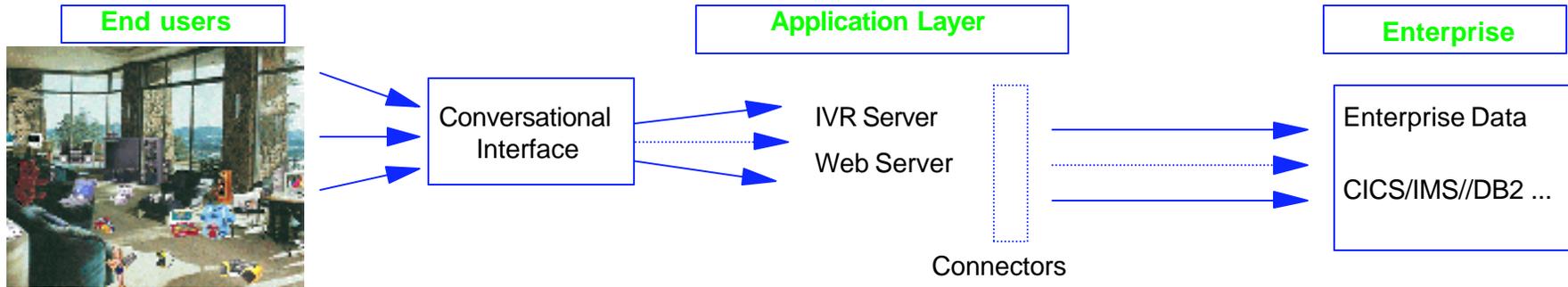
Number 1 - "Who Moved My Cheese?" Number 2 - "Monica's Story." Number 3 - "The Greatest Generation"

Go to book number three

The Greatest Generation. by Tom Brokaw. Published 1998. Hardcover, usually ships in 24 hours. Our Price: \$17.47. You Save: \$7.48 (30%) "



# ViaVoice for e-business: Transparent Computing



**- Trends**

- Device proliferation and convergence

**- Needs**

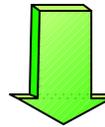
- Consistent access to IN
- Mobility
- Completeness and ubiquity

**- Speech Value Proposition**

- Unified interface
- Invisible/ubiquitous

**- SBU Activity**

Pervasive Computing + Speech



Transparent Computing

**- Trends**

- Web/IVR Convergence

**- Needs**

- Transactions increase
- Transaction cost down

**- Speech Value Proposition**

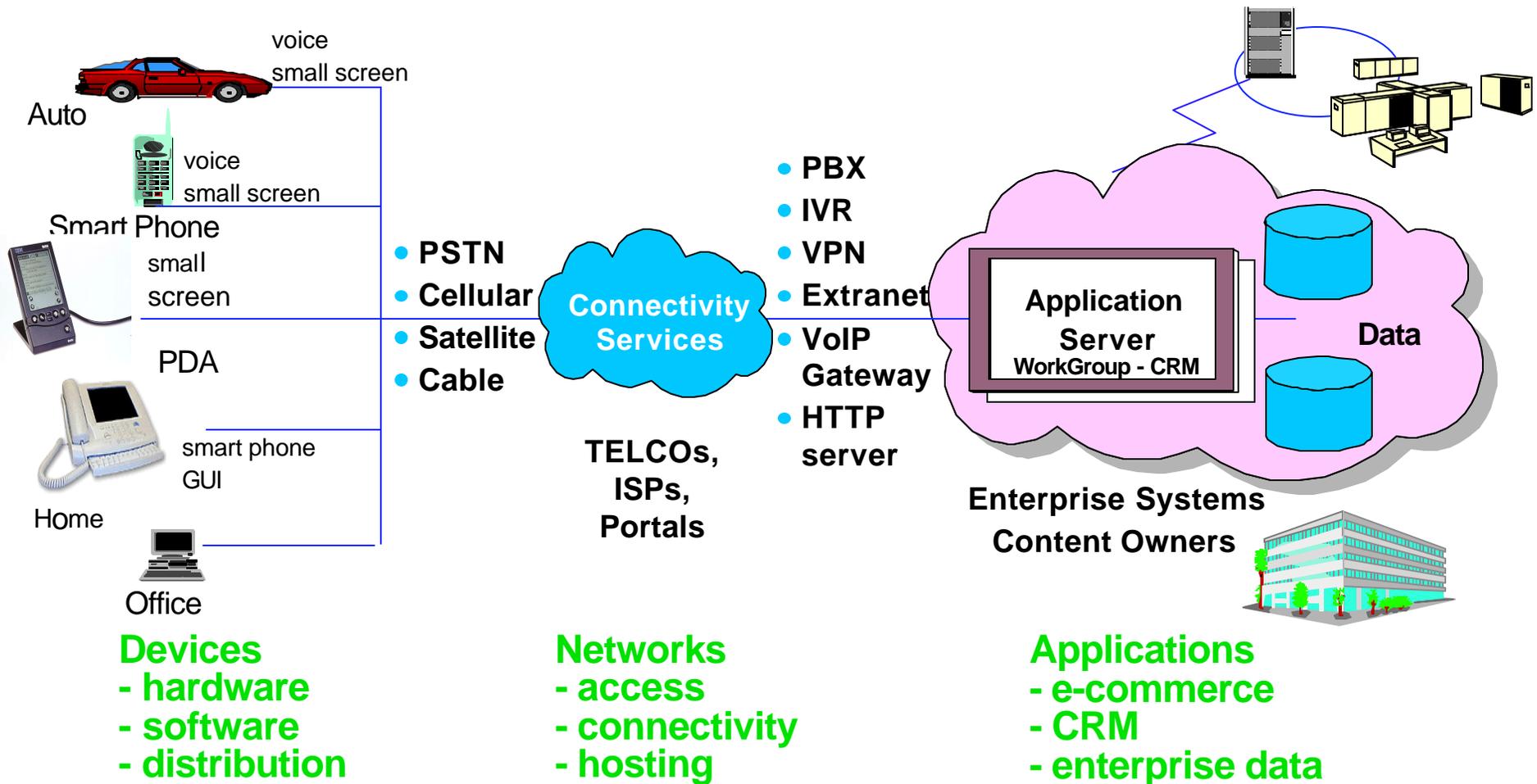
- Dramatic increase in transactions
- Better customer care
- Automate transactions

Speech Client

ViaVoice for e-business

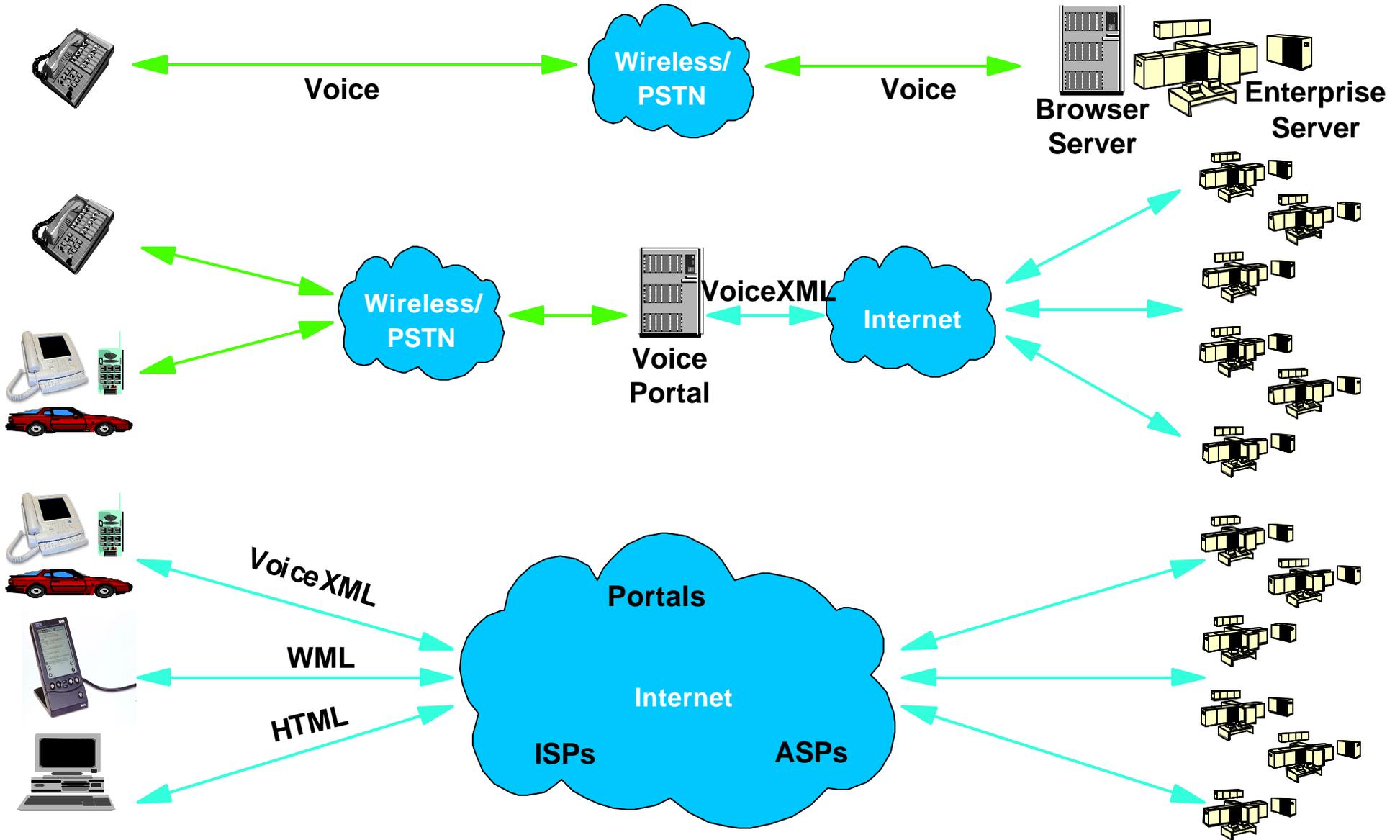
Speech Middleware

# The Future of Voice: Leverage Existing Infrastructure



**Standards initiatives include JSAPI, VoiceTIMES, VoiceXML**

# Example: VoiceXML links the Telephony and Internet worlds



# ViaVoice for e-business: Directions

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## VoiceXML developer tools

- ✓ Enables information and transactions to be exposed using a voice interface
- ✓ Suitable for integration into HTML/XML developer tools
- ✓ For use by content owners

## Server-side VoiceXML "browser" (rendering engine)

- ✓ Enables telephone access to VoiceXML content
- ✓ Connects to voice network through IVR or VoIP gateway
- ✓ For use by content owners or within the network (ISP/ASP)

## Embedded VoiceXML "browser" (analogous to HTML browser)

- ✓ Enables a user to "surf" to any VoiceXML content site
- ✓ Connects to content sites via (wireless) HTTP
- ✓ For use by device vendors to leapfrog the PC in capability

## Solution Integration Services

- ✓ Prototyping, Development, Deployment
- ✓ Training and education
- ✓ Maintenance agreements

# Key points

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## Voice will be integral to computing in the next millennium

- ✓ In some areas, market acceptance is already clear
- ✓ Technology evolution creates additional opportunity

## Opportunity is everywhere

- ✓ Voice and data communications
- ✓ Devices, PCs, and servers
- ✓ Software vendors
- ✓ Product integrators
- ✓ Service providers



## Internet standards will drive the new computing paradigm

- ✓ Industry leaders are teaming up to define these standards
- ✓ Leadership technology will drive reference architectures

# ViaVoice for e-business



September 1999