Introduction

• Missouri Department of Conservation
  – Manage the State of Missouri’s Forest, Fish, and Wildlife Resources

• Deer and Turkey Telecheck
  – Animal Harvest Check-In Using Automated Voice Recognition System Developed by Verizon Business (Formerly MCI)
Background

• Deer and Turkey Harvest Information is Used to Effectively Manage Populations
  – Population Age and Density
  – Determine Seasons and Limits

• All Deer and Turkey Hunters are Required to Report (Check) Animals Harvested by 10:00 p.m. that Day
The Way It Was

• Manual Check Stations
  – Hunters Tag Animal In Field
  – Drag Animal To Vehicle
  – Drive to Check Station
  – Attendant Records Information
  – Agent Collects Paper Check Sheets
  – Paper Check Sheets Scanned In

• Issues
  – Expensive To Operate
    • People Intensive
    • Payments To Check Station Vendors
  – Scanning Problems
    • Soiled/Torn Check Sheets
      – Manual Entry Required
  – Data Analysis Delayed
Vision of What It Could Be

• Automated Check-In System
  – Hunter Tags Animal In Field
  – Reports Harvest Through Automated System
  – Receives Confirmation To Indicate Legal Harvest

• Benefits
  – Eliminates Check Stations
    • Frees Agents to Look For Violators
    • Saves Hunters Time
  – Real Time Data Reporting and Analysis
Options

• Touch Tone IVR System
  – Used In Pilot Program
  • In-House Development
  • County Names Difficult
  • Limited In-House Infrastructure

• Live Operator System
  – Limited In-House Resources

• Automated Voice Recognition
Challenges

• Multiple Overlapping Seasons
• Firearms Deer Opening Day
  – Numerous Calls In Short Amount Of Time
• Statewide Access Needed
  – Cell Phone Coverage Spotty In Rural Areas
• Breaking the Check Station Tradition
  – Social Aspect – Comparing Deer
• Getting Adequate Data
The Telecheck Solution

• Automated Voice Recognition System
  – 800 Number To Access System
  – Voice Prompts To Collect Data
  – Confirmation Number Generated And Returned
  – Check Record Posted to Database

• Web Check Interface
  – Alternate Source To Check Animal
Telecheck Architecture

- Speech Recognition Platform
- Call Center Vendor
- Internet
- MDC Call Center

MDC

- Touch Tone IVR
- Oracle
- Intranet
- Agent Check Verification
- Telecheck Data Update
- Telecheck Data Lookup

Speech Recognition Platform

Internet

MDC Call Center
Technology

• Voice Response System – Verizon Business
  – Developed and Hosted By Verizon Business
  – Web And Voice Portal Services
  – Public Switched Telephone Network

• Web Site – MO Department Of Conservation
  – Load Balanced Dell Servers Running IIS
    • Internet Server(s) And Web Services Server(s)
  – Telecheck Pages For Verizon Posting Only
    • No Functional User Interface
  – Public Web Check Pages

• Database – MO Department Of Conservation
  – Oracle
Supplemental Development

- Public Web Check
- Telecheck Data Lookup
  - Real Time Harvest Reports
  - Protection Agent Support
    - Checking After Hours
    - Illegal Harvest
    - Hunting Without Permit
- Touch Tone IVR Agent Verification
  - Enter Telecheck ID – Retrieve Confirmation
Information To Gather

• Type Of Animal Harvested
  – Deer
    • Antlered Buck, Button Buck, Doe
  – Turkey
    • Adult Gobbler Or Hen, Juvenile Gobbler Or Hen

• Biological Data
  – Deer – Number Of Antler Points
  – Turkey – Spur And Beard Length

• County Where Animal Harvested
Information Returned

• Confirmation Number
  – Required To Complete Legal Harvest
  • Written on Permit And Attached To Animal
  – Smart Coded To Aid Protection Agents
    • TMDHSSSS
      – T = Type Of Animal
        » Number For Phone
        » Letter For Web
      – M = Month
      – D = Date
      – H = Hour
      – SSSS = Unique Sequence Number
Input Challenges

• Multiple Acceptable Names For Same Option
  – Antlered Buck / Antlered / Buck / 8 Point Buck
  – Adult Gobbler / Gobbler
  – Adult Hen / Hen / Bearded Hen / Bearded
  – Juvenile Gobbler / Jake

• Requesting Biological Data Concisely
  – Antler Points, Spur and Beard Lengths
  – Word Prompt To Get Meaningful Yes/No Answers

• County Names
County Names

• Multiple Pronunciations
  – Schuyler – Skyler, Schooler, Shuler
  – Chariton – Sheriton, Chairton, Sharton
  – Howard – Howard, Hard

• Similar Sounds Misinterpreted
  – Wright – If Pronounced Rat – Interpreted Platte
  – Maries, Marion, Daviess
  – Perry vs. Barry
    • Different Sides Of The State
    • Different Hunting Regulations

– Remove From List When Not Right
System Safeguards

• Telecheck System Cannot Post To Web
  – Data Stored And Forwarded Later
    • Can Store 12 Hours Of Data
    • Send Alert If 10 Consecutive Post Failures

• Web Site Cannot Write To Database
  – Text File Written To Disk
    • Manually Transferred Next Business Day

• Web Server Failure
  – Load Balanced Web Servers
Lessons Learned

• Anticipate External System Impacts
  – Issue – System Overload First Business Monday
    • High Volume Weekend Went Fine
  – Resolution – Redundant Servers Added To Handle Surges

• Coordinate All Business Units
  – Issue – Maintenance Window On Opening Day
    • Different Operating Groups Running Telecheck And 800 Service
    • Call Center 800 Number Not Switched To Staffed Center
  – Resolution – Number Manually Switched In Code

• Use Specific Rather Than General Information
  – Issue – Application Switched To Spring Turkey Script
    • January 1 Year Rollover Triggered Switch
  – Resolution – Key Off Specific Date Rather Than Permit Year
Results

• Call Volumes
  – 52,440 Calls Completed Opening Day
  – 7,043 Calls Completed In Peak Hour
  – 263,211 Total Calls Completed In Fall Season

• Call Analysis

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<th>Abandon</th>
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<td>7.8%</td>
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<td>3.5%</td>
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• Telecheck vs. Web Check
  – 43,502 Completed Web Checks – 14.2% of Completed Checks

• 39% Increase In Arrests For Tagging/Permit Violations
Firearms Deer Check Volumes
Future Expansion

• Targeted Data Collection
  – Pulaski County – Fort Leonard Wood

• Promote Conservation Programs
  – Share The Harvest
  – Special Hunts

• Hunter Survey Opportunities
Questions?
Empowering Your customers and employees with speech technologies

SpeechTEK! 2006
The Voice Solutions Showcase

Empower

Thank You