

# Multi-Server Conferencing

Presented by

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Astricon \* Phoenix  
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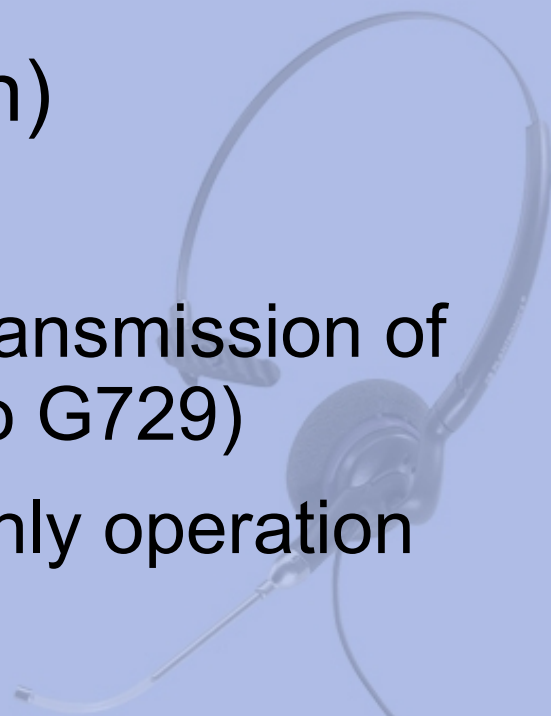
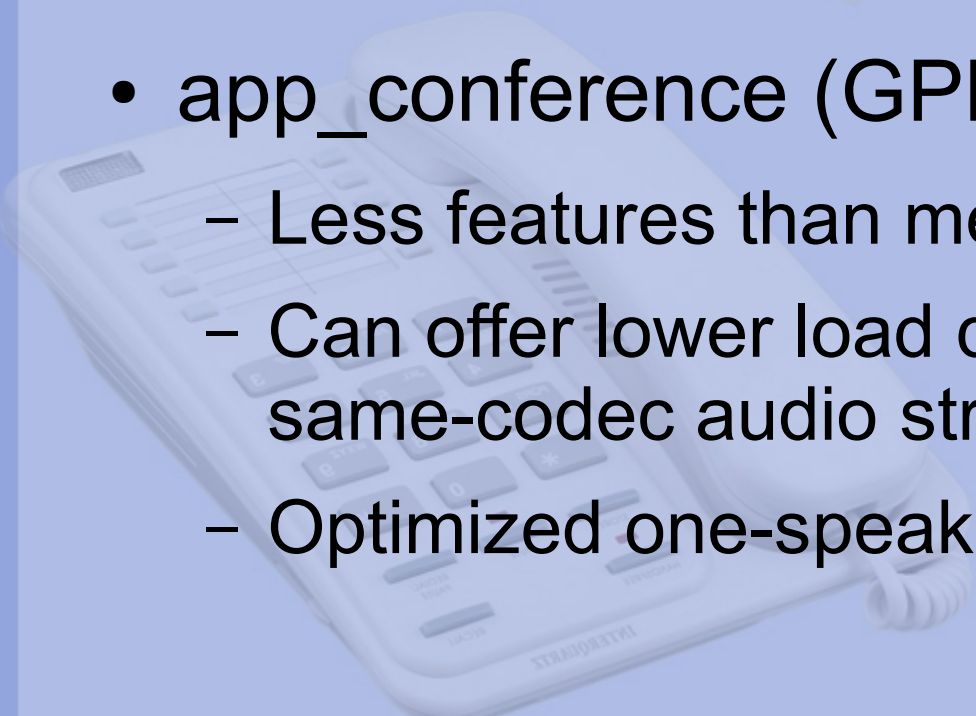
# Reasons for Multi-Server Conferences

- Commercial conference calling service
- Very large conferences (hundreds of participants)
- Call Centers
- Training



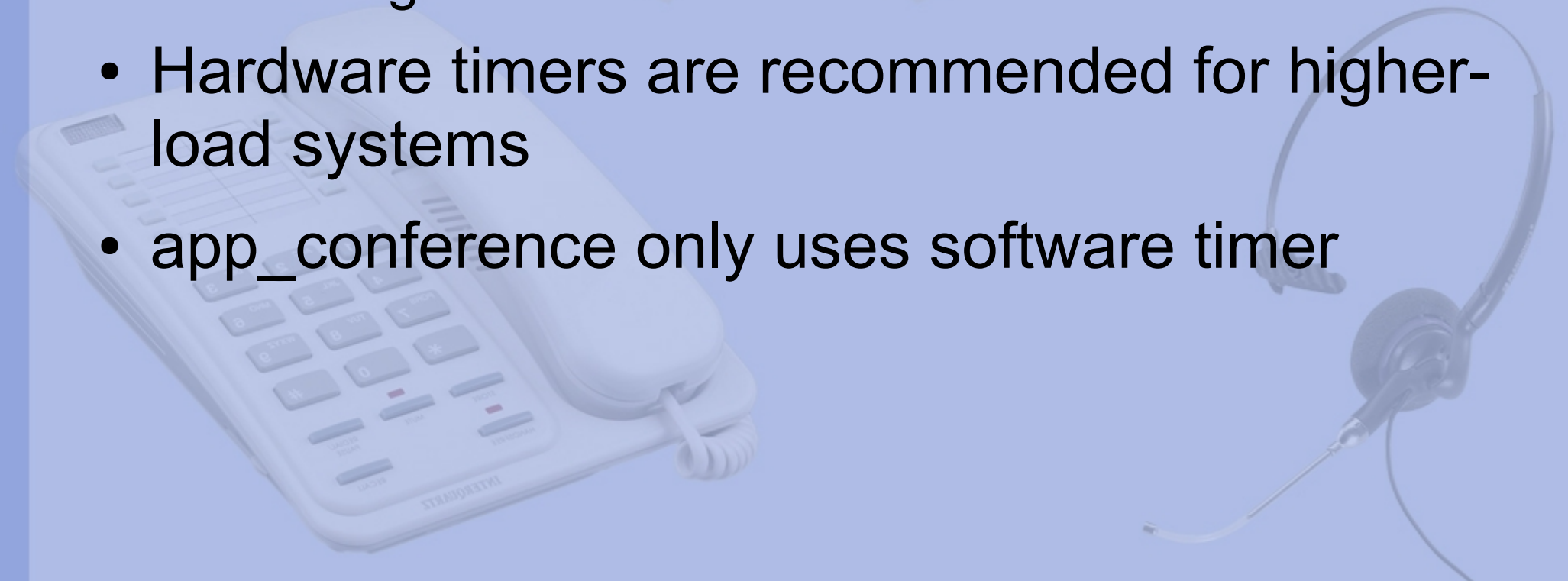
# Conferencing Engines Available

- Meetme (default in Asterisk)
  - Very stable
  - Lots of options and features
  - All streams must convert to SLIN
- app\_conference (GPL-only add-on)
  - Less features than meetme
  - Can offer lower load due to native transmission of same-codec audio streams (G729 to G729)
  - Optimized one-speaker and listen-only operation



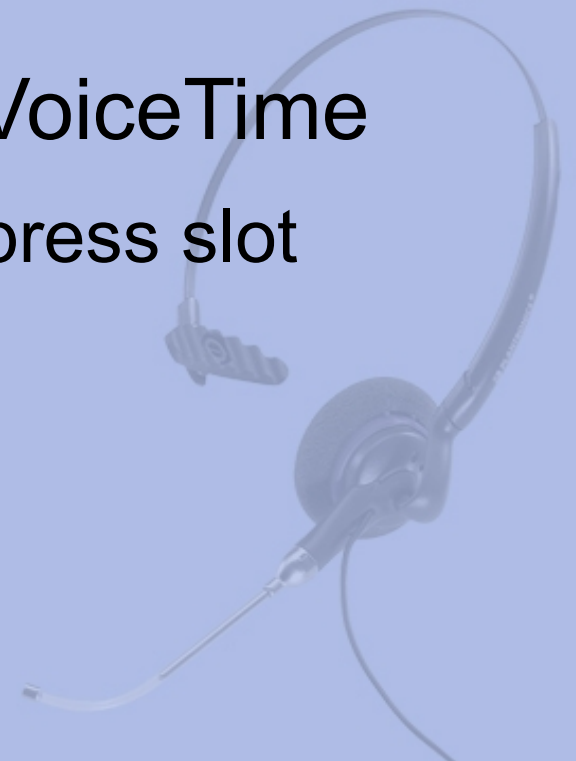
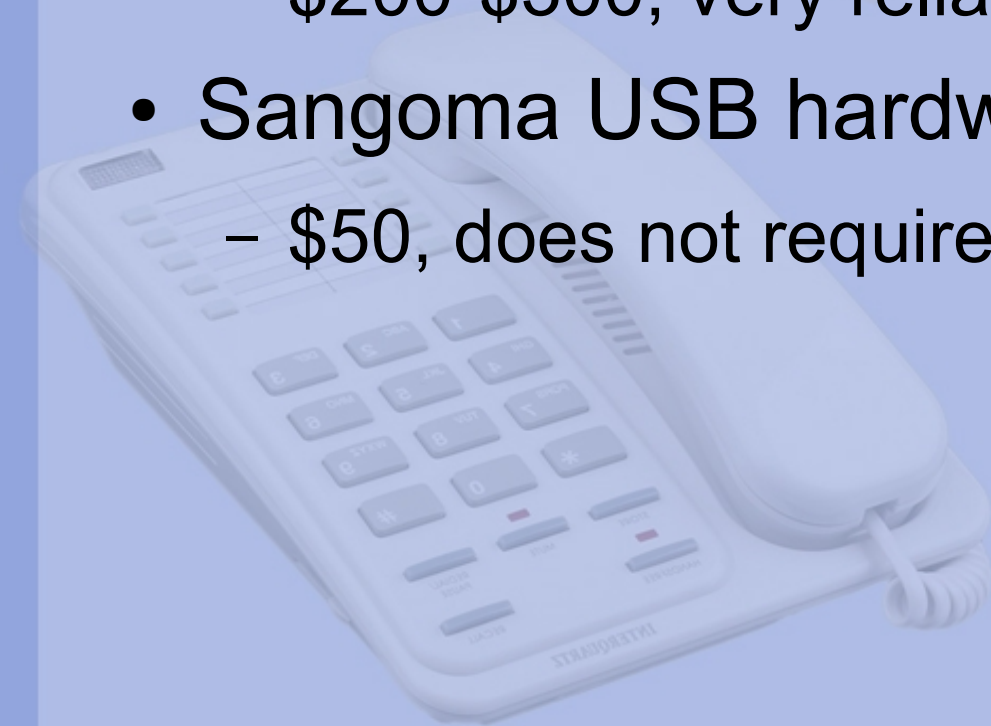
# Timing Issues with Meetme

- Meetme conferencing requires a timer
- Ztdummy is software timer that is fairly reliable on medium to low load servers
  - loadavg less than 1.00 x number of CPU cores
- Hardware timers are recommended for higher-load systems
- app\_conference only uses software timer



# Hardware Zaptel Timer Options

- X100P – for PCI systems only
  - \$30, some driver/compatibility issues
- Digium, Rhino, Sangoma – PCI or PCIe express
  - \$200-\$300, very reliable
- Sangoma USB hardware timer – VoiceTime
  - \$50, does not require PCI or PCIe express slot



# Requirements of Multi-Server Conferencing

- A database back-end to keep track of servers, conferences, participants and permissions
- IAX connections from every server to every other server
- Lots of bandwidth or phone lines

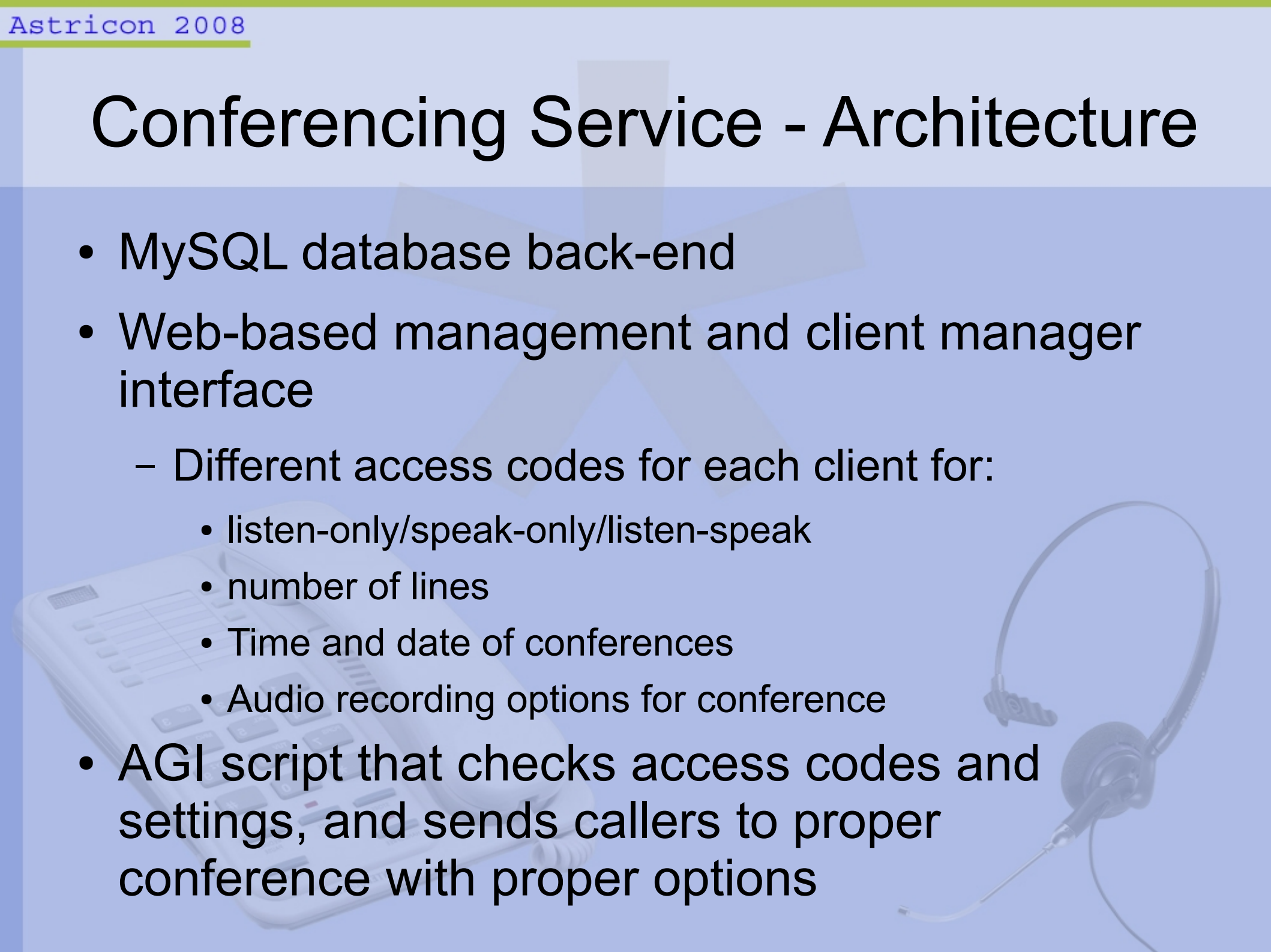


# Conferencing Service - Summary

- Four Asterisk servers with 4 x T1s(PRIs) each
- One Web/Database server
- Several clients that require up to 300 participants in a single conference
- Simple web-based client configuration



# Conferencing Service - Architecture

- MySQL database back-end
  - Web-based management and client manager interface
    - Different access codes for each client for:
      - listen-only/speak-only/listen-speak
      - number of lines
      - Time and date of conferences
      - Audio recording options for conference
  - AGI script that checks access codes and settings, and sends callers to proper conference with proper options
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- A faint background image of a telephone keypad on the left and a headset on the right, both rendered in a light blue color that blends with the slide's background.



# Conferencing Service - Routing

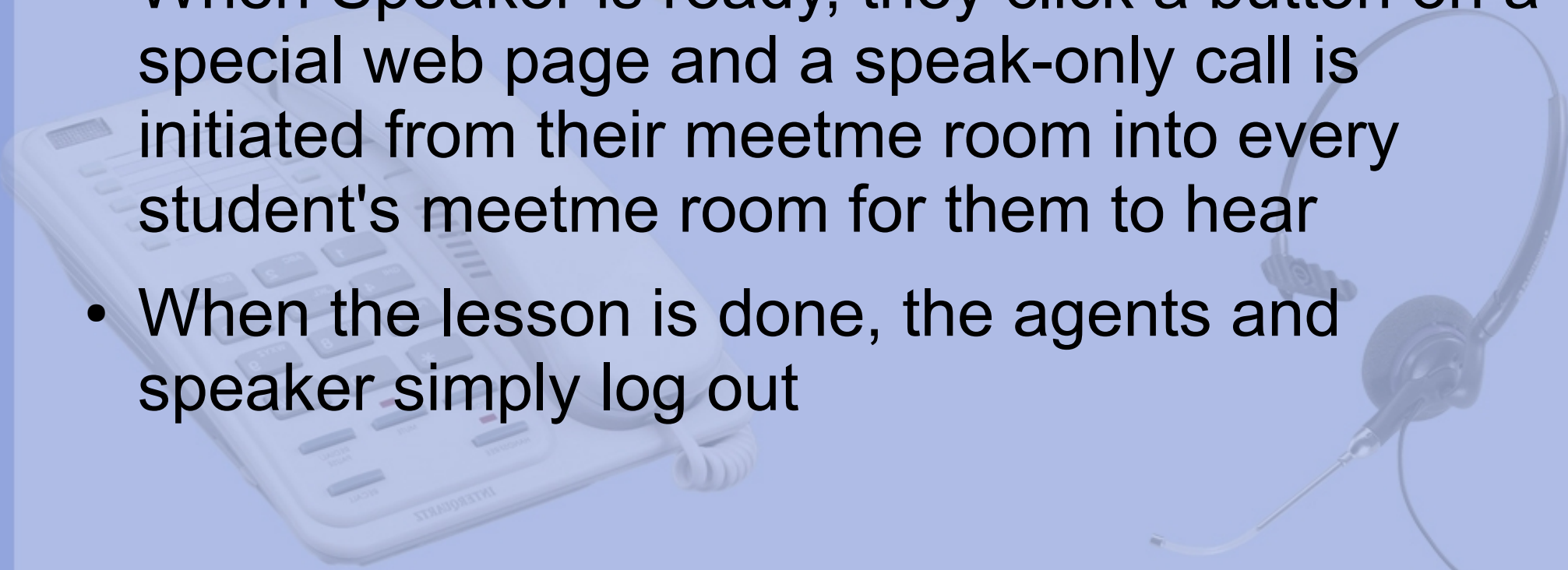
- Each server is set with a maximum number of lines and participants
- When call comes in and the number of participants in all conferences on that server have hit the limit, then a meetme room on another server will be reserved in the database and a listen/speak connection opened over IAX between the full server and the server with available capacity
- Access codes for each call is logged, at the end of the scheduled time, those calls are hung up

# VICIDIAL Voice Lab - Summary

- Call center training schools need to teach students how to speak American English
- Each student has a computer and phone and log into VICIDIAL as an agent
- Speaker logs into web interface and dials into special phone conference
- Students hear the speaker and then repeat what the speaker said in their own session
- Allows for recording of every student as well as blind monitoring by teachers to listen-in

# Voice Lab - Architecture

- Each student logs into a VICIDIAL campaign which places them into their own meetme room
- Speaker dials into a special meetme room
- When Speaker is ready, they click a button on a special web page and a speak-only call is initiated from their meetme room into every student's meetme room for them to hear
- When the lesson is done, the agents and speaker simply log out



# Thank you!

For more information, go to:

[www.eflo.net](http://www.eflo.net)

