

VoIP in Rural America is a comprehensive course with hands-on VoIP lab engineered specifically for Independent Rural Telephone Companies. It will provide an overview of the convergence, competitive, technical, business and marketing aspects of VoIP.

Who attends:

This course is an ideal introduction to VoIP for Rural Telco employees with Network, Marketing, Procurement or Regulatory responsibilities. There is no prerequisite.

This course now includes sections on Wireless Broadband and VoIP over Wireless

Who teaches:



Jerry Bahr has more than 35 years' experience in electrical engineering management positions, including over 10 years directing cable communications development and operations. Mr. Bahr was Vice President of Engineering for a network consulting firm that designed LAN and WAN systems for Fortune 1000 companies for over 12 years, as well as Chief Engineer, Vice President of Engineering, and Director of Advanced Systems Engineering for Cox Cable Communications. Jerry was also responsible for the broad acceptance of technical training and professional certification in the Southeast.

Mr. Bahr is an avid inventor and has a patent pending for a video laser disc imaging system. He is a member of the IEEE and holds an FCC General Radio Telephone Operators license. He holds degrees in Electrical Engineering from Central Technical Institute in Kansas City and from the Aeronautical Academy in Oklahoma City and has also taught many aspects of engineering.

Jerry Bahr is also a Cisco Certified Systems Instructor (CCSI) and has developed traditional telephony curriculum for internal use by Cisco Systems employees worldwide as well as having taught numerous courses for Cisco and other leading IP networking topics on a variety of topics.

Tuition is \$695 per student and includes all books and learning materials as well as lunches and breaks both days.

Please register before the class by contacting Meggan Griggs at 785-478-9986 mgriggs@e-als.com or Bob Etzel at 785-838-4337 betzel@e-als.com

Course Outline

Day 1

1. What is VoIP? (Part 1)
2. VoIP: The Opportunity
 - Residential
 - Enterprise
3. Why Customers are Buying VoIP
4. The Business Case for VoIP
5. VoIP's Shortcomings
6. Rural Telco VoIP Drivers, Enablers, Speed Bumps, and Show Stoppers
7. VoIP Devices and Systems
 - VoIP Systems Overview
8. What is VoIP? (Part 2)
9. VoIP Implementation Models
10. VoIP; Legal & Regulatory Highlights
 - FCC
 - CALEA
 - USF
 - 9-1-1
11. Rural Telco VoIP "Playbook"

Day 2

12. Day 1 Review
13. VoIP and Broadband
 - Wireline Broadband (Copper/Fiber)
 - Wireless Broadband
14. Analog Voice over Digital Networks
15. Premises Wiring
16. VoIP/Digital Voice over Cable
17. Primary VoIP Protocols
 - H.323, SIP & CSCCP (Cisco Skinny)
 - MGCP, MEGACO/H.248, TGCP
18. Supporting Protocols
 - UDP/IP
 - RTP/RTCP
19. A Brief Discussion of QoS
20. Service Differentiation: Quality of Experience (QoE)
21. VoIP over Wireless
 - Premises
 - VoIP over WiFi
 - WiMAX
 - Access / Local Loop
 - WLL
 - Wireless Broadband
22. Day 2 Review