

Teracom Training Institute

The best in telecom training and certification - since 1992

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TCO Certified VoIP Analyst

Get fully up to speed on Voice over IP and SIP technologies and implementations –and TCO CVA Certification to prove it!

Get a complete understanding of Voice over IP and SIP, with CVA Certification to prove it.

CVA covers all aspects of Voice over IP, including all the different ways VoIP is implemented, how calls are set up with softswitches and SIP, how voice is packetized and the factors affecting sound quality, connecting to carriers and SIP trunking, and network quality with MPLS, Service Level Agreements and Class of Service.

The Certified VoIP Analyst Certification Package includes six online courses:

- 2221 Fundamentals of Voice over IP
- 2222 VoIP Architectures and Implementation Choices
- 2223 Softswitches, SIP, Call Setup and SIP Trunking
- 2224 Voice Packetization, Codecs and Voice Quality
- 2225 SIP Trunking and Carrier Connections
- 2226 IP Network Quality: CoS, QoS, MPLS AND SLAs

This knowledge enables a CVA to stand out from the rest, with demonstrated broad and deep vendor-agnostic knowledge of VoIP systems and best practices.

This kind of knowledge enables higher-paying positions performing analysis, writing reports, making recommendations and providing effective, value-added contributions in project management, business and product development, software design, sales, marketing and finance.

The CVA Certification Package includes six courses totaling 59 lessons, plus the TCO CVA Certification Exam, TCO Certificate suitable for framing and Personalized Letter of Reference.

You get unlimited repeats of courses and exams, no time limits.

Guaranteed to pass, refresh your knowledge anytime.

30-day 100% money-back guarantee.

You have nothing to lose - and a valuable certification to gain!

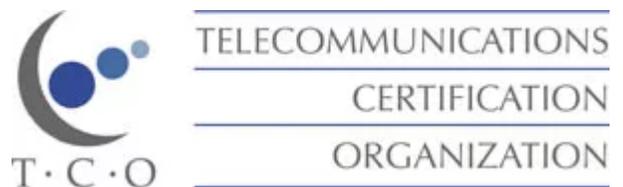
These courses build on IP and PSTN fundamentals. If you are completely new to telecom, we recommend you take the CTNS courses first to build a knowledge base, then the CVA courses.

Purchase courses in this set of six in the CVA Certification Package, or individual courses as best meets your needs.

The Certified Telecommunications Subject Matter Expert CTSME Certification Package includes all of these courses at a substantial discount... plus 5 TCO certification exams, all with unlimited repeats.

Check out the CTNS + CVA combo package discount special!

Upgrade your skills – and your résumé – with this training and certification today!



CVA Unlimited Plan \$459

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Certified VoIP Analyst:

Six courses, unlimited course and exam repeats, TCO Certification, Certificate, Letter of Reference.

30-day 100% money-back guarantee.

NEW CVA Study Guide

Learn more about TCO Certification and Certification Packages ▼

Price List, Group Discounts, more ▼

“I just wanted to send you my appreciation for the CTNS certification course. The course was very informative and the methodology of how the course was structured was very well done. I’m looking forward to future training/training material from you in the future.”

— Scott Moffit
Special Agent
U.S. Secret Service

Quality you can trust

Join thousands of satisfied customers including the FBI Training Academy, US Marine Corps Communications School, US Army, Navy, Air Force and Coast Guard, the NSA and CIA, IRS, FAA, DND, CRA, CRTC, RCMP, banks, power companies, police forces, manufacturers, government, local and regional telcos, broadband carriers, individuals, telecom planners and administrators, finance, tax and accounting personnel and many more from hundreds of companies. Teracom's GSA Contract GS-02F-

0053X for supplying this training to the United States Government is your assurance of approved quality and value.



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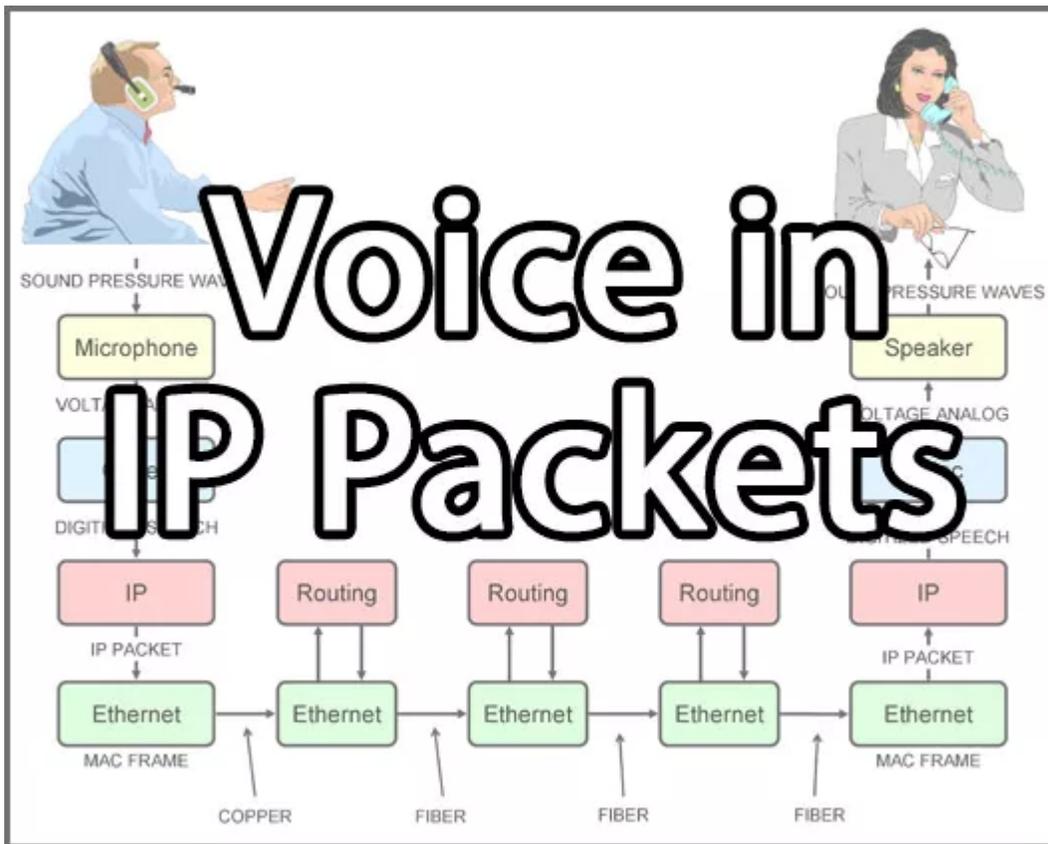
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Course Descriptions



Free Lesson 1: Introduction
& The Big Picture



Another free lesson:
Voice in IP Packets

Register



Course 2221 Fundamentals of Voice over IP

Jargon & Buzzwords • VoIP Phone System Components and Operation • Voice Packetization • LANs and WANs • VoIP Phones: MAC Address, DHCP, IP, UDP, RTP, QoS • SIP, Softswitches & SIP Trunking • Cloud • The Future

Fundamentals of Voice over IP is a complete introduction to everything Voice over IP. You'll learn the fundamental ideas and principles of a VoIP telephone system, VoIP, SIP & all the other jargon - what it actually means and how it all works together.

At each step, we'll also cover supporting and related technologies like Ethernet MAC frames and codecs and video over IP.

Course Lessons

1. The Big Picture
2. Terminals
3. Voice in Packets
4. SIP and Soft Switches / SIP Servers / Call Managers
5. Media Servers: Video Servers
6. Gateways
7. LANs and WANs
8. Key VoIP Standards
9. Where All of This is Headed: IP Dial Tone

This course can be taken by anyone who needs to get up to speed on all things VoIP. You will gain career-enhancing knowledge of the components and operation of Voice over IP systems, and learn what all of the jargon and buzzwords mean.

It also serves as a first pass through topics that are covered in greater detail in subsequent lessons.

Detailed Course Description ▾

Lesson 1. Introduction [watch now \(free\)](#)

- Course overview, fundamental concepts

Lesson 2. VoIP Phones and Terminals

- Voice over IP phone: computer functions
- MAC address and Ethernet LAN interface
- IP address and DHCP, UDP
- Telephone functions
- Speech digitization and codecs
- Creating IP packets containing voice
- SIP client for call setup: SIP basics
- Minimum requirement for VoIP phone
- Optional: display, video codec, camera, keyboard, ...
- QoS and packet classification
- Packet labeling
- Differentiated services: prioritization
- Softphones on computer screens

- 4G cellular is VoIP

Lesson 3. Voice in IP Packets [watch now \(free\)](#)

- Digitizing voice
- Encapsulation in IP packets
- Carried in MAC frames
- Tracing a phone call end-to-end
- Voice quality & jitter buffers

Lesson 4. SIP and Softswitches - SIP Servers / Call Managers

- Visit to a DMS-100 CO switch
- Softswitch vs. traditional PBX / CO switch
- Registration with SIP server
- SIP call disposition rules
- SIP: finding out the called party's IP address
- How SIP works
- Hosted PBX
- Cloud servers: softswitch as a service

Lesson 5. Media Servers

- Video is where the money is
- Integrated messaging
- Video on demand and Video over IP
- Video server - Netflix server appliance
- DVR as a network service
- Streaming music
- Digital rights management

Lesson 6. Gateways

- Protocol converters
- Traditional DS0 telephony vs. Voice over IP
- Packets - streaming DS0 media format conversion
- SIP - PSTN ISDN signaling conversion
- Media gateway & Media Gateway Control Protocol

Lesson 7. LANs and WANs

- LANs: physical connection and MAC addresses
- Gigabit Ethernet: Cat 5e, 6
- Optical Ethernet in the core
- IP packets carried in MAC frames between devices

- Power over Ethernet (PoE)
- Uninterruptible power supply
- Wiring closets
- LAN switches
- VoIP over Wi-Fi: 802.11
- Wi-Fi Access Point connections

- WAN: between buildings
- Access, network service type, billing agreement
- Fiber, cable, DSL, wireless access
- Legacy WAN services: T1, Frame Relay, ATM
- Current IP WAN services
- Internet and Internet VPNs
- Service Level Agreement (SLA) and MPLS VPNs
- SIP Trunking

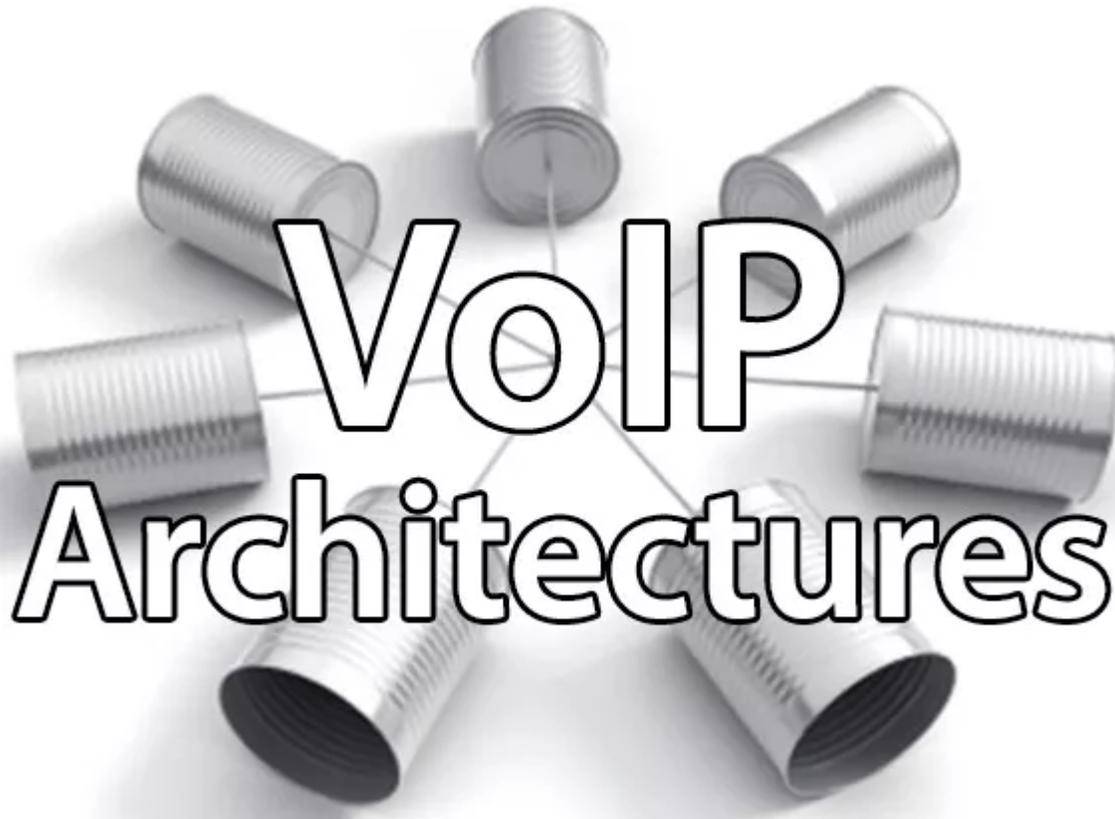
Lesson 8. Key VoIP Standards

- IETF RFCs
- SIP and SDP
- RTP: time stamps
- correcting jitter with RTP
- UDP and TCP. How TCP works.
- IP: network addresses for packets
- ITU G.711 voice and H.264 video codecs
- IEEE 802.3 Ethernet, 802.11 Wi-Fi,
- 802.2 MAC addresses & MAC frames
- Cat 5, 5e, 6 cables
- Optical Ethernet

Lesson 9. Where All of This is Headed: IP Dial Tone

- The IP-PSTN
- The Packet-Switched Telecommunications Network
- IP Dial Tone: send an IP packet to anywhere, anything
- Telephone network and Internet become the same thing: the IP-PSTN
- Telephone service = SIP
- Web surfing = DNS
- Value-added services: e.g. SIP Trunking
- Cloud SIP servers: Google Voice
- Underlying technologies: IP, MPLS and Ethernet

Buying Choices ▾



VoIP Architectures

Free Lesson 3: Phone Call From Internet to PSTN, e.g. gmail Client

Register



Course 2222 VoIP Architectures and Implementations

VoIP over the Internet • VoIP at Carriers • VoIP-Enabled PBX • PBX Replacement • Softswitches • Hosted PBX • Cloud Services • IP Centrex • Asterisk & Open-Source • SO/HO VoIP Phone Features

VoIP Architectures and Implementation Choices is a comprehensive overview of the many flavors of VoIP, comparing and contrasting the various implementation and architecture choices.

Progressing from talking between computers over the Internet through Internet telephony, Managed IP Telephony, PBX enhancement, PBX replacement with call manager / softswitch systems, IP Centrex, Hosted PBX and Cloud Services, you'll gain the knowledge to confidently differentiate VoIP architectures and discuss pros and cons of options.

Course Lessons

1. Intro + Internet Telephony: Computer-Computer VoIP over the Internet
2. Internet Telephony Example: Skype
3. VSPs: Internet to Phone e.g. Gmail Client
4. VSP Phone to Phone over Internet e.g. Vonage
5. VoIP Becomes The New POTS
6. VoIP at Carriers
7. VoIP-Enabled PBX and Migration Options
8. Premise Softswitch: PBX Replacement
9. Cloud Services and Hosted PBX: Softswitch as a Service (SaaS)
10. IP Centrex
11. Asterisk and Open-Source Softswitch Software
12. IP Phone Features and Uses

Based on Teracom's famous Course 130, tuned and refined over the course of over 20 years of instructor-led training, you will gain career- and productivity-enhancing knowledge of all of the different things someone could mean when they say "Voice over IP", and the pros and cons of each.

Detailed Course Description ▾

On completion of this course, you will be able to explain

- The user and network components required for computer to computer VoIP phone calls over the Internet (e.g. Skype)
- The user and network components required for computer to POTS line VoIP phone calls over the Internet (e.g. gmail client, Google Hangouts Dialer)
- The user and network components required for phone to phone VoIP phone calls over the Internet (e.g. Vonage)

- How and why VoIP will replace POTS
- The implementation of VoIP at carriers
- How VoIP at a business can be implemented by upgrading an existing PBX, and why this choice would be made
- How VoIP at a business can be implemented by replacing an existing PBX with a softswitch / call manager, and why this choice would be made
- The pros and cons of cloud-based softswitch services, sometimes called "Hosted PBX"
- How the telephone company can provide and manage everything with a service called IP Centrex, and its advantages and disadvantages
- What asterisk is, and the risks involved with unsupported open-source software, and
- Features available on VoIP phones

Buying Choices ▾



Free Lesson 1: Introduction to SIP

Register



Course 2223 Softswitches, SIP, and VoIP Call Setup

What SIP Is • What It Does • URIs: SIP Phone Numbers • Call Setup Procedure • Call Disposition Rules • How SIP relates to Softswitches and Call Managers

Softswitches, SIP and Call Setup is all about how VoIP phone calls are set up using messages and procedures complying with the standard Session Initiation Protocol.

In this course, you'll understand what SIP is, how it works, demystify jargon like proxy server and location server, understand how SIP fits in with softswitches and call managers, and trace the establishment of an IP phone call step by step.

Course Lessons

1. Intro + What SIP Is and What It Can Do
2. SIP's Relationship to Other Protocols
3. SIP URIs: Telephone Numbers
4. Register: Update Your Location
5. INVITE: Dialing
6. Location Service: Finding the Far End
7. The SIP Trapezoid
8. SIP Messages and the Session Description Protocol
9. How SIP Relates to Softswitches and Call Managers

Based on Teracom's famous Course 130, tuned and refined over the course of over 20 years of instructor-led training, you will gain career- and productivity-enhancing knowledge of how SIP is used to set up a VoIP phone call end-to-end, and how SIP fits in with call managers and softswitches.

Detailed Course Description ▼

On completion of this course, you will be able to explain

- What SIP is and what SIP does
- How and why the essential purpose of SIP is to find out the numeric IP address of the called party's telephone, so the telephones can communicate directly thereafter
- Relationship between SIP and other protocols like IP and UDP
- How SIP relates to softswitches and call managers
- How administration, authorization and accounting are implemented
- What a SIP "telephone number" is: URIs
- What a proxy server is
- How a VoIP telephone call is set up using SIP:
- Registering with a softswitch and populating a location table
- Sending an INVITE message to your proxy server
- How your proxy server finds the far-end proxy server
- How the far-end proxy server finds the called party
- How the far-end indicates it will take a call
- The Session Description Protocol, and what crucial information is passed to the caller at this point
- How the call is ended
- How these steps are explained with a SIP trapezoid diagram

Buying Choices ▾



Free Lesson 9: Packet Loss and Sound Samples: What a phone call with jitter and packet loss sounds like

Register



Course 2224 Voice Packetization, Codecs and Voice Quality

How Voice is Digitized and Packetized • Voice Quality • Codecs • Delay and Jitter • How Packets Are "Lost" • Packet Loss Sound Samples • RTP • VoIP Protocol Stack: RTP/UDP/IP/MAC

Voice Packetization, Codecs and Voice Quality is the "nuts and bolts" of Voice over IP: how the voice is digitized and coded, time stamps applied with the RTP protocol, and how the result is carried in UDP, IP packets and MAC frames.

You'll learn about codecs and compression, and understand factors like delay, jitter and packet loss, what causes them, and how they affect sound quality.

Sample sound clips with lost packets and uncorrected timing variations are included in Lesson 9 so you can hear the effects.

Course Lessons

1. Voice Packetization
2. Measuring Voice Quality
3. Factors Affecting Voice Quality
4. Codecs: Voice Coding and Compression
5. Delay
6. Jitter
7. RTP
8. Protocol Stack: RTP, UDP, IP, MAC
9. Packet Loss and Sound Samples
- 10 .Tips for Maximizing Voice Quality

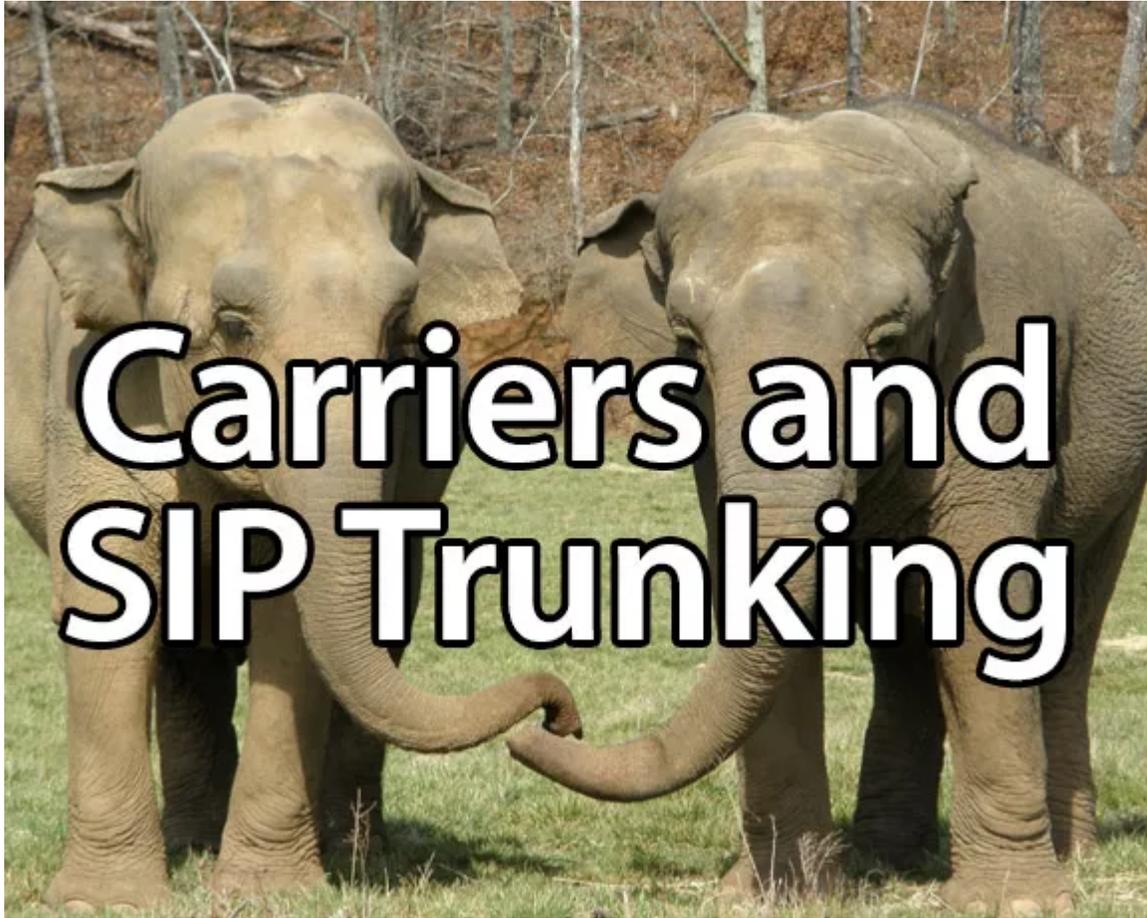
Based on Teracom's famous Course 130, tuned and refined over the course of over 20 years of instructor-led training, you will gain career- and productivity-enhancing knowledge of how packetized voice is actually implemented and the factors affecting sound quality.

Detailed Course Description ▼

On completion of this course, you will be able to explain

- How voice is packetized: digitization, coding and segmentation of the bit stream into ~20 ms segments
- How and why RTP is used to put a time stamp on each segment
- Why UDP is used to carry the RTP output, and the two critical functions the UDP implements
- The full VoIP protocol stack
- How sound quality is measured, and the target quality level
- The factors that affect sound quality
- Different choices for codecs and why G.711 is preferred
- What delay and jitter are, how they happen
- How packets actually get "lost" in a network
- How delay, jitter and packet loss are corrected at the far-end telephone
- Basic guidelines for maximizing sound quality
- Testing and troubleshooting techniques

Buying Choices ▾



Free Lesson 2: Terminating a VoIP Call on a LEC via an IP Connection

Register





Course 2225 SIP Trunking & Carrier Connections

Carrier Interconnect: Switched Access Tariff • Gateways & DSOs • Native VoIP Carrier-Carrier • Session Border Controller • Gateway + PBX/PRI Trunks • SIP Trunking

SIP Trunking & Carrier Connections is all about connecting to carriers to communicate VoIP phone calls, both carrier-to-carrier connections and business-to-carrier SIP trunking.

You'll learn how the only way for a competitive carrier to terminate a VoIP phone call on a Local Exchange Carrier for the last mile is currently the switched access tariff, converting to DSO channels using a gateway.

We'll understand why this will be a native VoIP connection in the future, and the role of Session Border Controllers.

Then we'll understand how a business system can connect to the PSTN using a gateway and PBX trunks, and the advantages of the newer SIP Trunking services for business to PSTN connection.

Course Lessons

1. Introduction + Carrier-LEC Connection via DSO
2. Carrier-LEC VoIP Interconnection
3. Session Border Controllers
4. Business -LEC PBX Trunks and Gateway
5. Softswitch Controlling the Gateway
6. SIP Trunking: Native VoIP Connections

Based on Teracom's famous Course 130, tuned and refined over the course of over 20 years of instructor-led training, you will gain career- and productivity-enhancing knowledge of how connections are made to carriers, both for business-PSTN connections and carrier-carrier connections.

Detailed Course Description ▾

On completion of this course, you will be able to explain

- How currently, the only way for a long-distance carrier to terminate a phone call on a LEC is via the switched-access tariff from the 1980s.
- What switched access means: channelized time division multiplexing and DSO channels

- How competitive carriers would prefer to terminate phone calls via native Voice over IP, i.e. in IP packets instead of DS0 channels
- What a Session Border Controller is, what they do and why they are used
- How channelized DS0 connections implemented with ISDN PRI carrying PBX trunks have been the standard choice for business to LEC connections in the past
- How a gateway is used to connect an in-building VoIP system to this kind of legacy channelized interface to the phone company
- How the gateway is controlled by the softswitch
- What SIP trunking is, and why it is rapidly replacing PBX trunks
- How SIP trunking eliminates the need for gateways
- How SIP trunking eliminates the need for expensive channelized circuits

Buying Choices ▾



Network Quality

MPLS, SLAs & CoS

Free Lesson 1: Introduction
and Virtual Circuit Concepts

Register



Course 2226 IP Network Quality: CoS, QoS, MPLS and SLAs

Virtual Circuit Concepts • MPLS Fundamentals & Jargon • Class of Service (CoS) • Service Level Agreement (SLA) • Traffic Profiles • Prioritization • Traffic Policing: "Throttling" • Diff-Serv and MPLS • 802.1P

IP Network Quality CoS, QoS, MPLS and Diff-Serv focuses on the network service provided by carriers to move packets containing voice, and how network traffic is identified, managed and prioritized, resulting in Class of Service offerings to meet Service Level Agreements.

You will learn how carriers use virtual circuits to manage flows of IP packets, and how MPLS is used to do this.

You will understand the idea of Differentiated Services: different transmission characteristics for different kinds of traffic, and how these are implemented as Classes of Service (CoS).

We'll cover Service Level Agreements and how "throttling" some users is sometimes necessary to ensure all users are getting the CoS they are paying for.

We'll cover the Quality of Service (QoS) mechanisms MPLS and 802.1P and how Classes of Service are implemented by routers.

Course Lessons

1. Course Introduction + Virtual Circuit Technologies
2. MPLS
3. Differentiated Services (Diff-Serv)
4. Service Level Agreements, Meters, Markers, Shapers and Droppers
5. Interworking Diff-Serv and MPLS
6. Using 802.1P for QoS
7. Implementing CoS: Queuing Techniques

Based on Teracom's famous Course 130, tuned and refined over the course of over 20 years of instructor-led training, you will gain career- and productivity-enhancing knowledge of network quality, how it is specified and implemented.

Detailed Course Description ▾

On completion of this course, you will be able to explain

- What a virtual circuit is
- How MPLS is used to implement virtual circuits
- What a Class of Service (CoS) is
- How MPLS is used to implement Differentiated Services, i.e. different Classes of Service for different traffic
- Expedited Forwarding
- What a Service Level Agreement (SLA) is
- How meters, markers, shapers and droppers are used to condition traffic streams and "throttle" or police specific traffic
- How 801.2P can also be used as a Quality of Service (QoS) mechanism
- Basic ideas how prioritization is actually implemented in a router

Buying Choices ▾

Invest in yourself with the CVA Certification Package!

Specifically designed for non-engineers, this certification will get you up to speed on all aspects of today's voice communications.

Get up to speed on all major topics, at your own pace. Understand the fundamentals, technologies, jargon, buzzwords and most importantly, the underlying ideas ... and how it all fits together.

Plus, get your Telecommunications Certification Organization (TCO) Certified VoIP Analyst (CVA) Certification to prove it!

[Shop Now](#)

[Learn about Team Training and Group Discounts](#)

What You Get With The CVA Certification Package

1. High-quality, up-to-date, comprehensive training

You will get a solid foundation of structured knowledge, delivered in our trademark "telecom for non-engineers" style. Cut through jargon to understand the fundamentals, technologies and buzzwords... and how it all fits together, in plain English.

2. The certification exam

Each course in the certification package has an associated exam, typically ten multiple-choice questions. You get unlimited repeats of the exam - which means guaranteed to pass. Plus, on achieving a passing grade on all six course exams:

3. Your certificate, suitable for framing

A full-color TCO Certificate suitable for framing is automatically awarded by the Learning Management System on completion of the required exams. It can be immediately printed on plain or textured paper on any color printer and framed by student as desired, with no shipping charges. It can also be attached to the electronic version of the student's CV. An original hard copy of your Certificate, signed and sealed, can be sent to you by mail for \$25 plus first-class mail cost.

4. A personalized Letter of Reference / Letter of Introduction

You also receive a personalized Letter of Reference / Letter of Introduction explaining the courses you took and the knowledge you have, and inviting anyone you give it to to contact us as a reference... excellent addition to your CV.

5. Right to display the TCO logo

You'll have the right to display a high-resolution copy of the TCO logo on your résumé, business card, LinkedIn profile, web page, blog, or email signature.

6. TCO Certification Designation

Passing the Certified VoIP Analyst, you will be able to state that you:

- "are a Certified VoIP Analyst",
- "hold a Certified VoIP Analyst certification from the Telecommunications Certification Organization",
- are "certified as a Telecommunications Network Specialist by the Telecommunications Certification Organization",
- are a "Telecommunications Certification Organization (TCO) Certified VoIP Analyst",
- are "TCO-Certified",

and may sign your name - "Richard Smith, CVA," or "Jane Smith, Certified VoIP Analyst"

7. A 30-day no-questions-asked 100% money-back guarantee.

If for any reason you change your mind, for 30 days after purchase you can get your money back. You have nothing to lose! – and a marketable skill to gain!

[Register for CVA](#)

Benefits of Certification For Individuals

One benefit of TCO certification is differentiating yourself from the rest of the crowd when applying for a job or angling for a promotion.

The knowledge you gain taking Teracom's Online Courses, confirmed with TCO Certification, is foundational knowledge in telecommunications, IP, networking and wireless: fundamental concepts, mainstream technologies, jargon, buzzwords, and the underlying ideas - and how it all fits together.

This type of knowledge and preparation makes you an ideal candidate to hire or promote to a task, as you will be able to build on your knowledge base to quickly get up to speed and work on a particular project - then have the versatility to work on subsequent projects.

TCO Certification will help demonstrate you have this skill... a desirable thought to have in your potential manager's mind.

Benefits of Certification For Employers

Teracom certification packages are an extremely cost-effective way of implementing consistent, comprehensive telecommunications and network technology fundamentals training, ensuring that both existing resources and new hires are up to the same speed, with a common vocabulary, framework and knowledge base.

The course exams provide concrete measurements of competency in key knowledge areas.

Management can view reports on the progress and results of team members, and export results to Excel with the click of a button. These reports identify skills strengths and deficiencies, and are a demonstration of meeting managerial objectives of team building and return on investment.

Get this training for your whole team. The scalable myTeracom Learning Management System can register and manage all of your people through courses, exams and certificates.

For larger organizations, the courses and exams can also be licensed and deployed on your LMS.

Get started today to make this invaluable addition to your knowledge and skills!

Getting Your Certificate

Each course has a course exam, consisting of ten multiple-choice questions chosen at random from a pool and shuffled in order. Passing the course exams proves your knowledge of these topics and results in your certification.

Your Certificate and Letter of Reference / Letter of Introduction will be immediately available for download from your Dashboard in the myTeracom Learning Management System. You may also order a signed and sealed Certificate by airmail.

Teracom's exclusive Unlimited Plan allows you unlimited repeats courses and exams with no expiry – which means guaranteed to get your certificate if you're willing to learn, plus jump in and out of courses and refresh your knowledge anytime in the future.



Invest in yourself

Implement a major career-enhancing upgrade to your knowledge, or prepare for a job in the telecommunications business.

Get the knowledge you need

Understand telecom, datacom and networking fundamentals, jargon, buzzwords, technologies and standard practices... and how it all fits together.

Benefit from decades of experience

with courses covering all major topics, right up to date, in clear lessons logically organized to deliver structured knowledge that lasts a lifetime.

Interactive lessons

rich with photographs, video and graphics make this self-paced learning enjoyable.

Teracom Advantages

- **Proven courses used by the biggest telecom carriers to train their employees**

These courses are the same courses used by the biggest telecom carriers in the business to train their employees - constantly updated to deliver the core technical knowledge required in the telecom business today.

This is the best quality training of its kind available.

- **GSA Schedule**

Teracom online courses and certification packages are on our US Government supply contract... which took two years and a 200-page application... so you know you are getting quality.

- **100% Money-Back Guarantee**

You are protected by Teracom's 30-day, no-questions-asked, 100% money-back guarantee.

- **Career-enhancing knowledge**

This training is an ideal way to implement a career-enhancing upgrade to your knowledge, or to prepare for a job in the telecommunications business.

- **Guaranteed to Pass with the Unlimited Plan**

Choose the Unlimited Plan for unlimited repeats of courses and exams - which means you can retake courses to refresh your knowledge in the future, and guaranteed to pass the exam if you're willing to learn. [unlimited plan info](#)

- **Self-paced training**

The courses and their lessons can be done at your own pace. There are no time limits for completing a lesson and moving to the next one. The courses may be done in any order.

- **Team training**

These courses are a highly cost-effective and consistent way for managers to get team members up to a common speed with measurable results. The myTeracom Learning Management System provides management reports showing your team's progress with a few clicks of the mouse.

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Learn about Team Training and Group Discounts

Technical Level and Intended Audience

Our training has been taught to wide acclaim across North America since 1992 and is designed for the non-engineering professional needing an overview and update, and for those new to the business needing to get up to speed quickly on telecommunications, data communications, IP, MPLS, wireless, networking, Voice over IP (VoIP) phone systems, SIP and security.

Our emphasis is conveying the key concept-level knowledge in plain English - which you can't get reading trade magazines or talking to vendors. We put in place a solid, valuable and long-lasting understanding. It is our goal to bust the buzzwords, demystify the jargon, and cut through the double-talk to present a clear, cohesive picture.

Based on Teracom's proven instructor-led training courses developed and refined over twenty years providing training for organizations including AT&T, Verizon, Bell Canada, Intel, Microsoft, Cisco, Qualcomm, the CIA, NSA, IRS, FAA, US Army, Navy, Marines and Air Force and hundreds of others, Teracom online courses are top-notch, top-quality and right up to date with the topics and knowledge you need.

The no-hassle training solution



Teracom's high-quality online courses are delivered in Google Chrome browser on any Windows or mac desktop or laptop, iPad, android tablet or phone with an internet connection... to any number of people, anywhere, anytime.

Ideal for self-paced training, courses are divided into lessons. Stay on a lesson for as long as you like, and move to the next lesson then write the course exam only when ready.

Team training packages with group discount and management reporting from our Learning Management System are very popular.

With the Unlimited Plan, you can repeat exams as needed, and retake courses anytime in the future. There are no time limits or expiration dates. 30-day 100% money-back guarantee.

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CTNS Cert Study Guide

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