

NEWSLETTER



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INSIDE THIS ISSUE

Competition for TV	1
Central Office Telecomm "New Lab"	1
"Who ya Gonna Call?"	2
"New" Convergence Technologies course	2
What's "New" at APT?	3
A Changing Environment	3
Telecomm Industry Jobs Forecast	5

Competition for TV

Has competition for TV finally arrived?

Telephone companies are leading the efforts towards new rules that will determine who can, and who will, provide TV to consumers. This translates to "competition" for cable TV companies.

Telephone companies have been looking to become providers of TV broadcasts in an environment where local governments control who provides this service to their areas. Under bills passed or being considered by state and federal legislators, this environment is about to change. Under these bills, control of Pay-TV franchises will switch from local municipal control to either state governments, or possibly to a national process. Telephone companies and their supporters are hailing this as pro-consumer legislation with the expectation of lower Pay-TV prices for video services. On June 8, 2006, the U.S. House of Representatives passed a bill calling for

a national franchise process, with a similar bill pending in the U.S. Senate. With video services expected to surge, debates as to whether all Internet traffic, including video, should be treated equally are sure to increase. Issues around how this question will be resolved, the roles of state vs. federal governments, and the question of how and where telephone companies must implement their services so that all consumers may benefit...not just wealthy areas, will continue to drive the competition debate. In the meantime, telephone companies are continuing to spend billions of dollars on their FTTx efforts in order to offer video and high-speed Internet over fiber optic connections. **APT offers excellent training in Convergent Technologies, including IPTV, and fiber optics communications.** ➤

Central Office Telecomm.

A new course from Applied Professional Training

Now considered "Essential Skills" in Qwest!

Well, maybe "New Course" is not quite right since we've been teaching Central Office Telecommunications for two years now. However, what we did do was add a "New" COT Lab to our course.

You still get a great review of the different types of hardware found in the Central Office environment, and you still leave class with comprehensive understanding of Central Office



Please see *COT* on page 4

For Telecomm and Power Safety Training...Who ya' Gonna Call?

At APT we are busy, which means we are growing. We have just expanded our Instructor staff to include permanent resident instructors in several cities all across the US. We are also looking for additional instructors to join our unparalleled staff.

What does this mean to you? It means whether we provide High Voltage Safety Training or Telecommunications Training, we offer flexible scheduling at your convenience and at your work location, and it means great training. We focus on both knowledge and skills.

“New” Convergent Technologies (CT) Course

On page 3 you'll read about the “New” and “Changing” environment of the telecomm industry. APT has written and is now offering a new course called **Convergent Technologies (CT)** that addresses the changes taking place within this new environment. This course provides you with comprehensive understanding of how IPTV, VoIP and High-Speed Internet services are being combined over new high-speed Fiber-to-the Neighborhood” (FTTN) networks. This course is intended for those interested in emerging IP Centric services and those looking to gain insight

“Gain comprehensive understanding of how IPTV, VoIP and High-Speed Internet services are being combined over new high-speed Fiber-to-the Neighborhood” (FTTN) networks”



Having Fun with VoIP Training

What hasn't changed is our focus on **“QUALITY”**. As always, APT strives to employ only highly qualified and experienced instructors. All members of our instructor staff are required to possess an excellent knowledge and experience base for the class content they teach, and they must also possess the excellent teaching skills required to transfer their knowledge to the students. They must themselves obtain certifications for the Certification Courses we teach. 🐾

as to how these technologies play a vital role in the great transition of Internet Protocol networking. This course includes:

- Interactive demonstrations using video server and proxy server
- Introduction of TV set containing MPEG4 Converter box connected to a TCP/IP LAN
- Simultaneous voice and video using IP connected telephones
- Convergence Applications
- Television Fundamentals & Broadcast Technologies
- Broadband TCP/IP for Real Time Services
- OSP Networking

Please see “New” CT Course on page 5

What's new at APT?

Well, we've certainly been busy. It seems our focus on **Quality Training** is really paying off to the point that we've even outgrown our office. With growth of our labs and the amount of hardware we must support, and the needs for additional administration space to support our growing staff, we have moved to our new permanent home on Palmer Way in Carlsbad, CA. Other efforts and changes include the following:

- Approval by the American Council on Education for college credits has been extended to include the following courses:
 - Advanced Data Technology
 - Central Office Telecommunications
 - Data Cabling
 - Voice over IP
 - Wireless Technologies

Most APT Telecom courses offer college credits

- We are in the process of becoming a "Degree Granting" school



Fiber Optics is the Future

- We are in the process of developing a "New and Improved" website
- We have grown our national footprint with classes now being held in Bell South areas
- We are active in the Industry through the following
 - Participation at SuperCom 2006
 - Participation at IEEE, (our President and CEO Steve Blume is an active Senior Member of the IEEE and participates on standards committees.
 - Participation with ETA; APT Director of Technology, gave a rousing presentation at the ETA Convention in Las Vegas
 - Participation in many regional CWA

Please see *What's New?* on page 4

A changing Environment

Wouldn't you love to know what exactly your future holds for you? Unfortunately, we're not all clairvoyant, so it's not always easy to see. However, we do all have one major thing going for us, and that's the fact that we can control the direction of our futures through choices we make.

What may not be apparent to many of you is the dynamics of our telecommunications environment. For the first time in my history in telecommunications, spanning 32 years, there is a shift taking place within the telecommunications industry. This shift involves a changing mindset within the industry where, for the first time, the focus is towards broadband IP Centric services over new packet data networks.

Why is this a major change? It is a major change because for the first time the industry is moving away from services provided over the old circuit switched "POTS" network. What we have known over the decades as voice "telephony" is now becoming an environment of Packet ATM switches and communications servers that inter-connect over fiber optics cables.

In our last Newsletter we made reference to the delivery of TV, movies and other entertainment, to customers via enhanced broadband connections using internet protocol. This, we said, defines "convergence"; where convergence, as it relates to the telcos, is the offering of these services via a

Please see *Changing Environment* on page 4

COT. from page 1

hardware, and how its interconnection provides all the communications available from your local telephone company.

What we've added is a focus on the transport of data from the Central Office via the T-1 transport facility. This focus includes a review of T-1 SF and ESF framing and how data is formatted into these frame structures. We then take this a step further with a comprehensive lab; each student is involved with building working DS0 and DS1 circuits and multiplexing these into a DS-3 signal through central office multiplexers using a real-world "Work Order" or "WORD Document" and

Changing Environment from page 3

service called IPTV. IPTV has quickly become the competitive strategy in competition with cable companies, wireless mobile phone providers and VoIP providers. Now, as you read the page 1 article on legislation to change the competitive landscape for video and TV services between the telcos and the cable companies, you can begin to see the shifts really happening. This brings us back to "your future" and the choices you make. Where will you fit in? What will be your role in the new environment? What choices will you make to determine what exactly your future will

What's New? from page 3

Conventions and all CWA National Conventions including 2006 in Las Vegas

- We provide low-voltage and high-voltage safety training; several major telcos and electric power utilities require this safety training for telco employees. ***APT is considered to be an industry leader in high and low voltage Safety Training*** ➤

tools. Students design and build the circuits using real-world Main Distribution Frame vertical and horizontal blocks, Central Office Repeaters, and real-world customer Network Interface Units. We then provide BERT test sets, such as the 211 T-BERD, and multi-meters to transmit and verify signals. Finally, with full understanding of the DS1 and DS0 signals, we introduce circuit troubles where students use real-world trouble-shooting techniques to resolve customer problems.

The Central Office Telecommunications (COT) course provides a great experience and path into the world of voice telephony and data communications techniques used in today's modern communications networks. ➤

be? You could decide to do nothing, which will get you exactly nowhere. Or, you could decide to take charge of your life to position yourself to be not just marketable, but actually in high demand. What does this mean? It means taking advantage of training dollars and training opportunities to obtain the skills you will need to make yourself competitive. The telcos have made their commitments; Fiber-to-the-Home; VDSL; MicroSoft powered, IP centered set-top boxes that integrate with wireless and high-speed Internet services. These are commitments already in progress. ***Will you make a commitment to be a part of the "new" environment?*** ➤

"APT is considered to be an industry leader in High Voltage Safety training."



“New” CT Course from page 2

- End User Equipment and Wiring
- IPTV Products
- Central Office Architecture
- Regulatory Issues
- Competitive Technologies
- Emerging Technologies

The question you can ask is: *“How will CT training benefit ME?”*

To this we offer the following:

1. Gain valuable knowledge and skills needed

Telecomm Industry Jobs Forecast (2004–2014)*

Since we’ve touched on the idea of the changing Telecomm Industry, we thought it might be appropriate to provide you with the comments from the U.S. Department of Labor, Bureau of Labor Statistics (BLS). The following is taken from the BLS website:

Job opportunities in the Radio and Telecommunications Equipment Installers and Repairers sector will vary by specialty. For example, good opportunities should be available for central office and PBX installers and repairers experienced in current technology, as the growing popularity of VoIP, expanded multimedia offerings such as video on demand, and other telecommunications services continue to place additional demand on telecommunications networks. These new services require high data transfer rates, which can be achieved only by installing new optical switching and routing equipment. Extending high-speed communications from central offices

to advance in the rapidly changing telecommunications industry

2. Gain valuable education that will allow you to speak intelligently about convergent technology and IP Centric Services

The CT course is designed as 40 hours of classroom instruction delivered over ten 4-hour sessions, but can be customized depending on client’s needs. Scheduling can also be customized and the course can be suitcased to the client’s location. ➤

to customers also will require the installation of more advanced switching and routing equipment. Whereas increased reliability and automation of switching equipment will limit opportunities, these effects will be somewhat offset by the demand for installation and upgrading of switching equipment.

Central office installers set up switches, cables, and other equipment in central offices. These locations are the hubs of a telecommunications network—they contain the switches and routers that direct packets

Please see *Jobs Forecast* on page 6

“Applicants with computer skills and postsecondary electronics training should have the best opportunities for radio and telecommunications equipment installer and repairer jobs”

* U.S. Department of Labor, Bureau of Labor Statistics;
www.bls.gov/oco/ocos188.htm

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Motto
*"If our students are
successful, then we are
successful"*

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Jobs Forecast from page 5

of information to their destinations. Although most telephone lines connecting houses to central offices and switching stations are still copper, the lines connecting these central hubs are fiber optic. Fiber optic lines have led to a revolution in switching equipment. The greatly increased transmission capacity of each line has allowed a few fiber optic lines to replace many copper lines. Packet switching equipment is evolving rapidly, ever increasing the amount of information that a single fiber optic line can carry. These switches and routers have the ability to transmit, process, amplify, and direct a massive amount of information. Installing and maintaining this equipment requires a high level of technical knowledge. Applicants with computer skills and postsecondary electronics training should have the best opportunities for radio and telecommunications equipment installer and repairer jobs.

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