Digital Video Over ATM (MPEG-2)

Technical Data

Class Overview

Digital video is here and its use is growing. There are many ways to produce digital video and many ways to transmit and receive it. ATM networks are now becoming the preferred alternative for many organizations.

This course will provide a clear understanding of the principles of digital video, the standards and the transmission alternatives. You'll learn how digital video works on ATM and discuss the advantages of transporting video over ATM. Finally, you'll focus on issues of service quality and potential impairments.

Course Features

What You Will Learn:

- fundamentals of digital video and the MPEG-2 standard
- fundamentals of ATM networks
- why ATM is the technology of choice
- how video is transported over ATM
- service quality, testing, and additional standards
- potential impairments and how to overcome them

Specifications

Course Length
Up to 2 Days

Audience
This course is aimed at network designers, operating engineers and managers, who are now developing digital video networks now, or who are considering digital video as part of their new networks. It will also benefit product designers and sales and service engineers, who are working in this area. Finally, it will benefit technically-oriented program managers who need to understand the benefits and limits of digital video.

Prerequisites
Fundamentals of ATM (H7211B opt. 100) and basic understanding of video technology and data networks.

Delivery Method
Dedicated

Format
Course content is 80% lecture and 20% demo (hands-on lab) to familiarize the student with the HP (BSTS) products and their application to running Digital Video over an ATM network.

HP Education Services: Your Key to Higher Productivity

Classroom Training Benefits

Experienced HP Instructors
Learn from an experienced HP instructor who is an specialist in using and applying test instrumentation to optimize and troubleshoot ATM and Digital Video networks.

Available at HP Classroom or Your Site
Classes can be arranged at one of HP's many learning facilities located across the country. Or , save travel expenses and time by organizing a dedicated class at your location.

Extensive Hands-on Practice
HP classroom training is characterized by extensive hands-on experience and interactive class discussion. HP classroom training pays off immediately because it is geared to real-world solutions

Comprehensive Student Materials
Copies of course materials are provided for future reference on the job.

Course Number: H7211B opt. 201 (Dedicated)

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Course Agenda

Television into the Next Millennia

- Digital broadcasting
- Network technology options
- The digital studio
- Video servers
- Technology decisions

ATM and Digital Video

- Integrating networks
- Why ATM?
- How ATM works
- Quality of service
- Unresolved issues

An Overview of MPEG-p

- MPEG compression process
  - discrete cosine transform
  - quantization and entropy coding
- Frame types
- MPEG audio
- Video implementation and optimization
- Scalability
- Levels and profiles
- Transport and program streams
- Digital video testing

Testing Digital Video

- Measuring power and interference
  - digital modulation
  - average power
  - peak power
  - interference
- New measures of signal quality
  - bit error rate (BER)
  - margin-to-critical BER
  - digital modulation: constellation and eye diagrams
  - modulation error

Compressed Video Standards

- Original MPEG
- DVB
- IEEE
- Grand Alliance
- ISO
- ITU-T

Video Transmission Impairments and Testing

- Analog impairments
- Digital video data structure
- Digital impairments
- MPEG encoding
- MPEG multiplexing
- Transport network impairments
- Set-top box impairments
- Digital measurements and instrumentation

Ordering Information

To order the Digital Video Over ATM (MPEG 2) (H7211B opt. 201) course in the U.S. call 1-800-HPCLASS (800-472-5277).

HP's Customer Registration Center can provide you with price, scheduling and enrollment information about customizing a course for your specific needs.

Outside the U.S., contact your nearest local HP sales office.

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