

# Introduction to IPTV

18 – 22 January 2016  
Johannesburg, South Africa



COMMONWEALTH  
TELECOMMUNICATIONS  
ORGANISATION



## Overview

The Internet Protocol Television (IPTV) training provides a detailed understanding of the (IPTV) technology, an IP-based technology used to deliver TV service.

For more information  
about this course, or to  
register, contact us on:  
**Tel:** +44 (0) 208 600 3800  
**Fax:** +44 (0) 208 600 3819  
**Email:** [h.muchando@cto.int](mailto:h.muchando@cto.int)

## OBJECTIVES

- Gain a better understanding of (IPTV) technologies, its services and operations.
- Discuss current and future applications in next generation networks.

## TARGET AUDIENCE

This course is designed for technicians and engineers from operators, cable TV networks and integrated media outlets who are considering IPTV services.

## COURSE OUTLINE

### Introduction to IPTV

#### Understanding the New Technology

- How IPTV systems work

#### IPTV Network Architecture

- Servers
- Signalling Gateways

#### Defining IPTV Services

##### Understanding TV Services

- IPTV Service Providers (IPTVSP)
- Managing the TV connections (downloading and streaming)
- Broadcasting IPTV - multicast versus unicast
- Switched digital video/channel selection
- Electronic Programming Guides (EPG)
- Interactive Programming Guides (IPG)
- Analogue Television Adapters (ATVA)
- Internet Protocol TV (IPTV)
- Video on Demand (VOD)
- Pay Per View (PPV)
- Multimedia computers
- Mobile phone TV
- Triple/quad play services

##### TV Formats and Encoding

- Assessing video quality
  - Objective/subjective video quality
- Performance characteristics
- Video formats
  - SDTV
  - oHDTV
- HDTV Resolutions
  - Video encoding standards
  - MPEG-1, MPEG-2, MPEG-4
  - H.264 video codec
  - H.264 profiles
  - Rate control strategies (CBR, VBR)

#### Security in IPTV Networks

- Restricting access with registration protocols
- Source security
- Firewall considerations

#### The Challenges of Delivering IPTV Successfully

- Content licensing and distribution rights
- Data transfer rate capability
- Media player compatibility
- Industry standards

## COURSE TRAINERS

### Rakesh Mehrotra

Rakesh holds a Master's degree in physics science with specialisation in electronics and communication and a PhD in application of semiconductor devices. He has published eleven research papers in professional research journals. Rakesh has worked at Tata Teleservices Ltd, which is one of the major telecom operators in Indian subcontinent, as a president and chief corporate regulatory officer. He succeeded in launching India's first Direct-to-Home platform. Rakesh has been a member of the Telecommunications Regulatory Authority of India and a key figure in establishing IIT Bombay Tata Tele Telecom Centre of Excellence, where he worked with Tata Institute of Fundamental Research. He was closely involved in the introduction of Mobile Number Portability (MNP) in India. In addition, Rakesh currently teaches telecommunication technology to undergraduate and post graduate students at a private engineering institute in India.

#### Who we are

The CTO is the oldest and largest Commonwealth organisation engaged in multilateral collaboration in the field of ICTs. Using in-house and partner experience, it supports members in integrating ICTs to deliver effective development interventions that emancipate, enrich, equalise and empower people within the Commonwealth and beyond.

#### What we do

The work of the CTO goes back to the Organisation's creation in 1901 as the Pacific Cable Board. Since then, the CTO has been at the centre of continuous and extensive international communications development funding, cooperation and assistance programmes. Since 1985, the Organisation has delivered to its members in Europe, the Caribbean, the Americas, Africa and Asia-Pacific over 3,760 bilateral and multilateral telecommunications and ICT capacity building projects in the form of policy, operational and regulatory training, and expert assistance. Moreover, the CTO has been at the forefront of generating cutting-edge knowledge through its research and consultancy services, as well as sharing ideas through its conferences and workshops held around the world. This long history as a development facilitator provides the Organisation with a unique and growing delivery capacity for ICT4D programmes and services.

#### Supporting ICT4D in the Commonwealth

The CTO seeks to work collaboratively with other Commonwealth bodies to build mutually beneficial synergies in the interests of its members. The CTO has a key role to play in leading ICT4D initiatives across the Commonwealth, and it is committed to working together with other Commonwealth entities to reduce overlap and replication of activities. The CTO welcomes the opportunity to offer secretariat support to any Commonwealth ICT initiatives that reflect the needs and interests of its members.

## Registration Form

### Personal Details

Mr/Mrs/Ms/Other \_\_\_\_\_ First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
 Job Title \_\_\_\_\_  
 Organisation \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ Postcode \_\_\_\_\_ Country \_\_\_\_\_  
 Tel. \_\_\_\_\_ Mobile \_\_\_\_\_ Fax \_\_\_\_\_  
 E-mail \_\_\_\_\_  
 Authorising Line Manager's Name \_\_\_\_\_  
 Authorising Line Manager's E-mail \_\_\_\_\_

Event ID: 8083 08 January 2016

### REGISTRATION DEADLINE

### 3 SIMPLE WAYS TO REGISTER!

Fill in and fax this form back at  
+44 20 8600 3819

Call the programme team at  
+44 20 8600 3800

E-mail the programme team at  
programmes@cto.int, quoting the course  
"Event ID" above.

### NEED HELP?

Call us now on +44 20 8600 3800  
or e-mail the Programmes team at  
programmes@cto.int

### Payment Options

1. Select Delegate Rate (please refer to the list of CTO members/PDT Partners provided overleaf)

	Standard Rate	Early Registration by: 04 December 2015
CTO Members	<input type="checkbox"/> £750	<input type="checkbox"/> £700
Others	<input type="checkbox"/> £1,150	<input type="checkbox"/> £1,100

2. Payment Mode (choose from either Invoice, Bank Transfer, Cheque, or Credit Card)

Invoice

Invoice me at the above address  
(Discounts do not apply, payment  
must be received by us prior to the above  
event's start date)

Bank Transfer

To: Coult's & Co., 440 Strand, London WC2R 0QS, UK  
A/c Name: CTO; A/c Number: 83675071  
Reference: GB72COUT18000208367507  
Sort Code: 18-00-02; Swift Code: COUT GB22

Cheque

Cheque enclosed,  
payable to "CTO HQ"

Credit Card: Visa / Mastercard (circle as appropriate)

Card Holder's Name \_\_\_\_\_

Card Holder's Billing Address (if different from above) \_\_\_\_\_

Card Number

Valid From       Expiry Date       3-digit security code on back of card

### Signature

Date \_\_\_\_\_ Name \_\_\_\_\_ Signature \_\_\_\_\_

### Additional Information

To help us improve our services to you and your organisation, please tell us more about you and your organisation.

#### Your role in the organisation

- Strategic/executive  
 Planning  
 Control  
 Operational

#### Your area of work in the organisation

- Business development  
 Corporate affairs  
 Customer service and care  
 Engineering and technical management  
 Financial, purchasing and investor relations  
 IT/IP management  
 Marketing and sales  
 Public relations and corporate communications  
 Regulatory and legal affairs  
 Telecoms network management  
 Human resources  
 Other

#### Your organisation type

- Government  
 Regulator  
 Operator  
 Manufacturer  
 Other

#### Your organisation's service areas

- Fixed network/services  
 Mobile/wireless network/services  
 Satellite network/services  
 Internet  
 Broadcasting  
 Value-added services  
 Support  
 Other services

### Summary Terms and Conditions

The CTO will endeavour, as can be reasonably expected, to ensure that the course is delivered to meet delegates' expectations. Registration is subject to availability and payment received by the deadline where specified, or else before the course start date, whichever applies. Dates may be subject to changes. Travel, accommodation, daily transportation to venue, subsistence and other costs are the sole responsibility of the delegate and are not included in the above fees. Applicants are responsible for their visa arrangements and other formalities wherever required. Course bookings may be cancelled at the discretion of the CTO or its partners. Applicants paying by bank transfer are responsible for bank charges and any other such costs and should ensure the exact amount in GBP Sterling is credited in the CTO bank account. Applicants requiring additional information prior to their booking should ensure they provide sufficient time before the booking deadline. Cancellation rules apply, as summarised below. For a full version of our Ethical Framework or our Terms and Conditions, please visit our website at [www.cto.int](http://www.cto.int)

### Cancellations / Refunds

For delegate cancellations/withdrawals, the following refund rules apply:  
 - 31 days or more prior to event: the full amount less a handling charge of 10% or a minimum of £55, whichever applies  
 - 30 days or less prior to event: no refund  
 For CTO cancellations/withdrawals, delegates are entitled to a 100% refund within 60 days of the withdrawal/cancellation.  
 Refunds will be made by bank transfer only.

### Data Protection / Privacy

The CTO does not sell, rent or lease its customer information to third parties. We may, from time to time, contact you on behalf of a third party/partner about a particular offering that may be of interest to you. In those cases, your unique personally identifiable information (e-mail, name, address, telephone number) is not transferred to the third party/partner. In addition, we may share your information with trusted partners to help us perform statistical analyses, send you by e-mail or postal mail, provide customer support, or arrange for deliveries or other such services. All such third parties are prohibited from using your personal information except to provide these services to the CTO and they are required to maintain the confidentiality of your information. For more information about our privacy policy, visit our website at [www.cto.int](http://www.cto.int).

Fax it back to +44 20 8600 3819, or return to the CTO at [programmes@cto.int](mailto:programmes@cto.int).