Register by 30th July 2010 for a 10% discount!

GSM Technologies
(2G, 2.5G, EDGE, GPRS)

2 - 6 August 2010
Gaborone, Botswana

CTO
COMMONWEALTH TELECOMMUNICATIONS ORGANISATION

Overview

This course will be delivered by a senior operations manager at BSNL, India's leading network operator.

The course introduces some of the most important aspects of mobile communication networks, radio transmission technologies and systems, from 2G, GPRS and EDGE to 3G.

This is a highly technical course aimed primarily at professionals in wireless technology management, but those coming from a PSTN background would also gain from attending. With a focus on network capabilities, the course will also be useful for those working on the development of applications and services. The course also includes a full module on OSS.

PDT

For more programmes and courses run by the PDT contact us at:
Tel: +44 (0) 208 600 3800 **Fax:** +44 (0) 208 600 3819 **Email:** programmes@cto.int

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Objectives

To train participants who have exposure to, and have worked in fixed access voice and data telecom networks, in mobile communication concepts and GSM technologies for provision of voice and data services by acquainting them with:

- Cellular concepts
- Physical architecture and functional description of the components and interfaces of the GSM Network
- Mobility
- Planning and engineering of the network
- OSS and customer service options
- Evolution path to GPRS, EDGE and 3G - the network architecture and functional modifications over 2G network

Expected outcome

At the end of the course participants will be able to:

- Identify the different components and interfaces of the GSM network architecture
- List the functions of the components of the network
- Explain the structure of the information flow and list the functions of the links in the network
- Explain mobility management in different scenarios
- Determine key steps in the planning and engineering of the network
- List the top level requirements of an OSS
- Explain the functioning of GSM network for data in GPRS, EDGE and 3G implementations
- Determine the requirements for the migration of a 2G network towards GPRS, EDGE and 3G

Target audience

The target audience is mainly focused on telecoms professionals such as engineers working in a GSM platform on a daily basis. The course will also target staff from the transmission, switching and data departments.

About the programme for development and training (PDT)

Managed by the CTO, the PDT is a unique low-cost membership programme providing needs-based professional training and capacity building courses on telecommunications policy, regulation, technologies and telecoms business management.

The PDT has delivered over 3600 bilateral training and consultancy projects, covering every aspect of the telecommunications industry, training over 35,000 professionals in 33 countries of the Commonwealth.

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Course outline

Introduction

- Evolution of mobile communications and implementations in North America and Europe
- Advantages of mobile communications
- Problems with the earlier generations of mobile communications
- Determination of 2G requirements and 2G implementations
- The GSM standard

Cellular concepts

- Frequency reuse and patterns of reuse
- C/I requirements
- Types of cells, multi-sector cells
- Handovers

Network architecture

- Network physical architecture (components and links)
- Functional description of the components
  - MSC, BSC, BTS, EIR, HLR, VLR
  - Link architecture - physical and logical channels
  - Functional description of channels

Mobile RF network

- Mobile RF principles
- Clutter, fading signal strength requirements
- BTS components
- Antenna requirements

Call and mobility management

- Call handling - outgoing and incoming to and from fixed access and mobile
- Scenarios for mobility
- Roaming

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Course outline

Planning and engineering of network

- GSM network optimization
- Interworking between GSM networks
- Introduction to 3G and its planning
- Traffic concepts - signalling, control, voice
- Allocation of physical and logical channels
- Frequency planning
- Determination of antenna requirements
- Use of planning tools
- BTS measurements and drive test

Mobile services

- Voice - prepaid, post-paid
- SMS
- VAS
- Data

OSS

- Service provisioning
- Mediation and billing
- Traffic parameters
- Coverage and congestion
- Call drops
- QoS parameters

Course leader

Sushil K. Mishra

Mr Sushil K Mishra is a telecom professional with nearly 23 years of experience in telecom project management, transmission system planning and development, data networks, operation and maintenance of telecom network. During these years, he has demonstrated professional excellence in:

- GSM project rollout
- O&M of GSM network (RF and Core)
- 2G and 3G network planning and roll-out
- RF optimization of GSM network
- BSNL MPLS (Multi-Protocol Label Switching) network operation and management
- Installation of transmission systems of OFC and microwave

He has been instrumental in roll-out of 2G and 3G GSM network in parts of eastern India. Apart from project roll-out in GSM and other radio systems, he has expertise in GSM Network operation and RF optimization. His analysis of network issues and the steps taken to improve the network has been recognized by the leadership of BSNL and was circulated to all circles of BSNL for adoption. He has also worked as a trainer at the Advanced Level Telecom Training Center, the apex training centre of India.

He has imparted training on computer networking, GSM and CDMA technologies as trainer in telecom technologies at ALTTC, in addition to delivering lectures at various other forums. He has a comprehensive understanding of networking concepts pertaining to security, IT, WAN protocols, networking devices administration and maintenance in multiplatform environments. He has a vast experience in managing the operation/maintenance of various telecom equipment, in reducing downtime and enhancing operational effectiveness of networks. He holds a Master of Business Administration and has been involved in marketing of telecom services to retail customers as well as enterprises. Sushil is an effective communicator with relationship management skills and the ability to relate to people at any level.

At present he is working as General Manager in BSNL, one of India's largest telecom service providers.

In partnership with:
BSNL (India)

About the CTO

The Commonwealth Telecommunications Organisation (CTO) is an international development partnership between Commonwealth and non-Commonwealth governments, business and civil society organisations.

It provides the international community with effective means to help bridge the digital divide and achieve social and economic development through the use of Information and Communication Technologies (ICT) in the specific areas of Telecommunications, IT, Broadcasting and the Internet.

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Registration form

GSM Technologies (2G, 2.5G, EDGE, GPRS)
2 - 6 August 2010, Gaborone, Botswana

ID: 6830

Please fill in this application form and fax it back to +44 208 600 3819 or return it to the CTO at the address below. Please use CAPITAL LETTERS.

Personal details

Mr/Mrs/Ms/Other ..... First name ..... Last name .....

Job title .....

Organisation .....

Address .....

City ..... Postcode ..... Country .....

Tel ..... Mobile ..... Fax .....

Email .....

Authorising line manager's name .....

Authorising line manager's email .....

Payment options

1) Select delegate rate

	Standard rate	Early Registration
CTO members	☐ £799	☐ 10%
PDT partners	☐ £799	☐ 10%
Others	☐ £1,199	☐ 10%

2) Payment mode (choose one option only)

☐ **Invoice**
Invoice me at the above address (Discounts do not apply, payment must be received by us prior to event).

☐ **Cheque**
Cheque enclosed, payable to "CTO HQ"

☐ **Bank transfer**
Make payments to: Coutts & Co.
440 Strand, London, WC2R 0QS, UK
A/C Name: CTO; A/C Number 083675071
Bank Sort Code :18-00-02
SWIFT Code: COUT GB22
IBAN Reference: GB72COUT18000208367507

☐ Credit Card: Visa / Mastercard (delete 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 |_|_|_|

Signature

Date ..... Name ..... Signature .....

Additional information

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

REGISTRATION DEADLINE

30 July 2010

3 SIMPLE WAYS TO REGISTER

Fill in and fax this form back to **+44 208 600 3819**

Call the programme team at **+44 208 600 3800**

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

EARLY REGISTRATION DISCOUNT

45 days prior to start of event

NEED HELP?

Call us now on +44 208 600 3800 or e-mail the programme team at programmes@cto.int

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 for each course. 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 Terms and Conditions, please visit our website at 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 (email, 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

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