



The Knowledge Network

THE 4TH INTERNATIONAL TELECOM SYNC FORUM ITSF 2006

<http://conferences.theiet.org/itsf>

14 – 16 NOVEMBER 2006
The Corinthia Towers Hotel, Prague, Czech Republic

KEY BENEFITS

- Get an update on the latest changes in the ITU Standards for telecom network time and timing
- Learn the way forward for synchronising next generation networks including cutting edge applications such as IPTV
- Discuss the latest case studies and real world applications where the critical aspects of time and timing can really impact network profitability
- Interact with the international thought leaders on network time, timing and synchronisation

REGISTER BEFORE
FRIDAY, 6 OCTOBER
2006 TO GAIN A
DISCOUNT OF £50

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WHO SHOULD ATTEND?

ITSF 2006 will present a unique opportunity to share knowledge and network with the experts in the field from all areas of synchronisation and is a must for:

- Network designers, planners and architects
- Service and support engineers
- Core and access network strategists
- Transmission planners
- Sync and standards specialists
- Equipment designers
- Network operators
- Managers of network operations
- Product designers of clock recovery circuits and phase locked loops

SPEAKERS INCLUDE

Conference Chairman

Charles Curry

Managing Director, Chronos Technology, UK

Mike Gilson

Lead Technology Consultant, BT, UK

Jean-Loup Ferrant

Synchronisation Expert, Alcatel, France

Dr Ghani Abbas

International Standards Manager, Ericsson, UK

Dr Mike Garvey

Chief Technology Officer, Symmetricom, USA

Dr Marc Weiss

Telecom Sync and GPS Expert, NIST, USA

Michael Mayer

Network Timing and Synchronization Standards Specialist, Nortel, Canada

Dave Tonks

Principal Engineer, Semtech, UK

Dominik Schneuwly

Senior Engineer, Oscilloquartz, Switzerland

Tony Flavin

Core Networks Engineering Manager, BT, UK

Stefano Ruffini

Synchronisation Expert, Ericsson, Italy

Silvana Rodrigues

System Architect, Zarlink Semiconductor, Canada

Stewart Bryant

Technical Leader, Cisco Systems, UK

Michel Ouellette

System Architect, Nortel, Canada

Phil Mann

VP EMEA, Symmetricom, USA

The Institution of Engineering and Technology

On 31 March 2006, the IEE and IIE formed a new organisation, the Institution of Engineering and Technology. The Institution welcomes involvement from and communication between all sectors of science, engineering and technology and places you at the heart of a global community of more than 150,000 engineers and technologists.

THE 4TH INTERNATIONAL TELECOM SYNC FORUM

ITSF 2006

INTRODUCTION

A global technological revolution is currently underway in the telecommunications industry, the like of which has not been seen since black and white TV evolved to colour in the 1960's. During the summer of 2005, BT announced the intention to migrate its UK national network to an all IP or packet based infrastructure. Many of the world's Telco's will have to follow suit if they are to maintain their cost competitiveness as major industrial users demand greater capacity with more flexible and less expensive bandwidth.

As the access layer transmission medium of these national networks evolves to packet based rather than constant bit rate technology what will be the impact on those services which "expect" constant traffic timing in order to operate effectively?

One of the largest and most vulnerable applications will be that of the wireless operators who require extremely good time and timing quality at the network edge. Whether they offer GSM, 3G, 4G, WiMax or TETRA services, if the packet revolution is unable to deliver the requisite quality of sync to the network edge many applications will fail to meet their expectations of cost and competitiveness.

How can these applications make themselves independent of sync from their leased line supplier? Should they adopt a GPS only solution with its inherent vulnerability to jamming and interference? As far as leased lines are concerned and inherent and embedded sync – it will be a case of buyer beware or lose your competitiveness.

Proponents of novel in-band timing solutions, who clashed with traditionalists at the IET, Savoy Place, London, during ITSF05 met again at the Workshop on Synchronisation in Telecommunications Systems (WSTS06) in Boulder, Colorado this spring and will reconvene in Prague in the autumn of 2006.

Traditionalists want to bring a change into the Standards and G.8261 has now been consented within the ITU proposing (in addition to in-band timing solutions) a revolutionary synchronous physical layer within the Ethernet.

By the time ITSF 2006 takes place the entire telecommunications synchronisation world may have been turned upside down. If you are a professional in the telecoms sector with an interest in linking technology to quality of service, can you afford not to be there?

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THE INSTITUTION OF ENGINEERING AND
TECHNOLOGY COMMUNICATION
NETWORKS & SERVICES NETWORK

www.iee.org/pn/communications

PROGRAMME

TUESDAY 14 NOVEMBER 2006

WORKSHOP

- 13:00 **Welcome Address from the Conference Chairman**
Charles Curry
Managing Director
Chronos Technology, UK
- Introduction from the Workshop Chairman**
Chris Farrow
Technical Services Manager
Chronos Technology, UK
- 13:10 **Quartz Oscillators and Phase Locked Loops**
Dominik Schneuwly
Senior Engineer
Oscilloquartz, Switzerland
- 13:40 **Atomic Frequency Standards**
Dr Mike Garvey
Chief Technology Officer
Symmetricom, USA
- 14:10 **Update on the Galileo Programme**
Dr Stefan Bedrich
Head of Satellite Navigation Department
Kayser Threde, Germany
- 14:40 **GPS Current Status & Future Enhancements**
Dr Marc Weiss
Telecom Sync and GPS Expert
NIST, USA
- 15:10 Refreshments
- 15:30 **Time & Timing Measurement Fundamentals – MTIE/TDEV**
Lee Cosart
Senior Technologist
Symmetricom, USA
- 16:00 **Synchronisation in Telecom Networks**
Jean-Loup Ferrant
Synchronisation Expert
Alcatel, France
- 16:30 **Traditional Synchronisation Standards Overview**
Silvana Rodrigues
System Architect
Zarlink Semiconductor, Canada
- 17:00 Close of Workshop

WEDNESDAY 15 NOVEMBER 2006

CONFERENCE DAY 1

SESSION 1 – Introduction and Welcome

- 08:30 **Welcome from the Conference Chairman**
Charles Curry
Managing Director
Chronos Technology, UK
- 09:05 **Telecoms in the Czech Republic**
Richard Stonavsk
Head of Regulatory Affairs
T-Mobile, Czech Republic

SESSION 2 – Sync in Next Generation Networks

- 09:30 **Introduction from the Session Chairman**
Mike Gilson
Lead Technology Consultant
BT, UK
- 09:35 **Synchronisation Principles for Packet Networks**
Dominik Schneuwly
Senior Engineer
Oscilloquartz, Switzerland
- 10:00 **The New Timing Standard for Packet Networks G.8261**
Stefano Ruffini
Synchronisation Expert
Ericsson, Italy
- 10:25 Refreshments
- 10:45 **Functional Modelling for Synchronisation Networks**
Michael Mayer
Network Timing and Synchronization Standards Specialist
Nortel, Canada
- 11:10 **Layer 1 Synchronous Ethernet**
Mike Gilson
Lead Technology Consultant
BT, UK
- Tony Flavin**
Lead Technology Consultant
BT, UK
- 11:35 **Latest Developments with the IEEE-1588 Standard**
Dave Tonks
Principal Engineer
Semtech, UK
- 12:00 **Layer 2 Sync in Packet Networks**
Ron Cohen
Chief Technology Officer
Resolute Networks, Israel

12:25 Lunch

SESSION 2 – Sync in Next Generation Networks (Continued)

- 13:25 **Introduction from the Session Chairman**
Dave Tonks
Principal Engineer
Semtech, UK
- 13:30 **Sync in Packet Access Products**
Stewart Bryant
Technical Leader
Cisco Systems, UK
- 13:55 **Fixed Line Revolution – BT 21CN Project**
Mike Gilson
Lead Technology Consultant
BT, UK

- 14:20 **The Mobile Perspective**
Brian Mason
Transmission Support Manager
T-Mobile, UK

SESSION 3 – Applications and Services

- 14:45 **Introduction from the Session Chairman**
Dominik Schneuwly
Senior Engineer
Oscilloquartz, Switzerland
- 15:50 **Synchronisation in GSM & 3G Networks**
Martin Kingston
Principal Engineer
Orange, UK
- 15:15 **Synchronisation for Wi-Max Networks**
Alain Michaud
OEM Business Development Manager
Oscilloquartz, Switzerland
- 15:40 Refreshments
- 16:00 **Timing Requirements in IPTV Solutions**
Vandana Upadhyay
Senior Director Business Development
Symmetricom, USA
- 16:25 **Time & Timing in Defence Applications**
Mark O'Dare
Senior Network Analyst
EADS, UK
- 16:50 **Panel Discussion**
Sync in Next Generation Networks - the Way Forward
Chairman: Tony Flavin
Core Networks Engineering Manager
BT, UK
- Stewart Bryant**
Technical Leader
Cisco Systems, UK
- Ron Cohen**
Chief Technology Officer
Resolute Networks, Israel
- Martin Kingston**
Principal Engineer
Orange, UK
- Stefano Ruffini**
Synchronisation Expert
Ericsson, Italy
- Dave Tonks**
Principal Engineer
Semtech, UK
- Vandana Upadhyay**
Senior Director Business Development
Symmetricom, USA
- 18:00 Close of Day 1

THURSDAY 16 NOVEMBER 2006

CONFERENCE DAY 2

SESSION 4 – Sync Testing, Test Results, Test Solutions, Case Studies

- 08:30 Introduction from the Session Chairman
Jean-Loup Ferrant
Synchronisation Expert
Alcatel, France
- 08:35 24x7 Sync Monitoring Case Studies
Chris Farrow
Technical Services Manager
Chronos Technology, UK
- 09:00 Timing Measurements in Packet Networks
Lee Cosart
Senior Technologist
Symmetricom, USA
- 09:25 Investigation and testing of Layer 2 Timing Distribution using Ethernet Provider Backbone Transport (PBT)
Michel Ouellette
System Architect
Nortel, Canada
- 09:50 Jitter and Wander Testing in High-Speed Telecom Networks
Andreas Alpert
Senior Product Manager
JDSU Communications Test & Measurement, Germany
- 10:15 Validating Real-Time IP Services through Pre-Deployment Testing
Kevin Przybocki
Co-founder
Anue Systems, USA

10:40 Refreshments

SESSION 4 – Sync Testing, Test Results, Test Solutions, Case Studies (Continued)

- 11:00 Introduction from the Session Chairman
Chris Farrow
Technical Services Manager
Chronos Technology, UK
- 11:05 The Need for Immunity, Transfer & Availability Standards
Charles Curry
Managing Director
Chronos Technology, UK
- 11:30 Test Processes in the G.8261 Standards
Tim Frost
System Architect
Zarlink Semiconductor, UK
- 11:55 Synchronous Ethernet for Next-Generation Metro Ethernet Networks
Michel Ouellette
System Architect
Nortel, Canada

- 12:20 More Type Approval Testing for NGNs
Jean-Loup Ferrant
Synchronisation Expert
Alcatel, France

12:45 Lunch

SESSION 5 – Sync, Triple Play and the Future

- 13:45 Introduction from the Session Chairman
Silvana Rodrigues
System Architect
Zarlink Semiconductor, Canada

- 13:50 Synchronisation Issues for IP-based Multimedia
Hugh Melvin
Lecturer/Researcher
National University of Ireland, Galway, Ireland
- 14:15 Intranode Timing for Triple Play Solutions Perspective from Telecom's ITU G.tti, and Cable's DOCSIS 3
George Zampetti
Chief Scientist
Symmetricom, USA
- 14:40 Upcoming Wireline Operators Challenge On Synchronisation
Laurent Montini
Consulting Engineer
Cisco Systems Europe, France
- 15:05 Timing and Synchronisation Performance of IEEE 802.1AS and its Application in Audio/Video Bridging (AVB) and Beyond
Kees den Hollander
Samsung Advanced Institute of Technology, Korea
- Dr Geoffrey Garner**
Senior Researcher
Samsung Advanced Institute of Technology, USA
- 15:30 Sync Requirements for Wireline and Wireless Convergence
Dr Ghani Abbas
International Standards Manager
Ericsson, UK
- 15:55 Refreshments
- 16:15 Panel Discussion
Do We Really Need Sync? The Business Case for Sync for Telecom Executives
Chairman: **Phil Mann**
VP EMEA
Symmetricom, USA
- Dr Ghani Abbas**
International Standards Manager
Ericsson, UK
- Charles Curry**
Managing Director
Chronos Technology, UK
- Tim Frost**
System Architect
Zarlink Semiconductor, UK
- Laurent Montini**
Consulting Engineer
Cisco Systems Europe, France
- Michel Ouellette**
System Architect
Nortel, Canada
- George Zampetti**
Chief Scientist
Symmetricom, USA
- 17:15 Chairman's Closing Words
Charles Curry
Managing Director
Chronos Technology, UK
- 17:30 Close of Conference

REGISTER BEFORE
FRIDAY, 6 OCTOBER 2006
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CONDITIONS OF BOOKING

Forms should be received no later than Tuesday, 7 November 2006. Please note that reservations cannot be made by telephone. All participants registering less than one week before the date of the event are advised to bring a copy of their registration form with them.

CANCELLATION

In the event of cancellation and provided that written notice is received seven days prior to the event, a refund of 50% of the total fee will be made. If no notice of cancellation is received, no refund can be made. The Institution of Engineering and Technology reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. Details of event changes or cancellations are available by phoning +44 (0)1438 765 648.

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 3 Post: Finance Dept, The Institution of Engineering and Technology,
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14 – 16 November 2006
 The Corinthia Towers Hotel
 Prague, Czech Republic

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One person per form (forms may be photocopied). All fields are mandatory.

Title	First Name(s)	Surname
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2. EVENT REGISTRATION FEES

Registration fees include attendance at the sessions, a copy of the CD-ROM, morning and afternoon refreshments, lunch, attendance at the ice-breaker and conference dinner. Czech VAT will be charged at the rate of 19%.

MEMBER FEES			
MEMBER FEE	CHARGE PER PERSON	£	P
Forum Early Bird Registration (registration on or before 6/10/06)	£475.00 (+ £90.25 VAT = £565.25)		
Forum Standard Registration (registration after 6/10/06)	£525.00 (+ £99.75 VAT = £624.75)		
Workshop Registration	£160.00 (+ £30.40 VAT = £190.40)		
Additional Dinner Guest Place	£50.00 (+ £9.50 VAT = £59.50)		
	TOTAL REMITTANCE		

NON MEMBER FEES			
NON MEMBER FEE	CHARGE PER PERSON	£	P
Forum Early Bird Registration (registration on or before 6/10/06)	£575.00 (+ £109.25 VAT = £684.25)		
Forum Standard Registration (registration after 6/10/06)	£645.00 (+ £122.55 VAT = £767.55)		
Workshop Registration	£195.00 (+ £37.05 VAT = £232.05)		
Additional Dinner Guest Place	£50.00 (+ £9.50 VAT = £59.50)		
	TOTAL REMITTANCE		

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ITSF 2006 Organisers

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| 4. A Drinks Reception (Two Available) | £4,500 |
| 5. Delegate Bags | £4,000 |
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| 8. Pads and Pens for Delegates | £2,000 |
| 9. The ITSF 2006 Website | £2,000 |
| 10. A Booth Exhibitor | £3,000 |
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For details of these packages, or to tailor your own to suit your marketing requirements and budget, please contact:

Natalia Westcombe
Group Manager
The Institution of Engineering and Technology
Tel: +44 (0) 1438 767341
Email: nwestcombe@theiet.org
Web: <http://conferences.theiet.org/itsf>

Further information is available at
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FORTHCOMING EVENTS

Wireless Sensor Networks Conference

4 December 2006, London, UK

www.iee.org/Events/sensornetworks.cfm

Secure Mobile Communications Forum

5 December 2006, London, UK

www.iee.org/Events/securemobilecomms.cfm

Next Generation Fixed Networks Conference

6 December 2006, London, UK

www.iee.org/Events/nextgenerationfixed.cfm

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Hertfordshire, SG1 2AY, UK
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