



## Introduction to JTIDS/MIDS Link 16

**13-14 November 2008**

**Presenter: Graham Priestnall,  
SyntheSys Systems Engineers**

**Intercontinental Hotel, Wellington, New Zealand**

### Teaching Arrangements

The course will be conducted from 9.00am to 5.00pm. Morning tea will be available at approximately 10.00am to 10.30am, lunch from 12.30pm to 1.30pm and afternoon tea at approximately 3.00pm to 3.30pm.

**Attendees will also receive a copy of the manual 'An Introduction to JTIDS/MIDS Link 16' plus a CD containing the course presentations.**

**Registration Fee:  
AU\$1320 (including GST)**

Group and PhD student discounts available. Please enquire.

### How to Register

To register fill out the registration form (overleaf) and

- fax it to +61-8-8302-3115
- or
- scan and email it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au)

### Cancellation Policy

At least **4 weeks** notice is required for cancellation of a place in a short course for full reimbursement. If cancellation is later than 4 weeks then the place can either be given to another person or the registrant can be provided with a credit towards other NICTA training.

For details of further courses please see our web site:  
[www.nicta.com.au/short\\_courses](http://www.nicta.com.au/short_courses)  
or contact the NICTA Industry Education Manager.

### About this course

Although widely used for some time throughout the US and NATO, this TDL is still seen as the future for Air Defence Command and Control Operations for the foreseeable future. This user/operator orientated course covers the basics such as TDMA, Architecture and Link 16 messages as well as the more operational aspects such as employment methods and network management. Interoperability and Weapons Management are also covered.

**Target Audience:** This course has been developed for military, government and defence industry representatives who are involved in the definition, operation, support, management and provision of Link 16 systems. The course includes both an operator and engineering perspective to the establishment and management of effective Link 16 networks.

### Brief Course Outline

- **Introduction to JTIDS/MIDS Link 16:** Data Link Transmission Types; Comparison of other Data Links; The Requirement.
- **JTIDS/MIDS Architecture:** Time Division Multiple Access; Time Slots; Recurrence Rate; Time Slot Allocation.
- **Time Slot Structure:** Time Slot Structure; JTIDS / MIDS Frequencies; Message Packing; Message Structure; Access Modes;
- **JTIDS/MIDS Networks:** Nets and Networks; Network Participation Groups (NPGs); Network Structures; Demonstration of Link 16 Net;
- **Signal Processing:** Encryption; Secure Data Unit; Error Correction; Cyclic Code Shift Keying; Continuous Phase Shift Modulation;
- **Relay:** Types of Relay; Relay Status;
- **Relative Navigation (RelNav):** Geodetic and Relative Grid; Positional Quality; The RelNav Process;
- **JTIDS/MIDS Hardware:** Class 1 Terminal; Class 2 Terminals; MIDS Low Volume Terminal (LVT); Fighter Data Link (FDL); AN / URC-138; Joint Tactical Radio System (JTRS);
- **JTIDS/MIDS Synchronisation:** External Time Reference Network (ETRN) and System; Time Reference Network (STRN); Time Quality; Joining a Network; Active and Passive Synchronisation;
- **JTIDS/MIDS Surveillance Data Exchange and Track Management:** Data Environments and Elements; Data Exchange Functions; Data Management Protocols;
- **JTIDS/MIDS Interoperability:** Levels of Interoperability; Advancing Interoperability; Multi-Link Operations;
- **Weapons Management:** Weapons Coordination and Management; Control; NPG Usage; C2/Non-C2 exchange; Uplink and Backlink; Receipt Compliance; Non-C2 use of the Surveillance picture;
- **Frequency Clearance Agreements:** Time Slot Duty Factor; Electro Magnetic Compatibility; Contents of Agreements;
- **Network Design:** Covers the 11 stages of producing a network; Time Slot Map Creation; Demonstration of Link 16 Network;
- **Network Management:** Network Planning; Network Design; Pre-Mission Planning; Initialisation and Operations; Operational Network Management; Data Recording and Analysis.

### About SyntheSys

**SyntheSys Systems Engineers** is a specialist training and consultancy company working in the field of military tactical data links (TDLs). With over 20 years of TDL experience, SyntheSys provides independent, up to date and operationally relevant TDL training. SyntheSys consultants are either highly qualified systems engineers, or former military operational experts with many years of TDL experience. SyntheSys is recognised as a leader in the field of Link 16 training and consultancy both in the UK and Europe.

## About NICTA and Short Course Program

National ICT Australia (NICTA) is Australia's ICT Centre of Excellence and was established to drive innovation through high quality research, research training and technology transfer. As a world-class research institute NICTA uniquely combines excellence in research, education, commercialisation and collaboration. We are working to ensure that Australia is well placed to benefit from the significant opportunities that ICT research delivers.

NICTA is funded by the Australian Government as represented by the Department of Communications, Information Technology and the Arts and the Australian Research Council through *Backing Australia's Ability* and the ICT Centre of Excellence program. NICTA members are the Australian Capital Territory Government, the New South Wales Government, the University of New South Wales and the Australian National University.

NICTA short courses offer scientists, engineers and managers technical training with a leading edge in areas such as telecommunications, transport, security, defence, logistics, e-government, mining, finance and biotechnology.

There will be ample opportunities for discussion and questions and answers. Morning and afternoon tea/coffee and a light lunch will be provided. Extensive workshop materials will be made available to participants.

### How to register

Please complete the registration form below and

- Fax it to +61-8-8302-3115 or
- Scan and email it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au)

**Send the form as soon as possible to secure your place.**

For further information please contact  
Anne-Marie Eliseo  
Industry Education Manager  
Telephone: +61-8-8302-3928  
Email: [anne-marie.eliseo@nicta.com.au](mailto:anne-marie.eliseo@nicta.com.au)

## Registration Form and Tax Invoice\* ABN 62 102 206 173

\*Upon completion of this form, including the relevant payment, this form will become a Tax Invoice.

**Please register me for Introduction to JTIDS / MIDS Link 16 on 13-14 November 2008.**

PLEASE PRINT

Date: \_\_\_\_\_

Title: \_\_\_\_\_ First Name: \_\_\_\_\_ Surname: \_\_\_\_\_

Position: \_\_\_\_\_ Organisation/Division: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Telephone No: \_\_\_\_\_ Facsimile No: \_\_\_\_\_ Email: \_\_\_\_\_

Dietary preference: \_\_\_\_\_

Course Fees:  Full fee: AU\$1320 (incl. GST)  
(Register before **Oct 30<sup>th</sup>, 2008.**)

### Method of Payment (please tick below):

Cheque (payable to National ICT Australia Ltd)  
Forward the cheque and a copy of THIS registration form to:  
Anne-Marie Eliseo, Industry Education Manager, NICTA, SPRI Bld, Mawson Lakes Boulevard, Mawson Lakes SA 5095, Australia.

Credit Card: Credit Card No.: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

Visa  Master Card Name on card: \_\_\_\_\_

Amount: AU\$ \_\_\_\_\_ Signature: \_\_\_\_\_  Tick if receipt required

Email address of card holder: \_\_\_\_\_

Electronic Funds Transfer  
**Please advise by email to Annette Van Bramer**  
[annette.vanbramer@nicta.com.au](mailto:annette.vanbramer@nicta.com.au)  
**when payment is made**

BANK	Commonwealth Bank of Australia
ACCOUNT NAME	National ICT Australia Limited
BSB	062 900
ACCOUNT NUMBER	1032 4576
REFERENCE NUMBER	131108

**FAX the form to + 61 – 8 – 8302 3115 or EMAIL it to [industryeducation@nicta.com.au](mailto:industryeducation@nicta.com.au)**

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- Phone NICTA's Industry Education Manager on +61 8 8302 3928.