

## CDCIN WINS PSRF CONTRACT



The Centre for Defence Communications and Information Networking has won a major grant from the South Australian Premier's Science and Research Fund (PSRF). The grant is towards the creation of a South Australian Networking Laboratory which will develop a strategic research capability in defence applications of mobile ad hoc networks.

This collaborative initiative among CDCIN at the University of Adelaide, the Institute of Telecommunications Research (ITR) at the University of South Australia, Tenix, Cisco and ASC is valued at \$2 million over three years - with \$900,000 provided by the PSRF.

Professors Michael Rumsewicz and Alex Grant, Directors of CDCIN and ITR, respectively, said SANLAB would enhance South Australia's reputation as the Defence State and support future needs of the industry. Dr Brenton Cooper, Principal Systems Engineer and Research Leader at Tenix, said "We are looking forward to enhancing our on-going relationship with South Australia's universities and exploring the application of new technologies to the tactical battlespace". SANLAB will commence operation in July 2008.

The South Australian government's PSRF was established to stimulate business investment in R&D that delivers strategic benefits to SA.

### *From the Director ...*

It's been an exciting period since the first newsletter came out, with a number of major activities starting up across our research and development, advanced engineering and education activities.

We are thrilled to have succeeded in winning a significant grant from the SA Government to establish the South Australian Networking Laboratory, in partnership with UniSA, Tenix, Cisco and ASC.

We have developed new relationships within Defence and industry by focusing on their needs and our core capabilities in network modelling, simulation and analysis.

We are delivering new courses in Defence Modelling and Simulation in Australia and the UK via a new partnership with Cranfield University.

And that's not all! Finally, I would like to personally invite everyone to join us for Defence Simulation Week at the National Wine Centre in Adelaide. It will be an outstanding week of Operational Analysis, Modelling and Simulation related events.

*Prof Michael Rumsewicz*



### DEF SIM WEEK IS FAST APPROACHING!

Defence Simulation Week in Adelaide is less than three weeks away. If you have not registered for the events of July 14-18, take advantage of the early-bird discount available for registrations before the 27<sup>th</sup> of June and register online by visiting <http://www.cdcin.adelaide.edu.au/DefSimWeek>.

The first event to kick-start the Defence Simulation Week is DEF.NET 2008, a one-day defence symposium on 'Operational Analysis, Modelling and Simulation'. An impressive constellation of keynote speakers from various Defence agencies will expand on the role of simulation in their organisations.

The symposium is followed by a dinner where His Excellency Rear Admiral Kevin Scarce, Governor of South Australia, will be the speaker. The platinum sponsor for DEF.NET 2008 is DefenceSA.

The second event is the OPNET Defence User Forum which will be held on the 15<sup>th</sup> of July. This is the first time that such a user forum has been convened in Australia. OPNET users from across Defence and Industry have a great opportunity to listen to and express their views to the representatives from OPNET Technologies and Tenfold Network Solutions.

The last three days of the week are devoted to a Defence Simulation Course that has been developed jointly by the University of Cranfield and Adelaide University. Titled 'Introduction to Modelling and Simulation of Defence Systems' and aimed at developers, managers and users of modelling and simulation in Defence and Industry, the course has the support of the Simulation Industry Association of Australia (SIAA).

Defence Simulation Week is a joint initiative between the University of Adelaide and Cranfield University. All three events of the week will be held at the National Wine Centre in Adelaide. For more information, please visit the above web-site or contact [Dushy Tissainayagam](mailto:Dushy.Tissainayagam) on 08 8303 3238.



**DEF.NET 2008**  
Defence Symposium on Operational Analysis, Modelling & Simulation

14 July 2008  
National Wine Centre, Adelaide  
9:00am - 5:00pm

Part of  
DEFENCE  
SIMULATION  
WEEK  
in Adelaide  
14-18 July 08

Visit [www.cdcin.adelaide.edu.au/DefSimWeek](http://www.cdcin.adelaide.edu.au/DefSimWeek)

## TEACHING OPNET

CDCIN has assisted the Faculty of Engineering, Computing and Mathematical Sciences (ECMS) at the University of Adelaide in introducing OPNET to its curriculum.

OPNET is a commercial off-the-shelf software product that can be used for modelling and simulating communication systems. It is used widely within the defence and telecommunication industries. It is also a great teaching tool that makes network design concepts easier to grasp.

OPNET has been introduced into the Systems Modelling and Simulation Course that is aimed at the Masters-level engineering students who wish to further their understanding of the role of simulation in engineering decision-making.

In the course, students have the option of choosing either Planimate or OPNET as their simulation tool. Planimate is a software product that is used for modelling work flows and industrial processes.

Dr David Green, the course coordinator, won a grant this year from the university to develop the relevant course materials so that OPNET can be better integrated with extant course material.

Dushy Tissainayagam, responsible for the OPNET content in the course, said "This is the second year that we have offered this to the students. Last year, we had IT Guru<sup>®</sup>. While it was a great introductory tool for learning about modelling and simulation, Modeler<sup>®</sup>, which we introduced this year, is the fully-functional software. Its breadth of features and depth of detail is truly amazing."

"OPNET Technologies, the software vendor in the US, has been very supportive of our initiative. Under their University Program, they granted us 30 licences last year and 60 licences this year. This is a testament to how they see us growing in the future", said Dushy.

CDCIN's Tim Staniford, who supervised the students' 3-month long group projects, said "Group projects allowed students to delve deep into a specific aspect of network simulation and develop their skills hands-on."

## CDCIN HOPS ONBOARD TIE IO PROJECT

CDCIN has signed an agreement with Tenfold Network Solutions for providing OPNET expertise to support Tenfold's project with the Tactical Information Exchange Integration Office (TIE IO) in DMO. Tenfold is the sole value-added reseller of OPNET products and services in Australia.

The TIE IO, on behalf of the Chief Information Officer Group, has been investigating potential uses of OPNET software. Allan Deacon, TIE IO's project manager, said "We are seeking to model the Defence Restricted Network and the Defence Secret Network using OPNET. This allows for analysis and 'what if' scenarios to be conducted without jeopardising the operational availability of either network."

Ben O'Loughlin, Tenfold's Managing Director, said "Having CDCIN resources available means that we can augment our team of OPNET experts with their trained and experienced staff, which gives us more flexibility and helps us accelerate the outcomes for Defence."

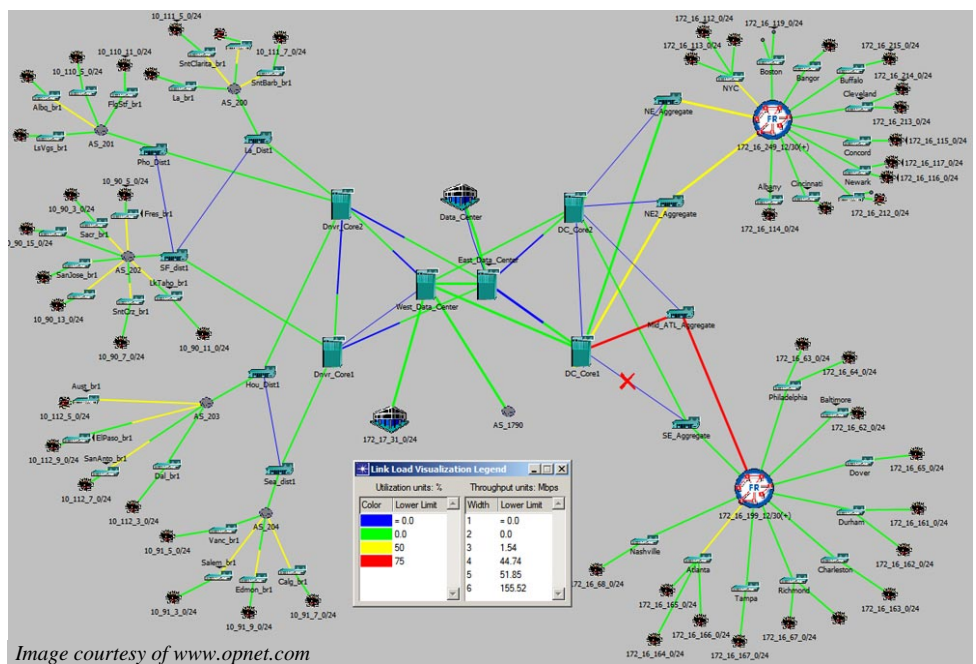


Image courtesy of www.opnet.com

## PHASE 2 OF AOD PROJECT COMPLETED

CDCIN has successfully completed the second milestone in its Net Warrior project with DSTO's Air Operations Division. The three-phased project seeks to deliver a realistic communications environment for the emulation of ADF's present and future tactical datalinks - an important capability step in DSTO's Net Warrior program.

CDCIN's Dr Andrew Coyle, the technical lead on the project, said "The second phase involved the integration of a GIS database with radio propagation algorithms and the development of quality of service provisions for various TADILs. We were able to demonstrate to our customer how switching from Link 16 to Link 22, for example, dramatically changes the nature of tactical communications. Models of proposed waveforms, such as WNW and TTNT, have also been included in the software package so that future tactical operations can be investigated.

Dr Arthur Filippidis, the Task Manager for the tactical information exchange components of Net Warrior at DSTO, said "The software capabilities developed by CDCIN will help the Airborne Mission Systems (AMS) branch within AOD to advance the R&D in Net Warrior".

"We faced a number of technical challenges at the start of this project; but we have successfully overcome them to the satisfaction of the customer. We look forward to completing Phase 3 now", said Andrew.

We welcome your feedback. Please email your comments or queries to [info@cdc.in.adelaide.edu.au](mailto:info@cdc.in.adelaide.edu.au)

This newsletter has been published by the Centre for Defence Communications and Information Networking at the University of Adelaide.