CSIRO demonstrates world's fastest wireless link

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Dr Y Jay Guo, Research Director, CSIRO Wireless Technologies Laboratory which developed the Six Gigabit wireless link. Credit: CSIRO ICT

The CSIRO ICT Centre today announced that it has achieved over six gigabits per second over a point to point wireless connection with the highest efficiency (2.4bits/s/Hz) ever achieved for such a system.

Multi-gigabit links operate at speeds that leave current wireless networks far behind. For example the entire works of Shakespeare could be transmitted over this six gigabit link in under seven thousandths of a second or a full DVD movie in just over three quarters of a second.

At the demonstration, the team will transmit 16 simultaneous streams of DVD quality video over a 250 metre link with no loss of quality or

delays. This impressive demonstration nevertheless only utilises one quarter of the capacity of the link.

Dr Jay Guo, Director of the Wireless Technologies Laboratory at CSIRO said that this breakthrough is just a first stage towards direct connections of up to 12 gigabits per second.

"The system is suitable for situations where a high speed link is needed but it is too expensive or logistically difficult to lay fibre, such as in congested urban environments, and across valleys and rivers," Dr Guo said.

"The system is also ideal for creating networks to meet short term needs such as emergencies and large events."

Helen Coonan, Minister for Communications, Information and Technology and the Arts said that this is great news for the future of broadband in Australia.

"What stands out for me is that other technologies have gone faster with lower efficiency or slower with higher efficiency but CSIRO has achieved both speed and efficiency in the one technology," Senator Coonan said.

Dr Geoff Garrett, CSIRO Chief Executive, said that the breakthrough, like many in CSIRO's proud history of achievement in wireless technologies, is the result of a great, very multi-disciplinary team of twenty researchers working together to solve major technical challenges.

"Just as with CSIRO's early work in radar, the Interscan aircraft landing system, its enormous contributions to radio astronomy and antenna design in general, and its pioneering wireless LAN research, this world first is the result of dedication, perseverance and technical excellence,"

Dr Garrett said.

The system operates at 85GHz in the millimetre-wave part of the electromagnetic spectrum (above 55 GHz) which offers the potential for these enormous speeds and is not yet congested by other uses.

Source: CSIRO Australia