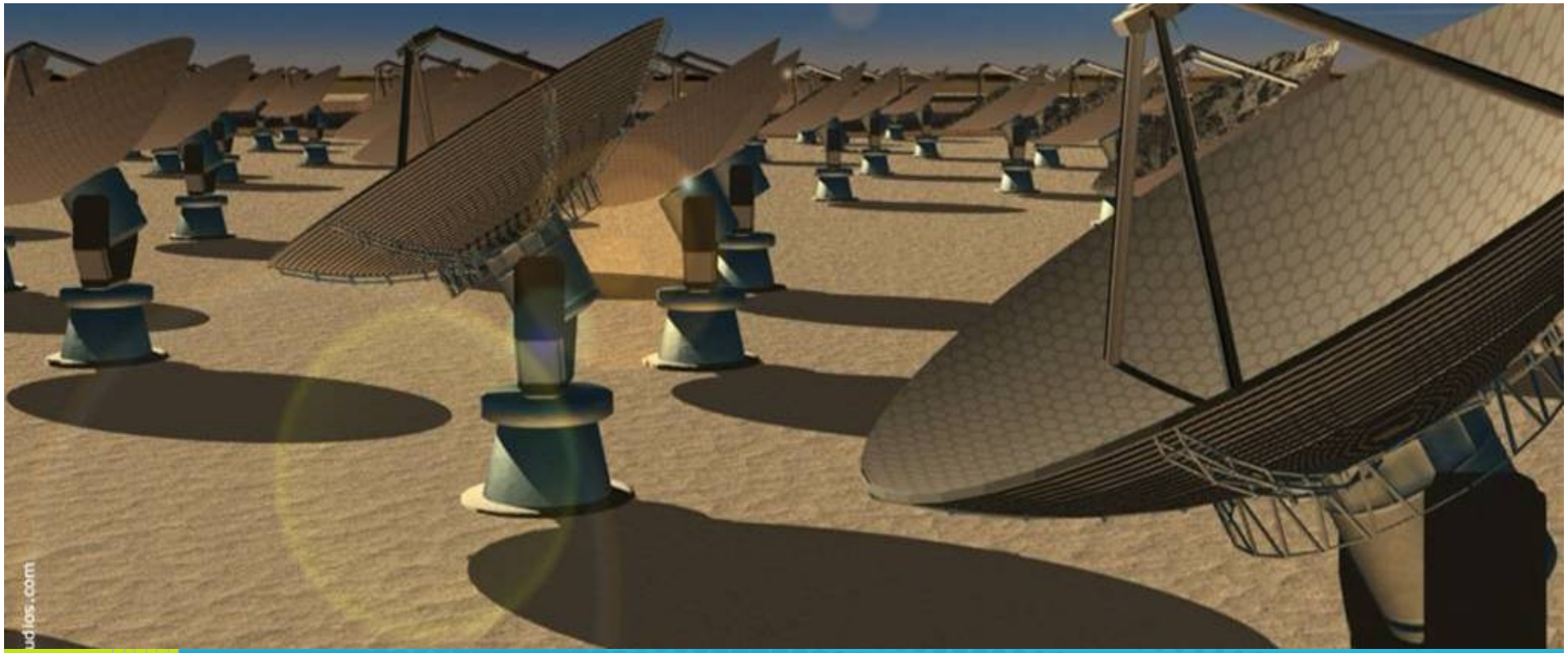

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E-VLBI report to EXPReS board
CSIRO & AARNet

CSIRO Australia Telescope National Facility
Update to EXPReS Board Meeting, Jan 09

CSIRO

EXPReS – CSIRO & AARNet

- **Formal milestones achieved in 2007.**
  - Demo in October 2007
- **Continue to work with EXPReS**
  - Technology developments e,g, software
  - International demos e.g IYA in Jan 2009
- **EXPReS acted as catalyst for e-VLBI developments in Australia**

E-VLBI in Australia

- **Australia and Asia-Pacific e-VLBI**
- **Local software e-VLBI correlators**
  - Swinburne DiFX software correlator
  - Ported to Parkes cluster
  - Demonstrated to 1 Gbps rates
- **Asia-Pacific demonstration – June 2008**
  - Correlation in Australia
  - 3 ATNF antennas + Kashima + Shanghai
  - 512 Mbps rates
- **Correlator at Curtin cluster in Perth**
  - All disk VLBI correlated at Curtin

Network connectivity - AARNet

- **E-VLBI connectivity provided by AARNet**
  - 2 x 1 GBps paid connections to 3 ATNF antennas
  - + 6 x 622 Mbps additional e-VLBI connections by AARNet
  - Flexible allocation of extra links
  - Moving to dynamic allocation in 2009
  - International lightpaths
- **Connectivity at Hobart (U Tasmania)**
  - 1 Gbps to telescope
  - 128 Mbps across strait to mainland
  - (2 x 155 Mbps links)
- **Lesson learned**
  - **** Work closely with your NREN ****
  - Could not achieve eVLBI without this collaboration

E-VLBI plans in Oz

- **E-VLBI demo to Curtin**
  - 11 March 2009
  - Demonstrate to AARNet board
  - Plan for 3 x 1 Gbps from ATNF telescopes
    - 6 x 512 Mbps on 622 Mbps circuits
  - + 128 Mbps to Hobart
  - On the 10 Gbps AARNet link to and within Perth

- **Plans for more international demos**
  - NZ new 12 m antenna
  - Brazil collaboration?
  - Southern hemisphere e-VLBI demo?

- **10 Gbps connectivity to telescopes**
  - Expensive end-point equipment
  - Test link from AARNet

ASKAP

- **Australian SKA Pathfinder**
  - Under construction
  - Fibre build to site – 400 km
  - Operational by 2011-12

- **Strong e-VLBI linkage**
  - VLBI work with ASKAP
  - VLBI work complementary to ASKAP
  - E-VLBI critical especially for transient follow-up