

QCIF capability statement for ANDS (NCRIS Pfc)



QCIF Ltd is a consortium that provides advanced computing, cyber-infrastructure and related e-research services in Queensland. Its founding members are six of the Queensland universities (UQ, QUT, Griffith, JCU, CQU and USQ). In 2006 the organisation changed its name from the long-used QPSF, founded in 2000. The mission of QCIF is to deploy and support advanced computing infrastructure and e-research services to support Queensland's Researchers and Industry. QCIF is one of the so-called PACs and has been actively involved in APAC and now Pfc, especially the ICI Component.

Data related R&D and Services:

Member universities host significant R&D projects relevant to data: UQ and JCU are major partners in DART and ARROW; QUT hosts the e-Law project and has led the APAC Portals project; UQ is a partner in APSR; UQ and JCU are active in tele-instrumentation (CIMA, etc) for materials characterisation. A number of these projects likely will be detailed in separate submissions to DEST. QCIF has staff dedicated to supporting data users in a "data grid" environment: for Storage Resource Broker (SRB) services; for data-visualisation, user interfaces and workflows in support of data analysis (at UQ, QUT, JCU and Griffith) and for new non-expert users (eg. archaeology and geography at UQ). Additionally QCIF has assisted AIMS in establishing Sensor Networks for monitoring the Great Barrier Reef. QCIF provides data support to IMOS (via AIMS & JCU), to Bioinformatics (ACB & QFAB) and to AusScope (via the former ACcESS MNRF); Griffith hosts the local mirror of the Ensembl bio-informatics database. QCIF hosts a large number Access Grid (AG) nodes for collaborative services, supports their operation nationally, and leads Australian AG development effort – this includes native sharing of data within AG sessions via SRB.

QCIF HPC and Data Resources:

QCIF's supercomputers are distributed across 4 university sites, comprising ~1,300 processors (out of ~5,000 nationally in PACs) with an aggregate peak speed of ~ 4 Tflops. QCIF hosts, at UQ, one the major research data archival systems nationally – the others being at ANU, Monash and CSIRO/BoM (with iVEC and SAPAC also installing systems in the near future). At UQ the StorageTek PowderHorn Tape archive currently holds 220TB of scientific data (with 1,200TB capacity), along with 15 TB disc, managed via SGI's DMF Hierarchical Storage Management software. A regional facility at JCU is a 95 TB StorageTek L180 Silo, also using DMF. These systems have been established with substantial university, QCIF and ARC LIEF funding. Currently QCIF is upgrading this data capacity at 100TB pa (tapes, matched ~10% disc), to keep pace with demand. Major data holdings are for: bio-informatics, spectroscopy (MRI and presently crystallography), geo-sciences, marine sciences, satellite imaging, health sciences (MRI, immunology), with data services to AusVO and social sciences.



www.qcif.edu.au

(B. Pailthorpe, CEO, June 8 2007)