

# Final Report

Capacity &amp; Community | Cotton Research &amp; Development Corporation

## *Part 1 - Summary Details*

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**CRDC Project Number:** CSP181**Project Title:** Enhancing Cotton Research Capacity at ACRI through Superior IT Support**Project Commencement Date:** 01/07/2006 **Project Completion Date:** 30/06/2007**Research Program:** Capacity & Community

## *Part 2 – Contact Details*

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## ***Part 3***

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### **1. Outline the background to the project.**

Tony Pfeiffer is an experienced network manager and is permanently based at ACRI to provide network and computing support. He is available to all people at ACRI to provide computing assistance when necessary. He works closely with CSIRO IT and NSW Department of Primary Industries to coordinate further investment in computing services and infrastructure at the site. Tony supports 63 CSIRO, 49 NSW DPI and 10 other users (including the Cotton CRC). The total number of computer terminals is around 150. Tony's service role, and the operating provided by this project supports:

- Backup of research data
- Support ACRI phone system
- Installing configuring notebooks/PC's
- Support of local specialised scientific equipment link to computers and network (e.g. weather station, HVI, cotton gin)
- Implementing CSIRO and NSW DPI IT policies
- Network and data security
- Integration of CSIRO and NSW DPI computing infrastructure (e.g. data servers, printers)
- Evaluation of new IT technologies for ACRI
- Supports and implements video conferencing facilities
- Occasional support for local growers and CRDC

In a science role Tony also contributes to the development of decision support mainly by providing:

- Testing hardware for delivery of decision support. For example he is involved in testing handheld technologies utilising broadband wireless technologies.
- Configuring servers for testing. Tony sets up operating systems in different computers so that decision support software can be tested in different computing environments
- Installing servers for websites (eg. Cotton CRC). Tony has been instrumental in keeping costs low in the setup and continual delivery of the CRC website through the CSIRO network.

## 2. List the project objectives and the extent to which these have been achieved.

| Obj No. | Objective                                                                             | Milestone                                                                                     | Performance Indicator                                           |
|---------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 1       | Monitor ACRI network performance on a daily basis                                     | Successful operation on a day to day basis of ACRI network services                           | Downtime recorded and minimised.                                |
| 2       | Support communications infrastructure at ACRI                                         | Operating phone network and video conferencing facilities                                     | Downtime recorded and minimised.                                |
| 3       | Explore opportunities to upgrade network performance at ACRI                          | Successful installation of improved internet connection to ACRI                               | Improved application speed of users internet activities at ACRI |
| 4       | Participate in the development of network infrastructure of host organisations        | Successfully identifying new technologies that benefit ACRI and provided by host institutions | Implemented technologies provided by host institutions          |
| 5       | Provide ACRI with computing support for cotton research and information dissemination | Respond to immediate needs of ACRI computer users                                             | ACRI personnel completing projects using computing technology.  |

All project objectives have been achieved with a high degree of success. This project supported a reliable and functioning computer network and general computing services at ACRI which benefited all research and extension staff. Specific achievements for the past year include:

- Conduct of OH&S assessment of ACRI computing facilities and purchased equipment to improve overall safety.
- Improvement in remote support for PABX phone system. The PABX is ACRI's main phone system.
- The completion of the high speed internet link (CSIRO funded). This will allow for offsite backups, state of the art video conferencing and high speed data transfer.
- Liaison with NSW DPI and contractors for additional building at ACRI. Diagrams for installation of voice and data points as well as equipment specification and configuration were provided to comply with site standards.
- The completion of the conference room visual/audio fit out. The video conference room fit out will provides optimal picture and sound quality for the audience. The room has been extensively used and has received positive reviews from the people whom have used it. Equipment funded by CSIRO and DPI.

- Replacement of (CSIRO funded) AD server used authenticate ACRI computer users (security requirement).
- Replacement and configuration all network switches and routers (CSIRO funded). This increased network security, standardized network equipment and took full advantage on new high speed link.
- Liaison with CSIRO in the planning of the replacement of all printers, faxes and scanners.
- Initiating and documenting instructions for restoring and maintaining computing and communication services for ACRI. This will allow another member to restart computing services at ACRI. Developed and documented Emergency Power Off procedures for computer room as part of Corporate OH&S audit. This will allow a person to safely power down computer room in case of emergency.
- Liaison with Telstra for a new NextG tower that would give ACRI and surrounding properties complete mobile phone service.
- Investigation of the need for a replacement weather station ACRI. Presented costing and options to NSW DPI manager. Awaiting reply.
- Initiating a replacement of ACRI's data servers (CSIRO funded).
- Tony Pfeiffer has attending a training course to obtain skills needed to implement new Microsoft computing systems at ACRI.

As a result of cessation of funding to ACRI, costing to CSIRO, NSW DPI and Cotton CRC was undertaken. This will allow researchers and other members at ACRI to accurately cost the unique and enhanced computing services provided at ACRI to be included in project budgets.

### **3. Detail the methodology and justify the methodology used.**

Tony Pfeiffer is an experienced Network manager (16 years) and is permanently based at ACRI to provide network and computing support. He is available to all people at ACRI to provide computing assistance when necessary. He works closely with CSIRO IT and NSW Department of Primary Industries to coordinate further investment in computing services and infrastructure at the site. In fact Tony's position has been highly successful in leveraging additional resources for computing and the network

### **4. Provide a conclusion as to research outcomes compared with objectives. What are the "take home messages"?**

An efficient and world standard computing system at ACRI has benefited all research programs through their use in data processing, storage, statistical analysis, modeling and the development of end-user packages. In addition the network services located at ACRI provide printing services and communication which includes e-mail and website.

The provision of these services has underpinned the quality of research conducted at ACRI and personnel rely heavily on continued and uninterrupted access to computing support. In many instances many initiatives for the cotton industry instigated by researchers and extension officers rely solely on access to computing support provided by this project.



## **5. Detail how your research has addressed the Corporation's three Outputs - Economic, Environmental and Social?**

This project assists all research and extension activities conducted at ACRI which ultimately contribute to all outputs nominated by the CDRC.

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### ***Part 4 – Final Report Executive Summary***

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An efficient and world standard computing system at ACRI has benefited all research programs through their use in data processing, storage, statistical analysis, modeling and the development of end-user packages. In addition the network located at ACRI provide printing services and communication which includes e-mail and website. These services have underpinned the quality of research conducted at ACRI and personnel rely heavily on continued and uninterrupted access to computing support to this IT. In instances many initiatives for the cotton industry instigated by researchers and extension officers rely solely on access to the computing support provided by this project. These services are imperative to the proper functioning of ACRI institute and is separate to IT overheads provided by CSIRO and NSW DPI.

This project enabled ACRI to operate its computing services as a whole. Supporting IT in this way is the most efficient and cost effective means for the cotton research effort at ACRI. This support:

- provides ACRI with cutting edge IT technologies making it a world class research facility for dedicated cotton research.
- goes beyond generic services provided by research institutions based in capital cities
- ensures timely access to IT services at ACRI.
- avoids duplication and fragmentation of IT resources for research activities by different institutions based at ACRI.
- ensures that ACRI has an IT champion in place leveraging significant resources from the CSIRO and NSW DPI.
- enables cotton researchers at ACRI to focus on research alone and not on IT issues.

This project employed Tony Pfeiffer, an experienced Network manager permanently based at ACRI to enhance operation of IT at ACRI. While Tony is employed by CSIRO he is available to all people at ACRI to provide immediate computing assistance. He works closely with CSIRO IT and NSW Department of Primary Industries to coordinate further investment in computing services and infrastructure at the site. With the increase in computing power and staff at ACRI, the need for sustained technical support directly to the user has expanded. The systems manager now supports 63 CSIRO, 49 NSW Ag and 10 others computer users. The computer systems manager also supports the network servers (backup and communication) and phone system at ACRI.

As a result of cessation of funding to ACRI costing to CSIRO, NSW DPI and Cotton CRC was undertaken. In future researchers and other members of ACRI will cost the unique and enhanced computing services provided at ACRI as part of their project budgets.