

Final Report

Capacity & Community | Cotton Research & Development Corporation

Part 1 - Summary Details

CRDC Project Number: CSP153**Project Title:** ACRI Computing Support**Project Commencement Date:** 01/07/2002 **Project Completion Date:** 30/06/2005**Research Program:** Community & Capacity

Part 2 – Contact Details

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Part 3.3 – Final Reports

Background

An efficient and world standard computing system at ACRI has benefited all research programs through their use in data processing, storage, statistical analysis, modelling 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.

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 5 others computer users. The approximate total number of computer terminals is 145. The general recommendation across the IT industry is that a system manager service approximately 50 computer terminals. The computer systems manager also supports the network servers (backup and communication) and phone system at ACRI.

Support for these services has been imperative to the proper functioning of ACRI and the Cotton CRC. Note this project partly supported the ACRI computer network. Both CSIRO and NSW DPI have corporate computer networks but they are separately funded and in most cases the corporate operations have been in kind contributions to this and all activities at ACRI.

Objectives

The aims of the project were:

1. To provide full time support for computer hardware and network services at ACRI, Narrabri.
2. Facilitate the connection of industry users to on-line services developed by the CRC.
3. To provide support and assistance to researchers and other users of the ACRI computer network.
4. To facilitate the introduction of new technology to improve communication and information management among the cotton research community and Industry users.

Objectives that were to be achieved in each year of the grant were:

Objectives Year 1:

- Conduct day-to-day monitoring of network performance, and respond to problems reported by users.
- Check computing hardware and software is Year 2000 Compliant.
- Participate in the evaluation of a global email client system to be implemented by CSIRO.



- Assist users in improving communication and information management in their research projects.
- Provide cabling to the insectary building.

Objectives Year 2:

- Conduct day-to-day monitoring of network performance, and respond to problems reported by users.
- Increase capacity of remote dial-in capabilities to access network.
- Facilitate the adoption of new technology to improve access by researchers and industry users.
- Upgrade video conferencing facilities at ACRI.
- Assist users in applying information technology to research and extension projects.

Objectives Year 3:

- Conduct day-to-day monitoring of network performance, and respond to problems reported by users.
- Facilitate the adoption of new technology to improve access by researchers and industry users.
- Assist users in applying information technology to research and extension projects.
- Explore the benefits of wireless network capabilities for ACRI purposes.
- Evaluate the need to upgrade facilities in line with changes in technology and the changing needs of researchers and industry.

Methodology

This project supported the funding of Tony Pfeiffer who 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 (current infrastructure investment close to \$ 1M). In fact Tony's position has been highly successful in leveraging additional resources for computing and the network from these organisations.

Results

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

- Participated in the evolution of a global email client system to be implemented by CSIRO.
- Installed an internet firewall to improve data security at ACRI.
- Increased the speed of the ISDN (Internet) link from 128k to 256k with no additional cost to site.
- Reconfigured NSW Agriculture with new IP addresses to allow them greater access to services.



- Installed new video conferencing unit at ACRI.
- Conducted OH&S assessment of ACRI computing facilities and purchased equipment to improve overall safety.
- Installed new network switches (funded by CSIRO) that improved speed and reliability of ACRI network.
- Developed specifications and plans for computer and phone wiring of the new insectary building. Cabling of this building was completed.
- Used one of the old servers to create a backup system for decision support programmers to enable more efficient testing of cotton decision support software.
- Explored opportunities to enhance remote access for computer users to ACRI site. New modems and software was installed.
- Installed Windows Exchange 2000 (Email) and Active directory server provided by CSIRO. This new services improved network reliability and function.
- Improved remote support for PABX phone system. The PABX is ACRI's main phone system.
- Assisted in the installation and setup of software to monitor use of the Cotton CRC's website.
- Developed specifications and plans for wiring of sample processing lab (Muppet Lab). Minor additional cabling to others buildings was also installed.
- Assisted in installation/confirmation of new NSW Agriculture router. This improved routing and remote support for NSW Agriculture clients.
- Coordinated the installation of ACRI web site to be inline with CSIRO Enhanced Network Separation (ENS) project. This improved ACRI network security.
- Obtained additional batteries for UPS from CSIRO. Configured Servers to shutdown gracefully after extended main power outages.
- Install DRAC card in Exchange 2000 server (email) to allow remote access even if server down.
- Setup presentation equipment for CRC reviews.
- Purchased one new server to replace two critical data servers. Moved data from old servers and configured new software.
- Justified with CSIRO Cooperate to have ACRI included in business case for significant upgrade of ISDN link that will vastly improve video conferencing and data access for all of ACRI.
- Improved overall security of the network
- Planned and assisted installation of cabling for new ACRI weather station.
- Increased backup processes from weekly to daily for e-mail.
- Upgraded tape backup capabilities.
- Installed local SUS Server (Windows updates) to reduce traffic on internet connection.
- Installed new antivirus software to come into line with CSIRO One IT policy. Cost of purchasing antivirus software for CSIRO computer users at ACRI is now less.
- Installed faxing software to allow clients to fax from desktop.

Conclusion

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.

Outputs

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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Activities beyond the project

This project ceased in June 2005. A new project titled 'ACRI computing and network support' was submitted to CRDC which also aims to maintain the important and crucial computing support at ACRI. Increasing reliance on computing technologies will necessitate ongoing and direct support of computing services at ACRI. Dedicated support becomes more important in regional areas where help is sometimes limited and untimely. In addition in an environment such as ACRI services are more efficient when shared.

Impact on Cotton Industry

This project will continue to directly support the activities and operation of researchers located at the Australian Cotton Research Institute.



Part 4 – Final Report Executive Summary

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This project supported the funding of Tony Pfeiffer who 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. All project objectives have been achieved with a high degree of success enabling a reliable and functioning computer network and accessible computing services at ACRI which benefited all research and extension staff.