

Leveraging AARNet's CloudStor to support better research outcomes

Presented by

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Personal Overview



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Presentation Overview

- Background – CQUniversity research storage options
- Local data observations
- Dedicated Research Storage
- QRISCloud Storage
- AARNet CloudStor Service
 - CQUniversity User Cases
 - Uptake strategies
 - CloudStor Update and Stats
 - Why CloudStor?
 - Outcomes Achieved



Keeping Research Data Safe



There have been a number of occurrences where research staff and students have had their research data files lost, due to computer hardware failures, viruses and data encryption lockers

Local Data Observations

- Various storage methods are used
 - External USB Drives
 - Common Drives
 - Personal “home” drives
 - Dropbox and other cloud services
- Through collaboration with our Research, Library and IT Directorates, we are in the process of implementing a research data management policy and procedure.
 - It is expected that this will cause an explosion in the uptake of research data storage facilities and tools



CQUniversity Research Data Storage Options



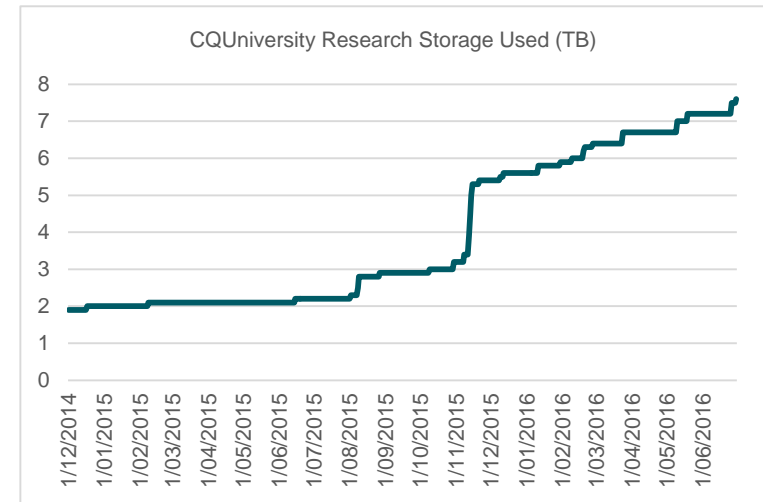
- **Dedicated Local Research Data storage**
 - In early 2014, CQUni installed and commissioned our first dedicated research storage infrastructure providing significant storage capacity (over 100TB)
 - Designed to store data which is actively being developed, as well as completed managed data collections (in particular confidential / non publishable)
- **Research Data Service (RDS) and QRISCloud storage**
 - Designed to store large national “open” data collections considered to be of “national significance”
- **AARNet CloudStor service**
 - Provides 100 GB of free ‘research only’ storage to each CQUniversity researcher
 - Designed to store personal research data and can be considered as additional method for backing up precious research data



<https://my.cqu.edu.au/web/eresearch/research-data-storage-options>

Dedicated Research Storage

- **Current usage (as of June 2016)**
 - Only ~7.6 TB currently being used of the available 101TB
 - Presently storing 41 separate research data collections / network shares



AARNet's **(Australia's Academic and Research Network)**



AARNet Cloudstor Service

- **Benefits**

- Fast access using [Australian Access Federation](#) (AAF) credentials
- Easy to use - no plugins required
- Quick and secure large file transfer
- Secure storage located in Australia and directly connected to the AARNet backbone at 40Gbps, for rapid and convenient access, and avoiding any sovereignty issues
- Data is replicated a minimum of three times at geographically distributed storage nodes for high reliability and availability
- Individual researchers at AARNet-connected institutions receive up to 100GB of storage free of charge and low-cost additional storage is available on request
- AARNet can set up groups with group storage quotas for research collaborations
- There is a fully-featured web client, with support for synchronising clients for Windows, Mac OS X and Linux and mobile clients



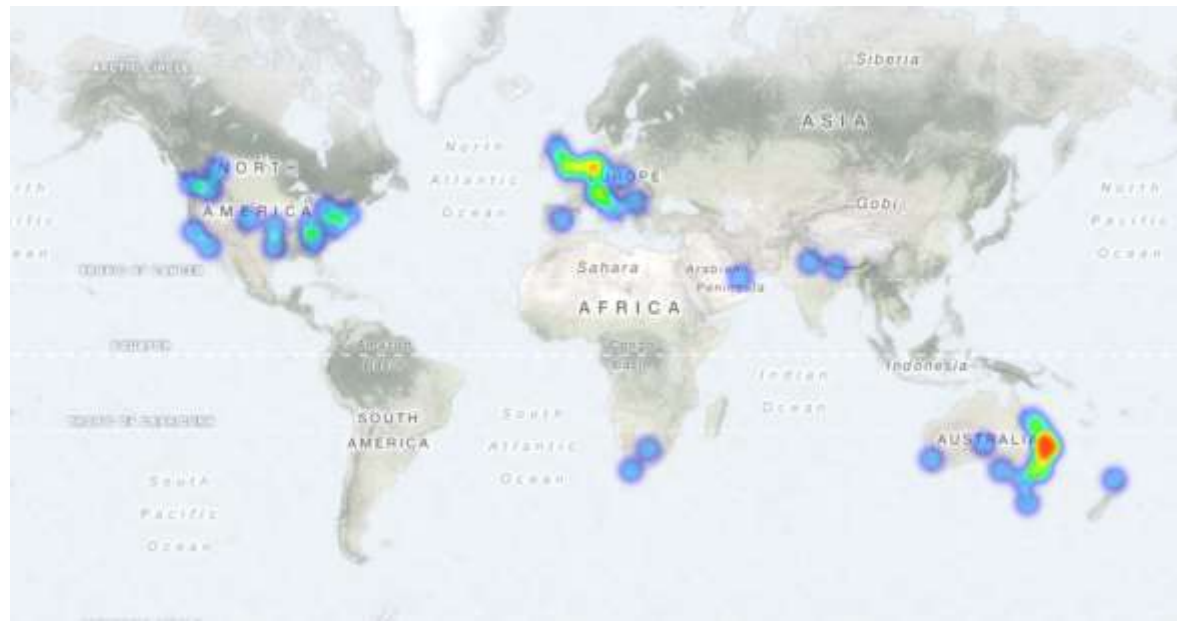
AARNet Cloudstor Service



- How CQUniversity staff and students are using it:
 - As a replacement for Dropbox
 - To sync data on multiple machines
(such as your work computer, laptop and home computer)
 - Acts as an additional method for backing up precious research data
 - To collaborate with trusted colleagues - not just CQUniversity collaborators

- This heatmap reflects where CQU researchers have logged onto CloudStor from

(From 28th June 2016 – 30 day snapshot)



CQUniversity User Cases

- Research Staff collaborating with Research Higher Degree students
- Personal research storage – documents, drafts, small data sets etc
- Collaborating with external colleagues
- AARnet assisted with setting up a CloudStor site where our CQUni research team can share files with our colleagues from and an external health organisation
 - Organisation weren't part of AAF, so AARNet assisted to create "CloudStor" accounts for these users, which assisted with external collaboration
- Sharing documents with external clients
 - Reduce the size of emails being sent back and forth



Uptake strategies

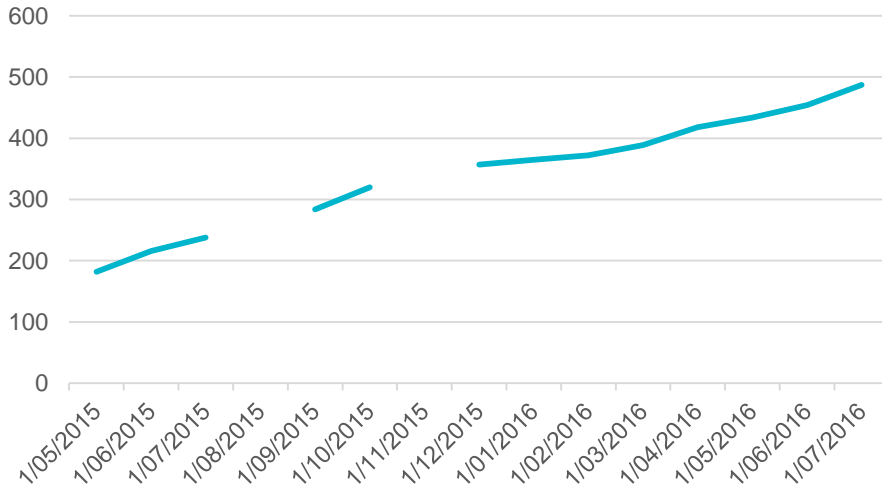
- New Research Higher Degree student induction workshops
- Research Supervisors workshops
- Run hands on CloudStor workshops
- Make the installation easier, by incorporating the “ownCloud” desktop syncing tool as part of our Software Centre installable software
 - RHD Students who don’t have “admin” permissions on their computer, can easily install this software
 - Will automatically upgrade the software if a newer version is made available



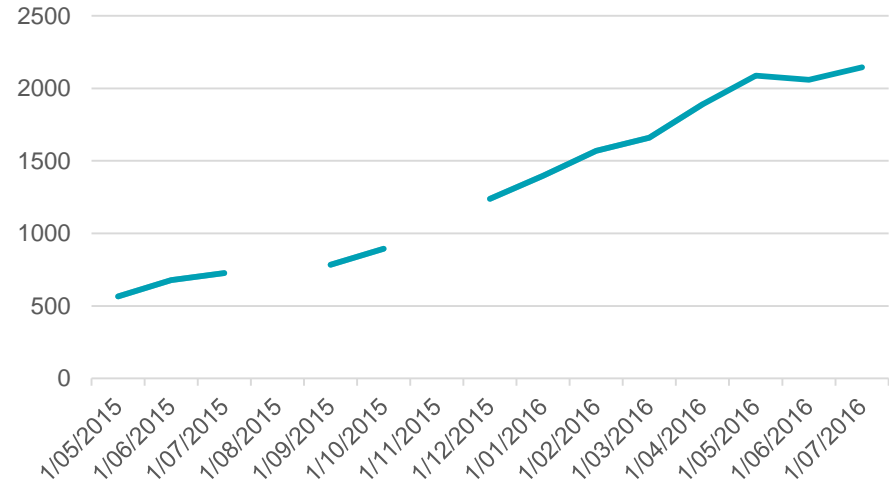
CloudStor Update and Stats



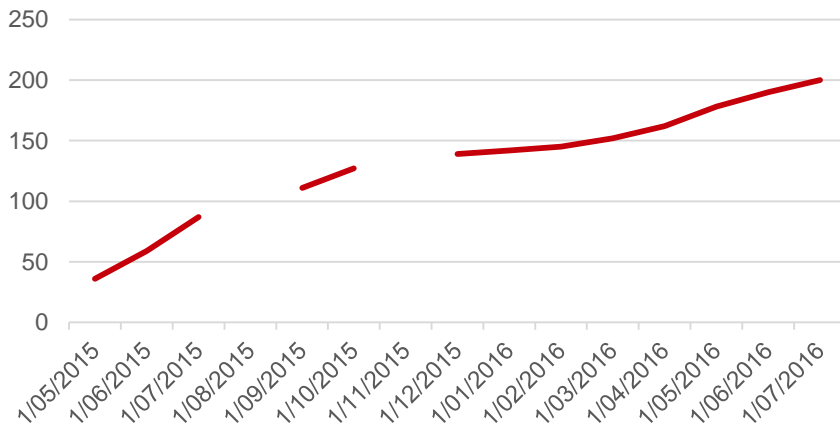
CQUni Staff CloudStor Users



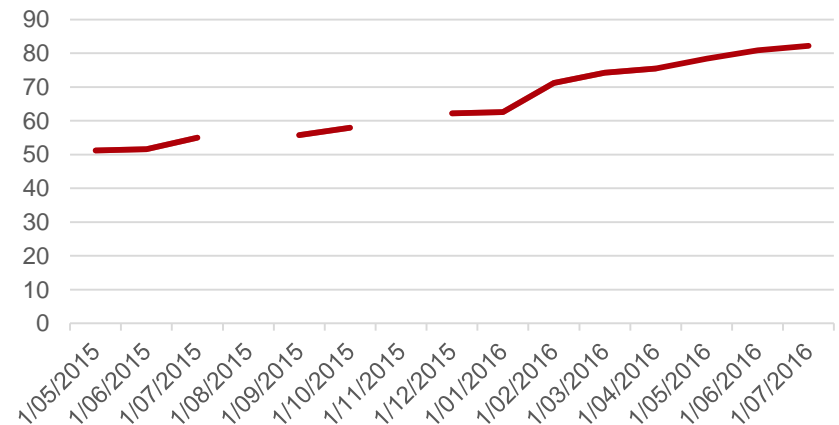
CQUni Staff CloudStor Storage Usage (in GB's)



CQUni Student CloudStor Users



CQUni Student CloudStor Storage Usage (in GB's)



CloudStor Issues

At CQUniversity, it hasn't been smooth sailing in the use of CloudStor over the past few years

- Through the identification of poor performing uploads, it was diagnosed that there were issues with our internal firewall
- Files going missing, but in actual fact they were simply being hidden to the user
- But the biggest issue has been where files no longer sync'd for a select number of users
 - No rhyme or reason as to why it was occurring - but initially the issue seemed to be occurring with our “Mac users”
 - The issue has been identified, as of Monday the 5th of July, which a fix scheduled to be applied early next week



Why CloudStor?



So why CloudStor and not Dropbox, Google Drive or OneDrive?

- It's Free – for CQUniversity staff and students to use!!!
- Direct access to the people that run the service
 - I have the lead system administrator on speed dial, as well as having access to the team who looks after the service via the “Slack” chat tool
- Data stored in Australia and subject to Australian Law – thus avoiding any sovereignty issues
- No data costs as the data is “on-net”
- As CQUniversity is a “shareholder” of AARNet
 - We are considered a valuable customer and thus they work closely with us to ensure it is working as effectively as possible

Outcomes Achieved



- Better Collaboration
 - Sharing between RHD students and supervisors
 - Sharing between research groups with cross institutional collaboration
- Made it simpler for users to ensure their data is easily backed up
- Reduce the need to have portable storage, as data is sync'ed between different machines
- Drastically reduced risk of research data and documents being lost

Thankyou - Questions?

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