

OPENING THE RESEARCH DATA FLOODGATES

eResearch Australasia

19th October, 2018,

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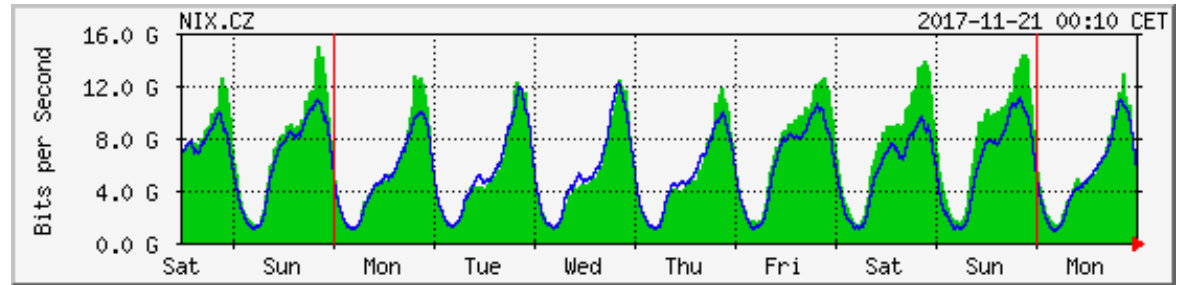
Alaskan Senator Ted Stevens

“Ten movies streaming across that, that Internet, and what happens to your own personal Internet? I just the other day got... an Internet was sent by my staff at 10 o'clock in the morning on Friday. I got it yesterday [Tuesday]. Why? Because it got tangled up with all these things going on the Internet commercially...

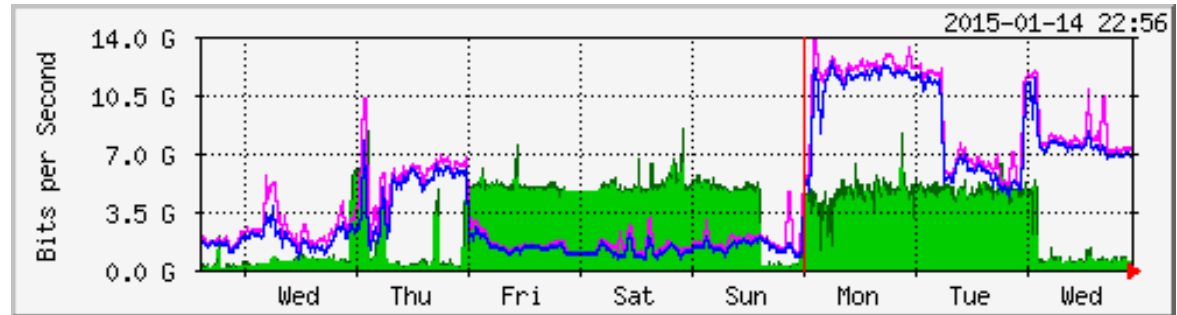
...They want to deliver vast amounts of information over the Internet. And again, the Internet is not something that you just dump something on. **It's not a big truck. It's a series of tubes.** And if you don't understand, those tubes can be filled and if they are filled, when you put your message in, it gets in line and it's going to be delayed by anyone that puts into that tube enormous amounts of material.”

WHAT DOES “R&E USE” LOOK LIKE?

Commercial Networks



Research & Education Networks



QUESTION...

Who wants to talk about the network?

ANSWER...

No-one – it's all about *data* and how to:

- 1) Move it
- 2) Store it
- 3) Manage it

ANSWER...

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SCIENCE DRIVERS



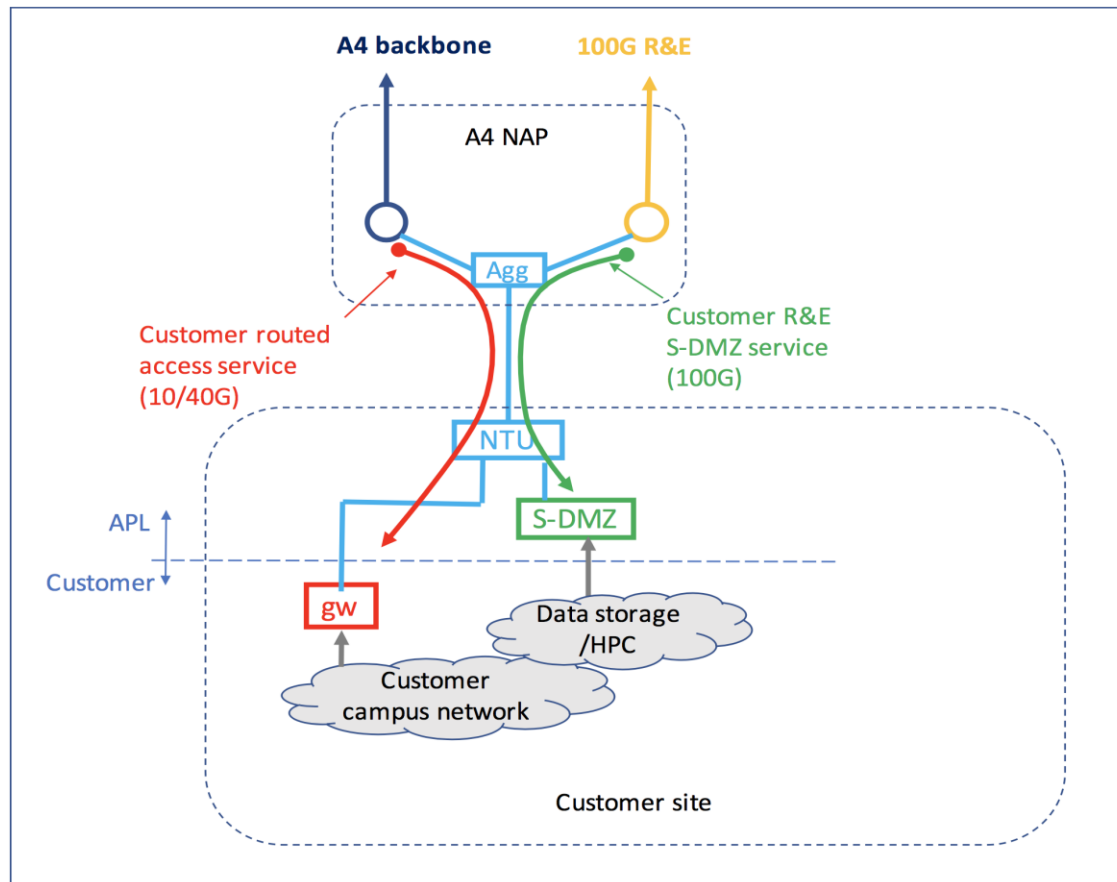
TIME TO MOVE DATA

	1 TB	10TB	100TB	1PB
100 Mbps	1 day	10 days	3 months	3.4 years
1 Gbps	2.5 hours	1 day	10 days	3 months
10 Gbps	13 min	2.5 hours	1 day	10 days
100 Gbps	< 2 min	13 min	2.5 hours	1 day

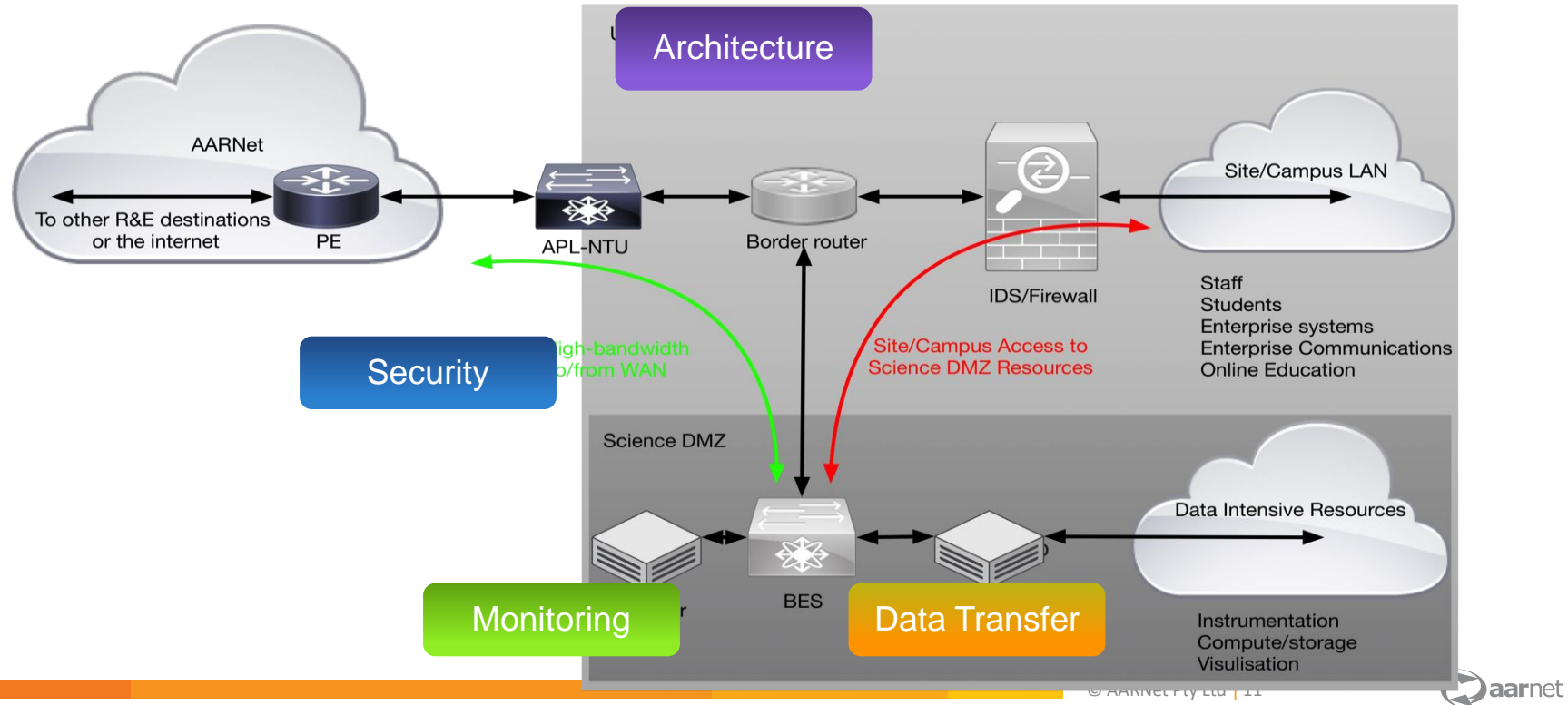


WHAT'S THE PROBLEM /
OPPORTUNITY ?

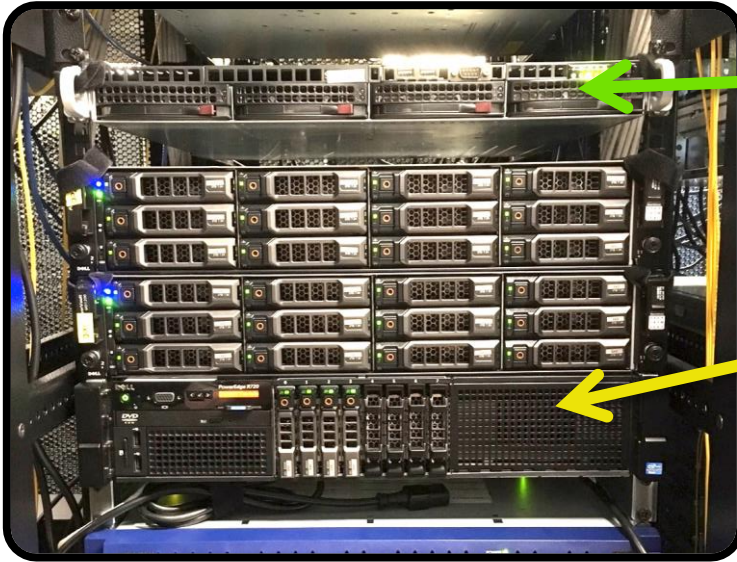
AARNET X



SCIENCE DMZ



BENCHMARKING DEPLOYMENTS



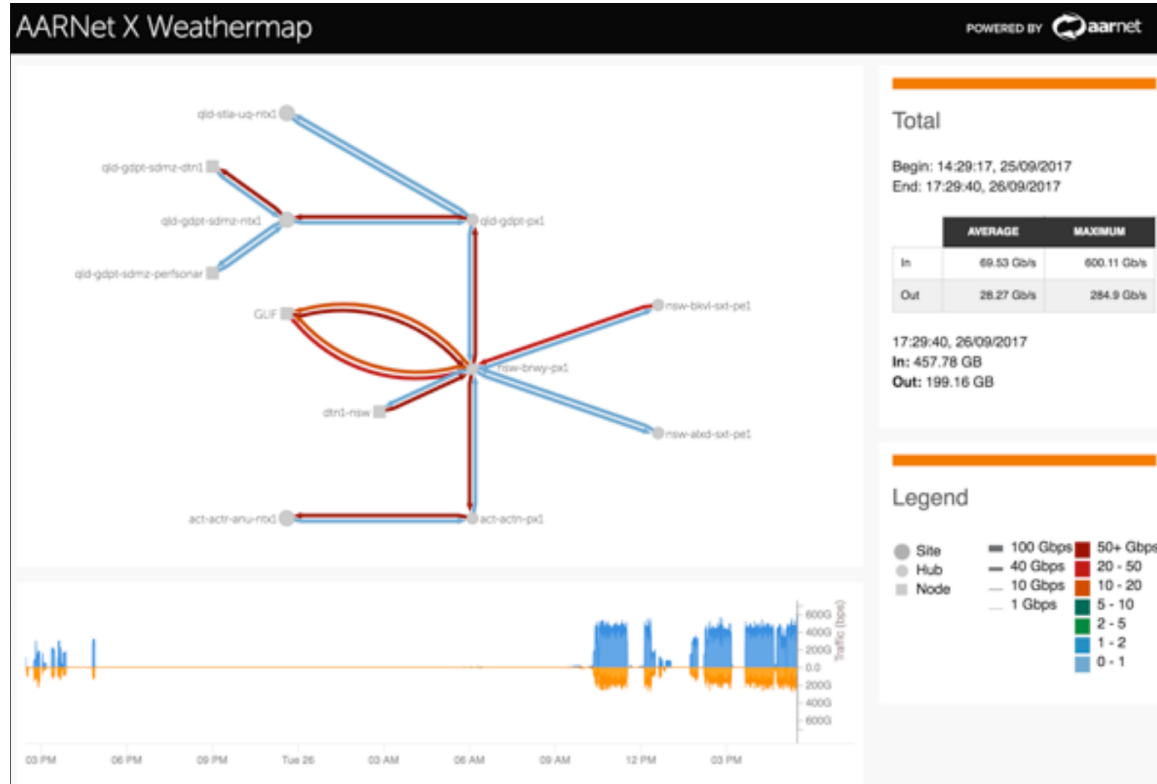
Monitoring

Data Transfer Node

2 x AARNet4 ScienceDMZ
benchmarking deployments, capable of
performing data transfer tests at
10Gbps



DEMONSTRATION

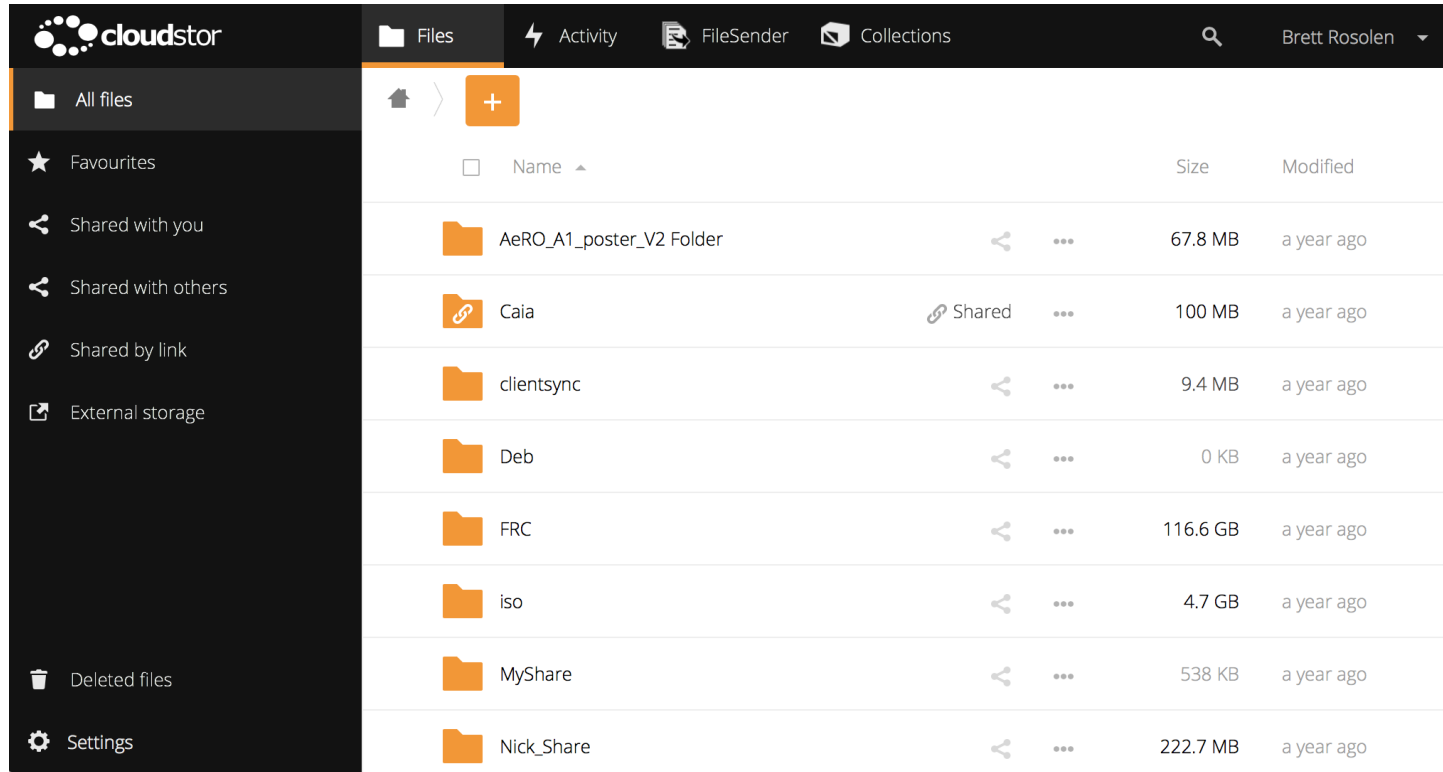


ANSWER...

No-one – it's all about *data* and how to:

- 1) Move it
- 2) Store it
- 3) Manage it

CLOUDSTOR



The screenshot displays the CloudStor web interface. On the left is a dark sidebar with navigation options: 'All files' (selected), 'Favourites', 'Shared with you', 'Shared with others', 'Shared by link', 'External storage', 'Deleted files', and 'Settings'. The top navigation bar includes 'Files', 'Activity', 'FileSender', and 'Collections', along with a search icon and the user name 'Brett Rosolen'. The main content area shows a file list with columns for Name, Size, and Modified. A '+ ' button is visible at the top of the list. The file list includes folders like 'AeRO_A1_poster_V2 Folder', 'Caia', 'clientsync', 'Deb', 'FRC', 'iso', 'MyShare', and 'Nick_Share'.

Name	Size	Modified
AeRO_A1_poster_V2 Folder	67.8 MB	a year ago
Caia	100 MB	a year ago
clientsync	9.4 MB	a year ago
Deb	0 KB	a year ago
FRC	116.6 GB	a year ago
iso	4.7 GB	a year ago
MyShare	538 KB	a year ago
Nick_Share	222.7 MB	a year ago

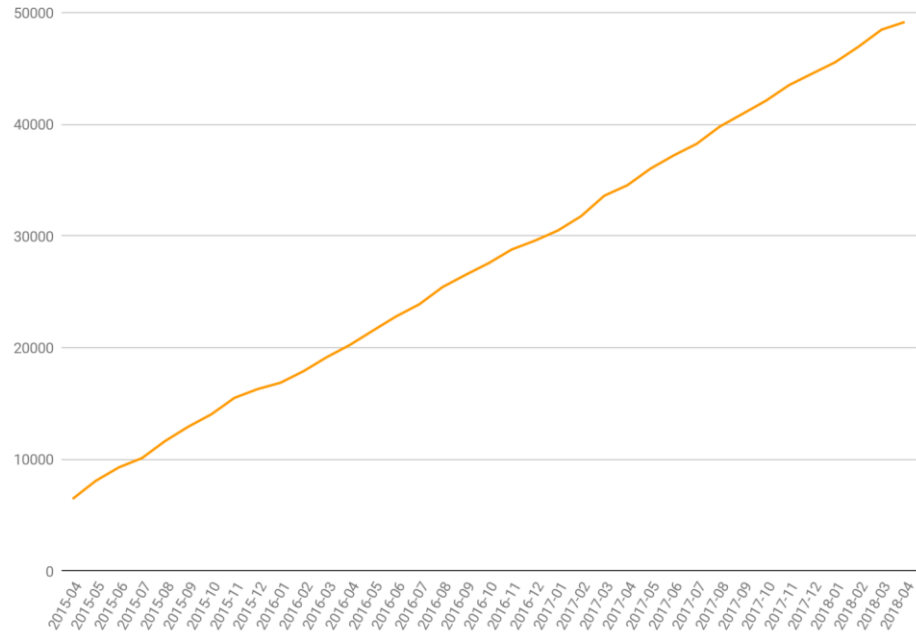
CLOUDSTOR

Users
49,000+

Domains
333

Storage Used
275+ TB

Total number of Cloudstor Users



*Latest data as of 2018-04-17

SUSTAINABLE STORAGE

Included in AARNet subscription

(no additional charge)

Research & staff members
100GB per researcher
10TB per institution for groups

Institutional Charge

Based on storage used by institution
Available to all staff & students

Unrestricted Storage

ANSWER...

No-one – it's all about *data* and how to:

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- 2) Store it
- 3) Manage it

CLOUDSTOR

The screenshot shows the CloudStor web interface in a browser window. The address bar displays the URL <https://cloudstor.aarnet.edu.au/plus/apps/files/?dir=/&fileid>. The interface includes a top navigation bar with tabs for 'Files', 'Activity', 'FileSender', and 'Collections'. The 'FileSender' and 'Collections' tabs are highlighted with orange boxes. On the left, a sidebar menu lists various file management options. The main content area shows a list of files and folders, including 'Documents', 'Photos', 'Shared', and 'ownCloud Manual.pdf'. A summary at the bottom indicates '3 folders and 1 file' with a total size of '8 MB'.

Name	Size	Modified
Documents	35 KB	2 months ago
Photos	663 KB	2 months ago
Shared	2.5 MB	a month ago
ownCloud Manual.pdf	4.9 MB	2 months ago

3 folders and 1 file
8 MB

COLLECTIONS

The screenshot displays the CloudStor Collections interface. At the top, a browser window shows the URL <https://cloudstor.aarnet.edu.au/plu:>. The interface includes a navigation bar with 'Files', 'Activity', 'FileSender', and 'Collections'. Below this, a toolbar offers actions like 'New Collection', 'Package', 'Package History', 'Check Collection', 'Export', 'Remove All', 'Delete', and 'Help'. The 'New Collection' modal is open, featuring a workflow diagram and a form for collection details.

Workflow Diagram:

- Upload Your Data:** Represented by a cloud with an upward arrow and a bar chart icon, with a circular arrow indicating a cycle.
- Analyse & Process:** Represented by a bar chart icon.
- Create a Collection:** Represented by a 3D cube icon, with an upward arrow from a folder icon labeled 'add data'.
- Package Collection:** Represented by a box with a handle icon, with an upward arrow from a document icon labeled 'add metadata'.
- Send:** Represented by an envelope icon.

Collection Information Form:

- TITLE *** (with edit icon)
- DESCRIPTION *** (with expand icon)
- KEYWORD *** (with edit icon)
- FOR CODE** (with expand icon)
- EXTENT** (with expand icon)

Additional Form Fields:

- Primary Contact** (with expand icon)
- Creators** (with expand icon)
- Research Grants** (with expand icon)
- Access Rights** (with expand icon)
- Minimum Retention Period** (with expand icon)

FILESENDER

Users
43,800+

Domains
226

Files sent
561,000+

The screenshot shows the FileSender web interface within a browser window. The browser's address bar displays the URL <https://cloudstor.aarnet.edu.au/plus/apps/filesenderapp/>. The interface includes a left-hand navigation menu with links for Upload, Vouchers, My Transfers, Help, and About. The main content area features a large dashed box for file uploads with the text "drag & drop your files here". Below this are "Clear All" and "Select Files" buttons. A form for sending files is visible, with fields for "From" (Frances.Stevens@aarnet.edu.au), "To" (a field with a placeholder "Enter recipient email(s)"), "Subject (optional)", and "Message (optional)". The "Expiry date" is set to 08/05/2018. Checkboxes for "Notify me when expired", "Send me daily statistics", and "Include me as a recipient" are checked, while "Get a link instead of sending to recipients" is unchecked. A "File Encryption (beta)" checkbox is also present. A "Send" button is located below the form. At the bottom, a line graph titled "Global Average Upload Speed of Files over 1 GB" shows upload speeds in MB/sec from March 18, 2018, to April 22, 2018. The graph compares "Encryption in transit & rest" (green line) and "Encryption in transit" (orange line). The orange line shows significantly higher speeds, peaking around 40 MB/sec, while the green line remains consistently low, near 0 MB/sec.

Questions



THANK YOU
