OPENING THE RESEARCH DATA FLOODGATES

eResearch Australasia
19th October, 2018,
Brett Rosolen, David Wilde, Warrick Mitchell, Chris Myers
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?
No-one – it’s all about *data* and how to:

1) Move it
2) Store it
3) Manage it
ANSWER...

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

1) Move it
2) Store it
3) Manage it
<table>
<thead>
<tr>
<th></th>
<th>1 TB</th>
<th>10TB</th>
<th>100TB</th>
<th>1PB</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 Mbps</td>
<td>1 day</td>
<td>10 days</td>
<td>3 months</td>
<td>3.4 years</td>
</tr>
<tr>
<td>1 Gbps</td>
<td>2.5 hours</td>
<td>1 day</td>
<td>10 days</td>
<td>3 months</td>
</tr>
<tr>
<td>10 Gbps</td>
<td>13 min</td>
<td>2.5 hours</td>
<td>1 day</td>
<td>10 days</td>
</tr>
<tr>
<td>100 Gbps</td>
<td>&lt; 2 min</td>
<td>13 min</td>
<td>2.5 hours</td>
<td>1 day</td>
</tr>
</tbody>
</table>
WHAT’S THE PROBLEM / OPPORTUNITY?
SCIENCE DMZ

Architecture

Security

Monitoring

Data Transfer

Staff
Students
Enterprise systems
Enterprise Communications
Online Education

Site/Campus LAN

To other R&E destinations or the Internet

PE

APL-NTU

Border router

IDS/Firewall

Site/Campus Access to Science DMZ Resources

Data Intensive Resources

Instrumentation
Compute/storage
Visualisation

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BENCHMARKING DEPLOYMENTS

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
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3) Manage it
<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>AeRO_A1_poster_V2 Folder</td>
<td>67.8 MB</td>
<td>a year ago</td>
</tr>
<tr>
<td>Cala</td>
<td>100 MB</td>
<td>a year ago</td>
</tr>
<tr>
<td>clientsync</td>
<td>9.4 MB</td>
<td>a year ago</td>
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<tr>
<td>Deb</td>
<td>0 KB</td>
<td>a year ago</td>
</tr>
<tr>
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<tr>
<td>iso</td>
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</tr>
<tr>
<td>MyShare</td>
<td>538 KB</td>
<td>a year ago</td>
</tr>
<tr>
<td>Nick_Share</td>
<td>222.7 MB</td>
<td>a year ago</td>
</tr>
</tbody>
</table>
CLOUDSTOR

- Users: 49,000+
- Domains: 333
- Storage Used: 275+ TB

*Latest data as of 2018-04-17
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...

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COLLECTIONS

Upload Your Data -> Create a Collection -> Package Collection -> Send

Upload -> Analyse & Process
Add data -> Add metadata

Collection Information
- Title
- Description
- Keyword
- For EDOC
- Extent

Primary Contact
Creators
Research Grants
Access Rights
Minimum Retention Period
FILESENDER

- Users: 43,800+
- Domains: 226
- Files sent: 561,000+
Questions
THANK YOU