

Introduction to Research Data Transfer & Data Sharing

Speakers:
Chelsea Finnie, Vicky Fan, Cal Walley



Who are you?

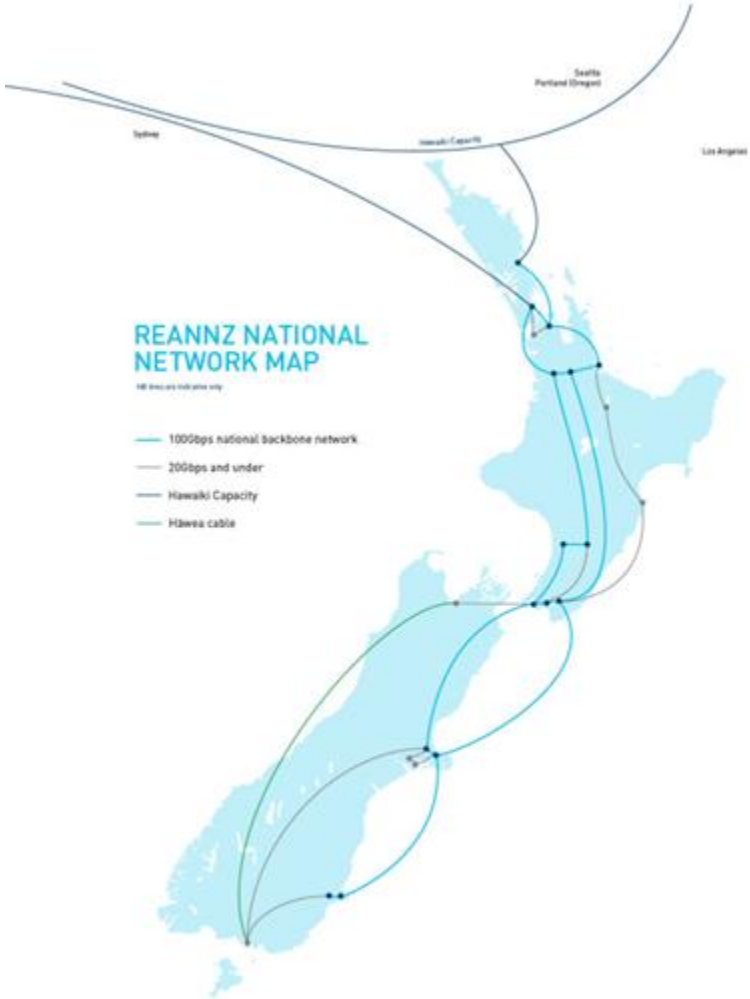
Where are you from?

What are you looking to get out of this?

Introductions

What are we doing today

- Introduction
 - SCP / Rsync
 - FileSender
 - Globus
-



File Transfer using REANNZ's National Network



Sharing Data: Some Examples

- Collaboration between institutions, commercial entities and/or government
- Sharing data within an institution
- Transferring data to HPC, cloud resources, or external compute
- Compliance with data sharing agreements
- Moving large volumes of data within NZ
- ... **or globally**

Sharing Data: Best Practice

Many **small files** should be archived / zipped together.

Check you are only transferring what you mean to!

Large sparse data should be compressed.

Checksums. If data integrity is essential.

Secure Transfer when appropriate.

Secure Transfer: Who Cares?

Identifiable information:	Privacy Act 2020 (the 13 Information Privacy Principles).
Health data:	Health Information Privacy Code 2020
Indigenous data:	Te Mana Raraunga and the CARE Principles your institution.
Commercially sensitive:	Your institution will have a policy.
Data-provider restricted	Data provider
Credentials / keys	Your institution.

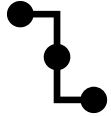
Your institution data policy should be first place to look
But they are not the only party you have obligations to!

Data Transfer and Choosing the Right Tool

Tool	Secure Connection	File Encryption	Max Speed *	Access	Hosted
Email	No	Manual	Average	Everyone	Yes
Manual	Depends	Manual	Variable	Everyone	Kinda
Shared Drive	Yes	Manual	Average	Restricted	Yes
rsync / scp	Yes	Manual	Fast	SSH Access	No
Filesender	Yes	Toggle	Average	Everyone	Yes
Globus	Yes	Toggle	Very Fast	Restricted	Yes

* *Maximum transfer speed is constrained by the **slowest** part in the network.*

What is secure?



A **Secure connection** encrypts data *only while it's moving*. It's only as safe as the destination!



File / content encryption travels *with* the file. It stays locked wherever it lands until someone with the key opens it.

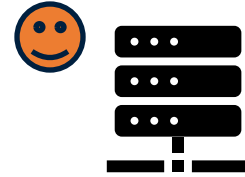


Symmetric there's a shared password, so you have a *password-handing problem*.

Never send the password through the same channel as the file.



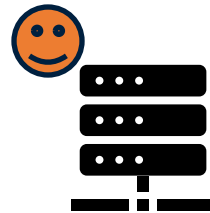
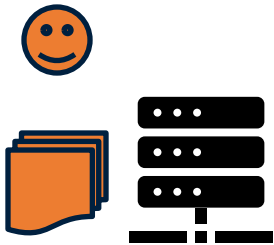
Asymmetric the key you share to encrypt the file, doesn't allow decrypting the file, so can be shared publicly. You have a private key that decrypts.



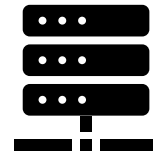
Moving from laptop to server direct



Moving from *laptop* to *laptop* via host



Moving from *remote* to *remote* direct



Moving from *remote* to *remote* via host

- Simple, scalable, flexible
- When can access both ends!

Direct

Options

Command Line

- scp Secure copy. Like cp but over ssh.
- sftp Allows browsing filesystem and transfer.
- rsync Significantly extends on scp functionality.
- rc1one Allows sync between cloud services.



Graphical User Interface

- MobaXterm
- Filezilla
- Winscp
- CyberDuck
- VSCode



Direct Transfer

Incremental	<i>Default Behavior</i>	Only transfers what has changed!
Checksum on transfer	<i>Default Behavior</i>	Checks nothing was corrupted on route.
Resume	-P	Will restart transfer when interrupted (from where it was interrupted)
Metadata	-a	If you want to preserve file metadata
Dry Run	-n	Print out the results, make no changes.
Checksum diff	-C	Will use checksums to determine what to transfer.

```
rsync <options> <source-path> <hostname>:<destination-path>
```

Demo Here

- Flexible
- Accessible

FileSender

Switch



REAN/VZ

RNP



File Sender



<https://filesender.org>

Access to FileSender:

<https://filesender.reannz.co.nz/>

Login to FileSender

REANNZ FileSender service

Please select your organisation below, you will be redirected to complete the login process.

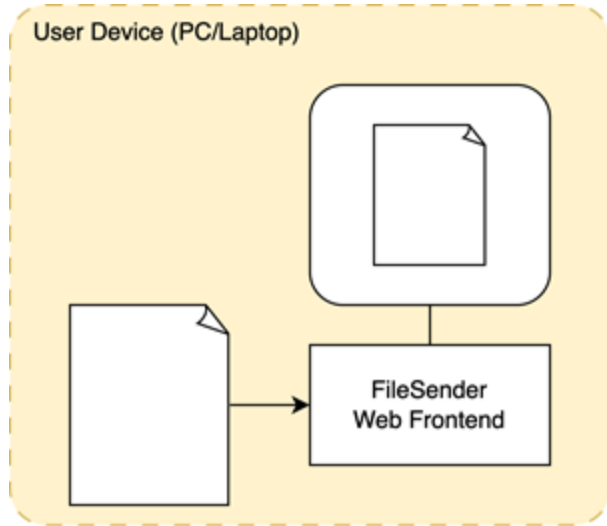
- AUT University
- Lincoln University
- Massey University
- The University of Auckland**
- The University of Otago
- The University of Waikato

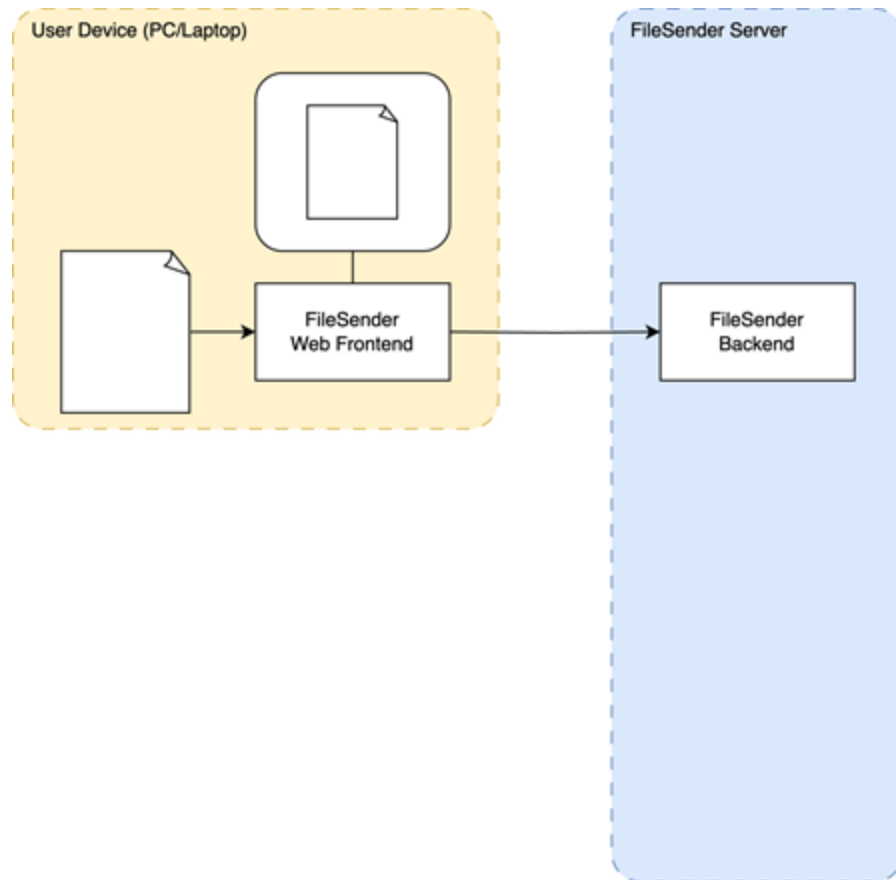
[Continue to your organisation](#)

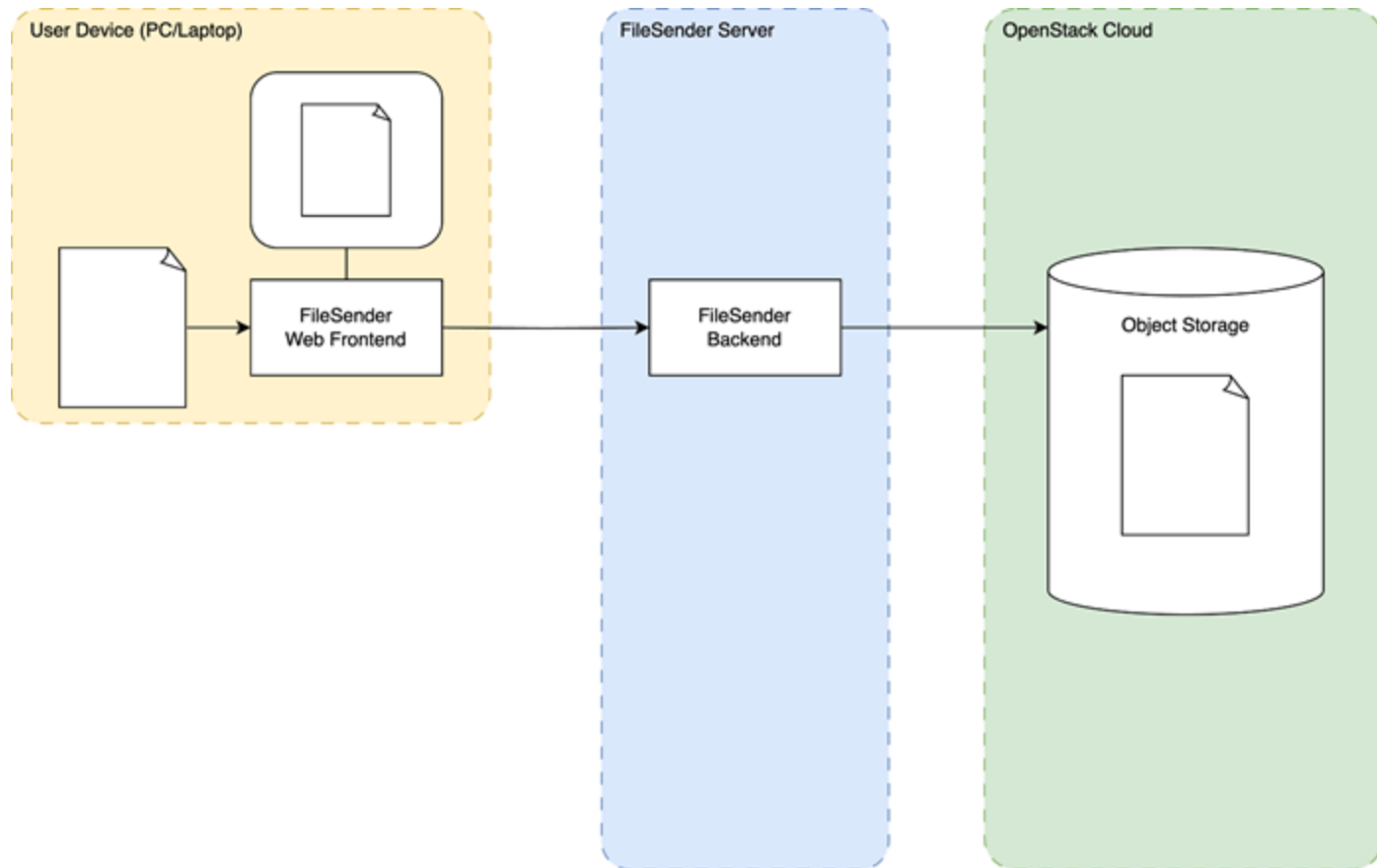
Remember my organisation

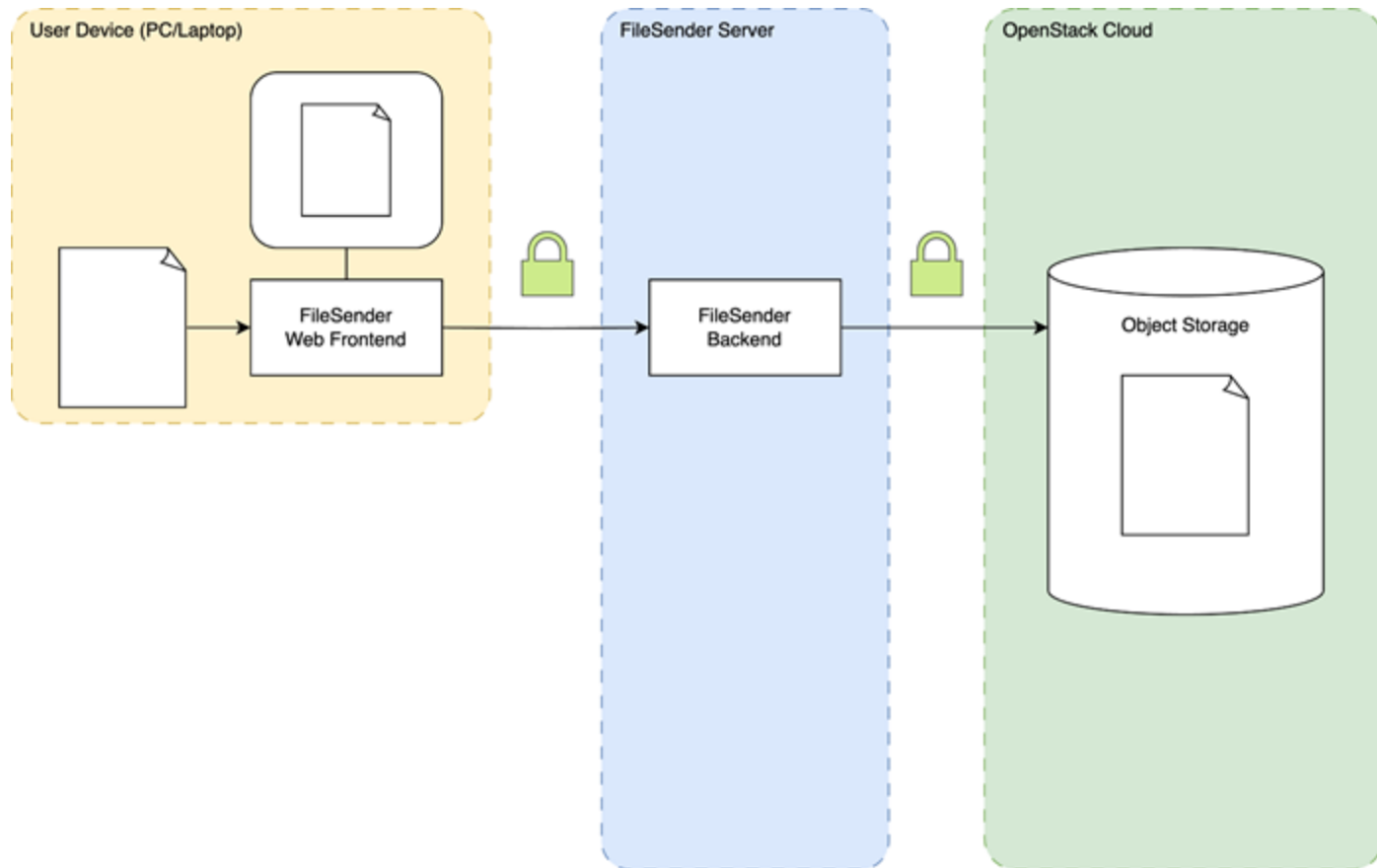
REANNZ TUAKIRI [About Tuakiri](#) [Contact Tuakiri support](#)

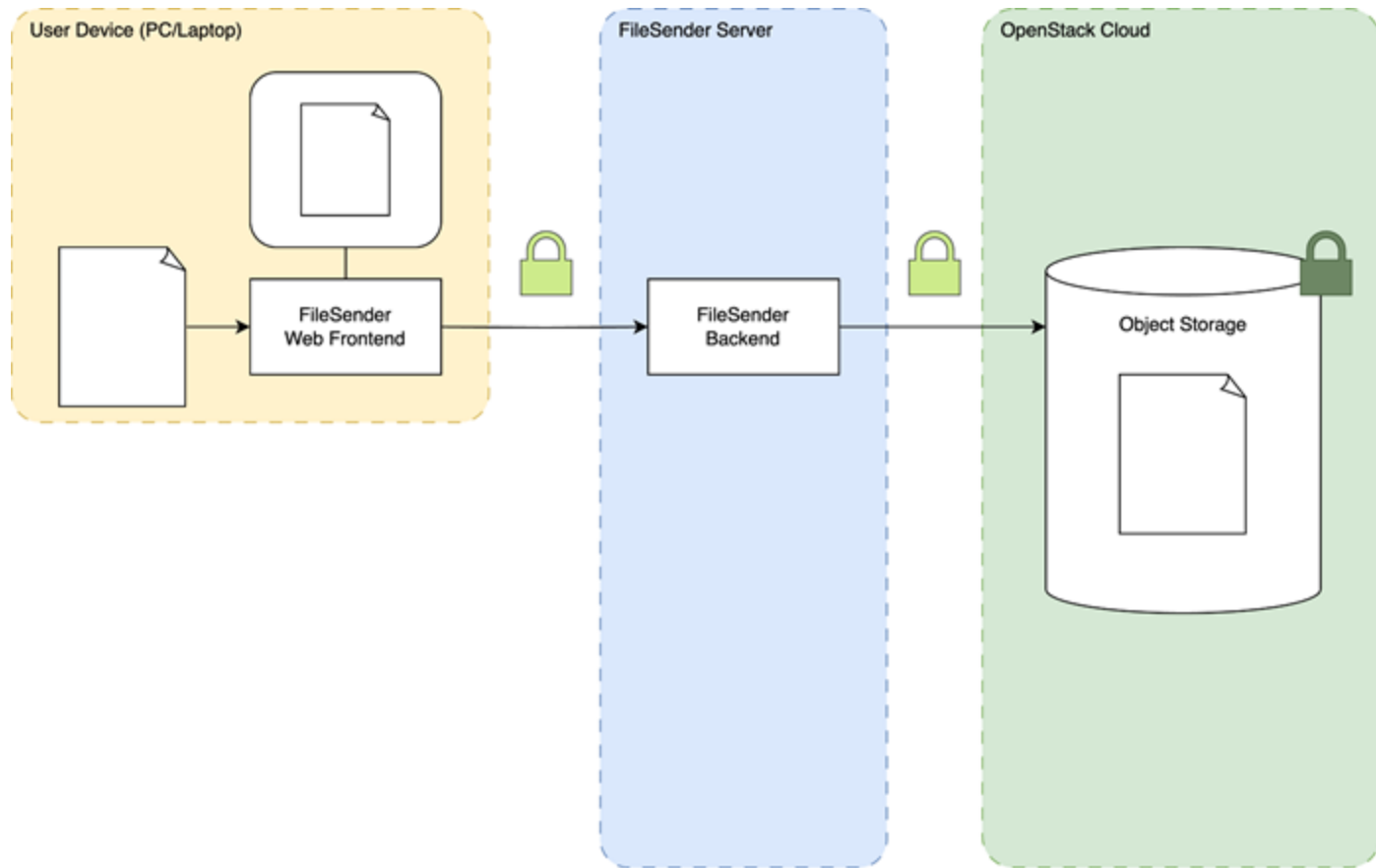
REANNZ
TUAKIRI

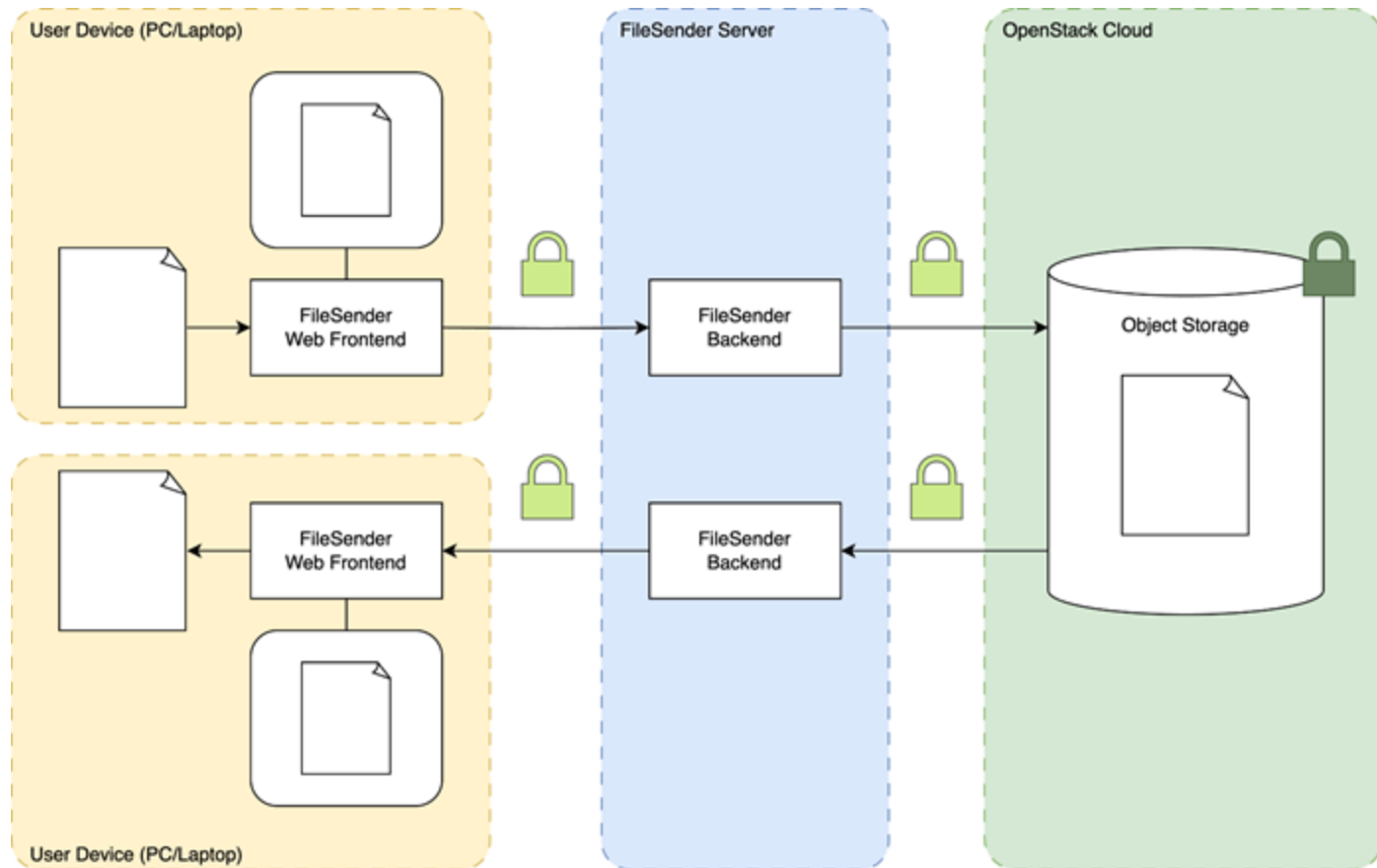












Standard transfer

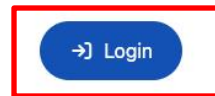
Welcome to REANNZ Filesender

REANNZ Filesender is a secure way to share large files with anyone!

Login to upload your files or invite people to send you a file.

If you have received an invitation to access this site as a guest then the email will contain the information you will need to access this site and upload files.

By logging in, you confirm that you have agreed to the FileSender [Terms and Conditions](#).



Login

Delivered by:

REANNZ

Login to FileSender

REANNZ FileSender service

Please select your organisation below, you will be redirected to complete the login process.

- NIWA
- Plant and Food Research
- REANNZ**
- Scion

Remember my organisation

Continue to your organisation

Continue

Transfer files

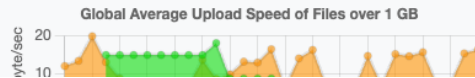
Get started by selecting files

+ drag & drop or click here to select

or

Send an entire directory

Upload

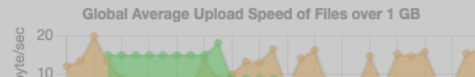


Select File

The image shows a file selection dialog box with a search bar and a list of files. The file 'awesome-file' is selected and highlighted in blue. The dialog box has a 'Cancel' button and an 'Open' button at the bottom right.

Today	Size	Kind	Date Added
awesome-file	104.9 MB	Document	Today at 10:39 AM

Continue



Transfer files

Selected files

awesome-file

100 MB ×

+ Add files

Add directory

Clear all

Continue

Next →

Transfer files

Selected files

awesome-file

100 MB ✕

Choose how you want to transfer your files

A transfer link You send the download link to your recipients

An email We send the transfer directly to your recipients

Note that the password has been encrypted into an email shown above. Only the person who is listed as a recipient and has uploaded a valid public key to the system should be able to decrypt this email. This allows you to upload a file that is encrypted in the browser and the password to decrypt that is then put into a secure message shown above so that only the recipient can decode the password and then download the files.

Scroll



Transfer settings

Encrypt files with password

the person who is listed as a recipient and has uploaded a valid public key to the system should be able to decrypt this email. This allows you to upload a file that is encrypted in the browser and the password to decrypt that is then put into a secure message shown above so that only the recipient can decode the password and then download the files.

Transfer settings

Encrypt files with password

Expires after 10 days

Show advanced settings

Check T&Cs

I accept the terms and conditions of this service

Show/Hide terms of use

← Previous

Cancel

Start Transfer

Confirm →

Transfer files

Selected files

awesome-file	100 MB
<div style="width: 100%;">100.0%</div>	



Average speed

31.4 MB/s

Number of files

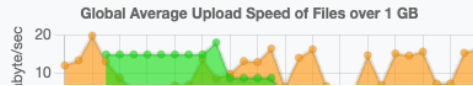
1

Estimated completion

Initializing



Fast



Transfer files

Selected files

awesome-file 100 MB
100.0%

Transfer completed!

100%

Total size 100 MB

Copy & Share This

Here's your download link

<https://filesender.reannz.co.nz/?s=download&token=afdc9bcc-e870-4bb0-8759-deb3382148b7>

Copy

The transfer expires in 10 days.

chelsea.finnie@reannz.co.nz transferred these files

This transfer expires in 10 days

Transfer details

Transfer sent on: Jun 24, 2026, 10:47:20 AM

Expiration date: Jul 4, 2026, 12:00:00 AM

From: chelsea.finnie@reannz.co.nz

Transfer size: 100 MB

[More information about downloading files](#)

Download files

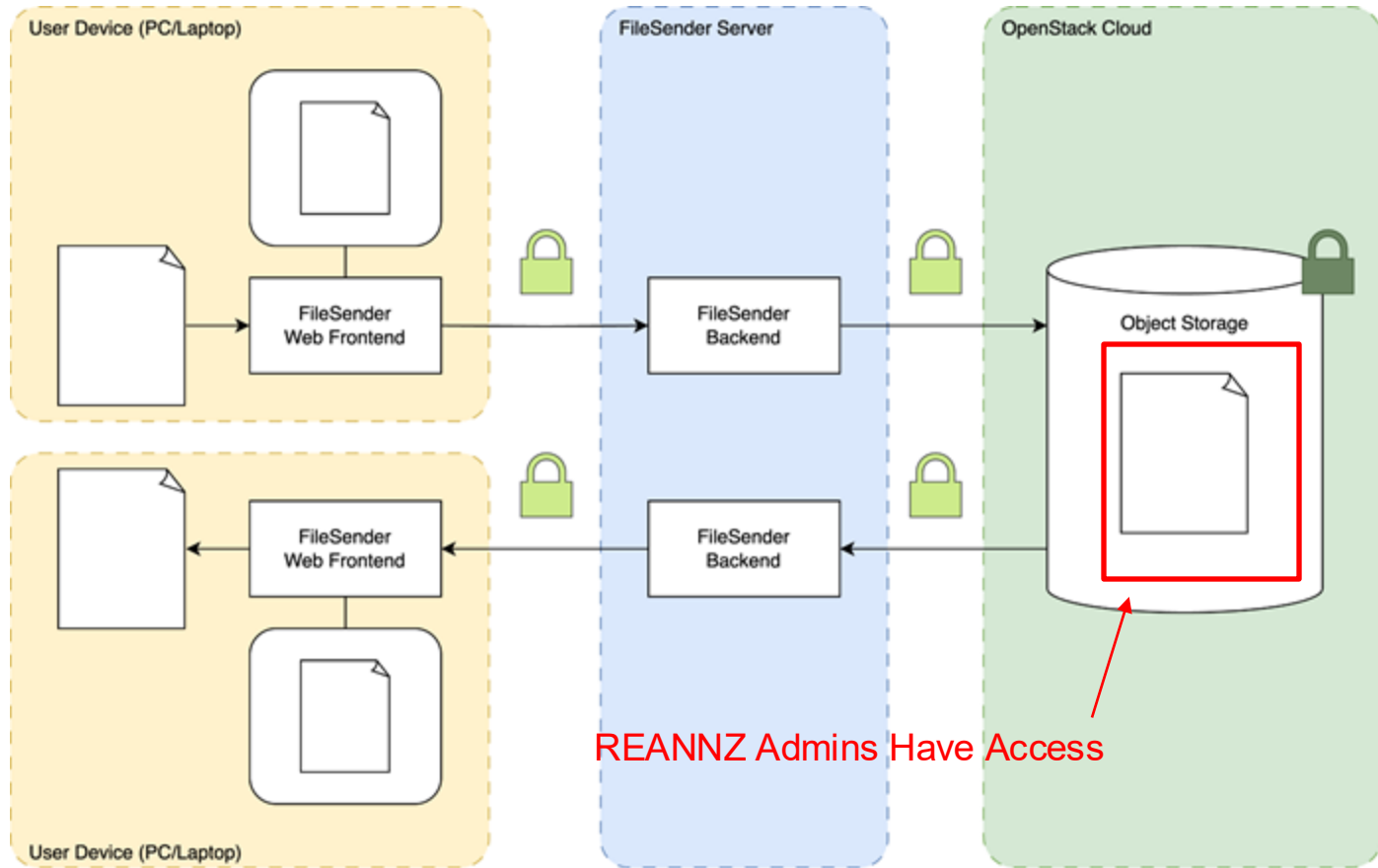
Select the files you wish to download and download as .zip or .tar file, or download a file separately.

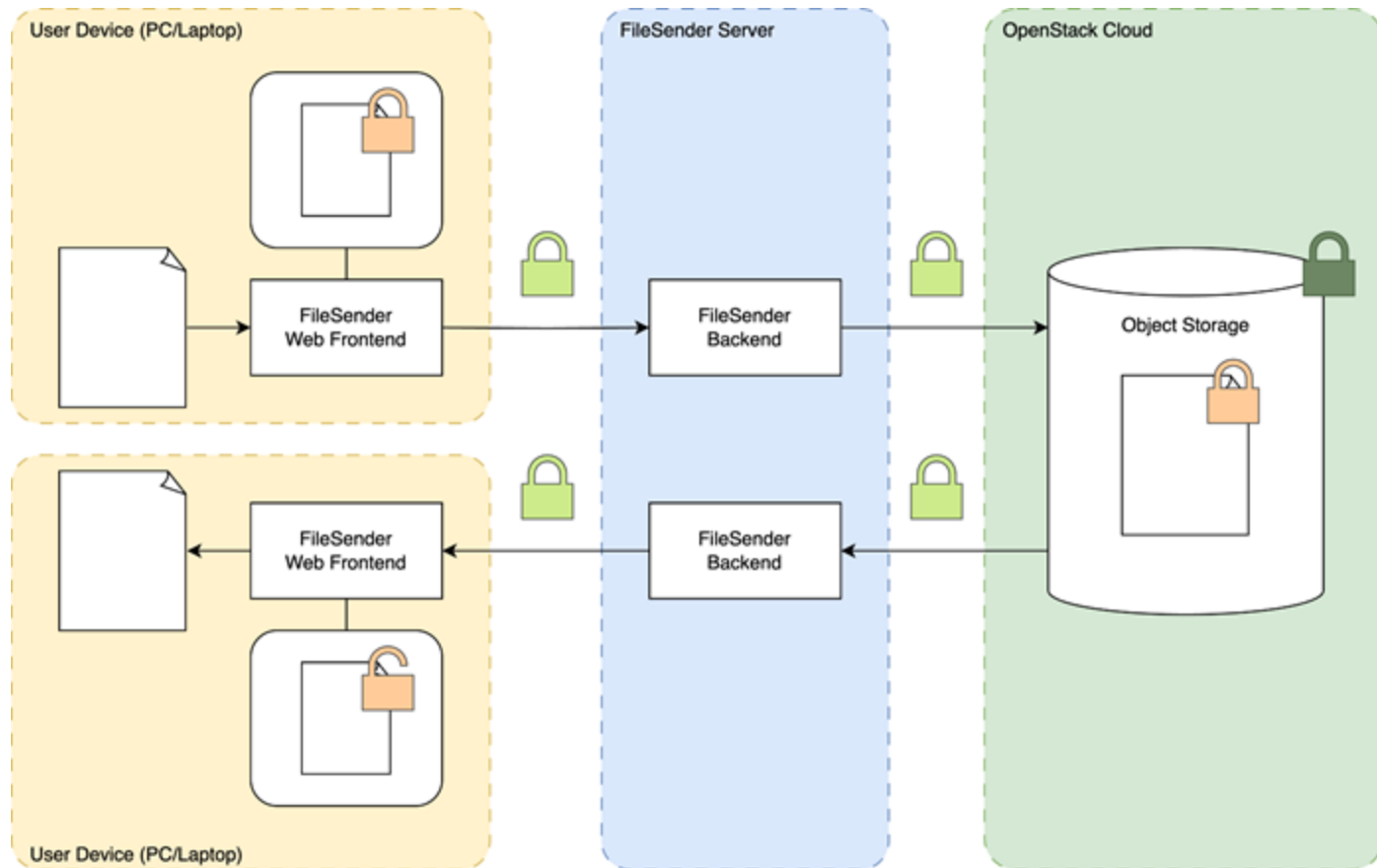
awesome-file

100 MB



Download Button





Encrypted Transfer

Transfer files

Selected files

awesome-file

100 MB ✕

Choose how you want to transfer your files

A transfer link You send the download link to your recipients

An email We send the transfer directly to your recipients

Note that the password has been encrypted into an email shown above. Only the person who is listed as a recipient and has uploaded a valid public key to the system should be able to decrypt this email. This allows you to upload a file that is encrypted in the browser and the password to decrypt that is then put into a secure message shown above so that only the recipient can decode the password and then download the files.

Scroll



Transfer settings

Encrypt files with password

Transfer settings

Encrypt



Encrypt files with password

Set Password
(make sure to sure this)

FileSenderResBaz2026!

or

Generate a password

Show / Hide Password

! make sure to write down your password and only share it with those who may access your files.

If your password has more than 40 characters without significant repetition then there are fewer restrictions on the contents of your password.

Expires after

10 days

Show advanced settings




I accept the terms and conditions of this service

Show/Hide terms of use

Transfer files

Selected files

awesome-file	100 MB
100.0%	



Average speed

23.8 MB/s

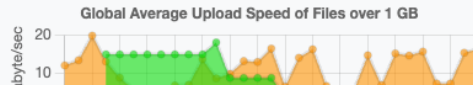
Number of files

1

Estimated completion

Initializing

Not As Fast



Transfer files

Selected files

awesome-file 100 MB
100.0%

Transfer completed!

100%

Total size 100 MB

Copy & Share This

Here's your download link

<https://filesender.reannz.co.nz/?s=download&token=31aed4cc-bc2f-48f3-89e6-346ae6797ac8>

Copy

The transfer expires in 11 days.

chelsea.finnie@reannz.co.nz transferred these files

This transfer expires in 10 days

Transfer details

Transfer sent on: Jun 24, 2026, 11:51:28 AM
Expiration date: Jul 4, 2026, 11:51:27 AM
From: chelsea.finnie@reannz.co.nz
Transfer size: 100 MB

[More information about downloading files](#)

Download files

Select the files you wish to download and download as .zip or .tar file, or download a file separately.

Click here to select all files

awesome-file

100 MB



Download Button



chelsea.finnie@reanz.co.nz transferred these files

Enter Password

Transfer details

Transfer sent on: Jun 24, 2026, 11:51:28 AM

Expiration date: Jul 4, 2026, 11:51:27 AM

From: chelsea.finnie@reanz.co.nz

Transfer size: 100 MB

[More information about downloading files](#)

Enter a password ✕

FileSenderResBaz2026!

Show / Hide Password

Cancel OK

Enter Password

awesome-file

100 MB

chelsea.finnie@reannz.co.nz transferred these files

This transfer expires in 10 days

Transfer details

Transfer sent on: Jun 24, 2026, 11:51:28 AM

Expiration date: Jul 4, 2026, 11:51:27 AM

From: chelsea.finnie@reannz.co.nz

Transfer size: 100 MB

[More information about downloading files](#)

Download files

Select the files you wish to download and download as .zip or .tar file, or download a file separately.

Click here to select all files

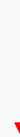
awesome-file

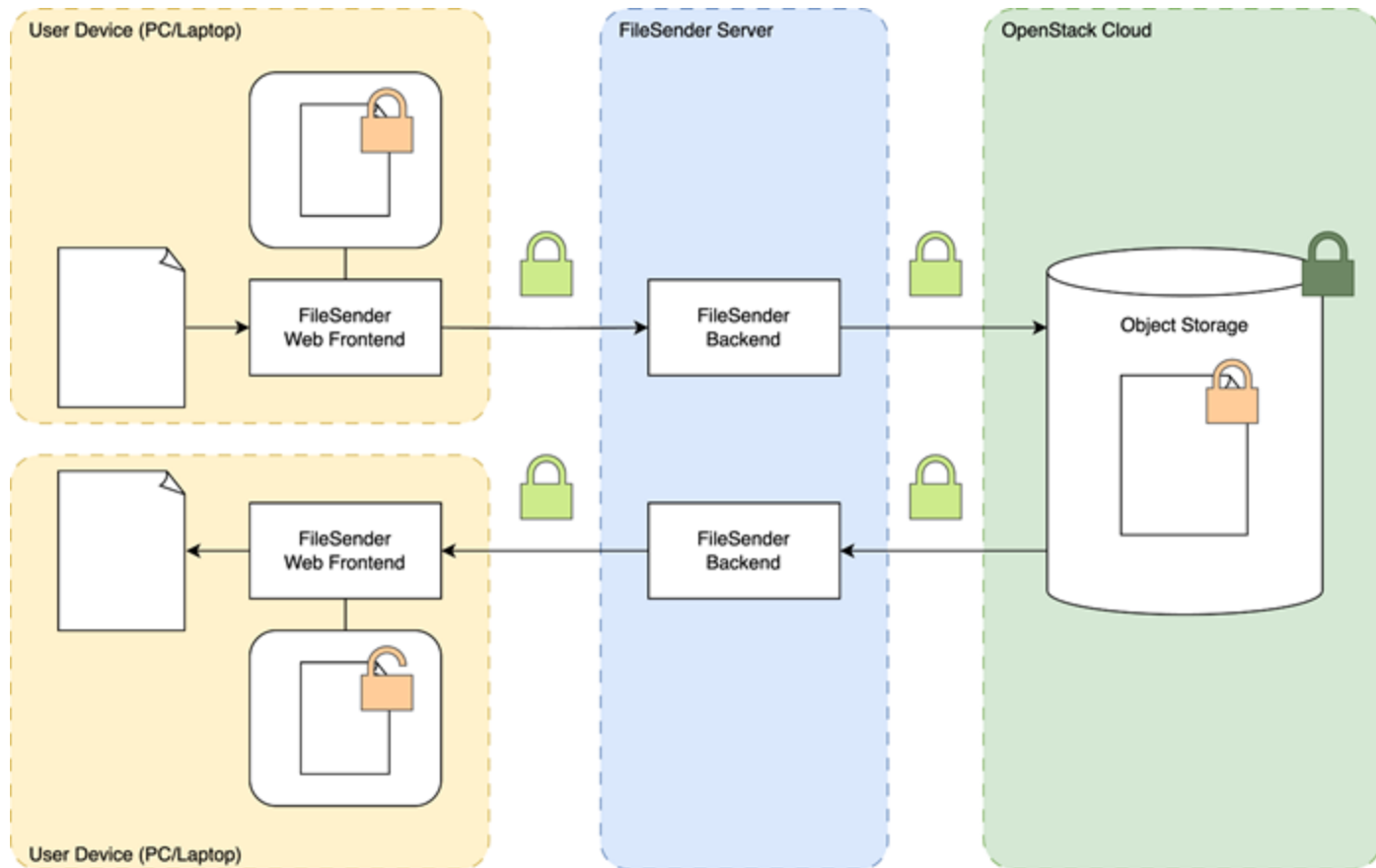
100 MB

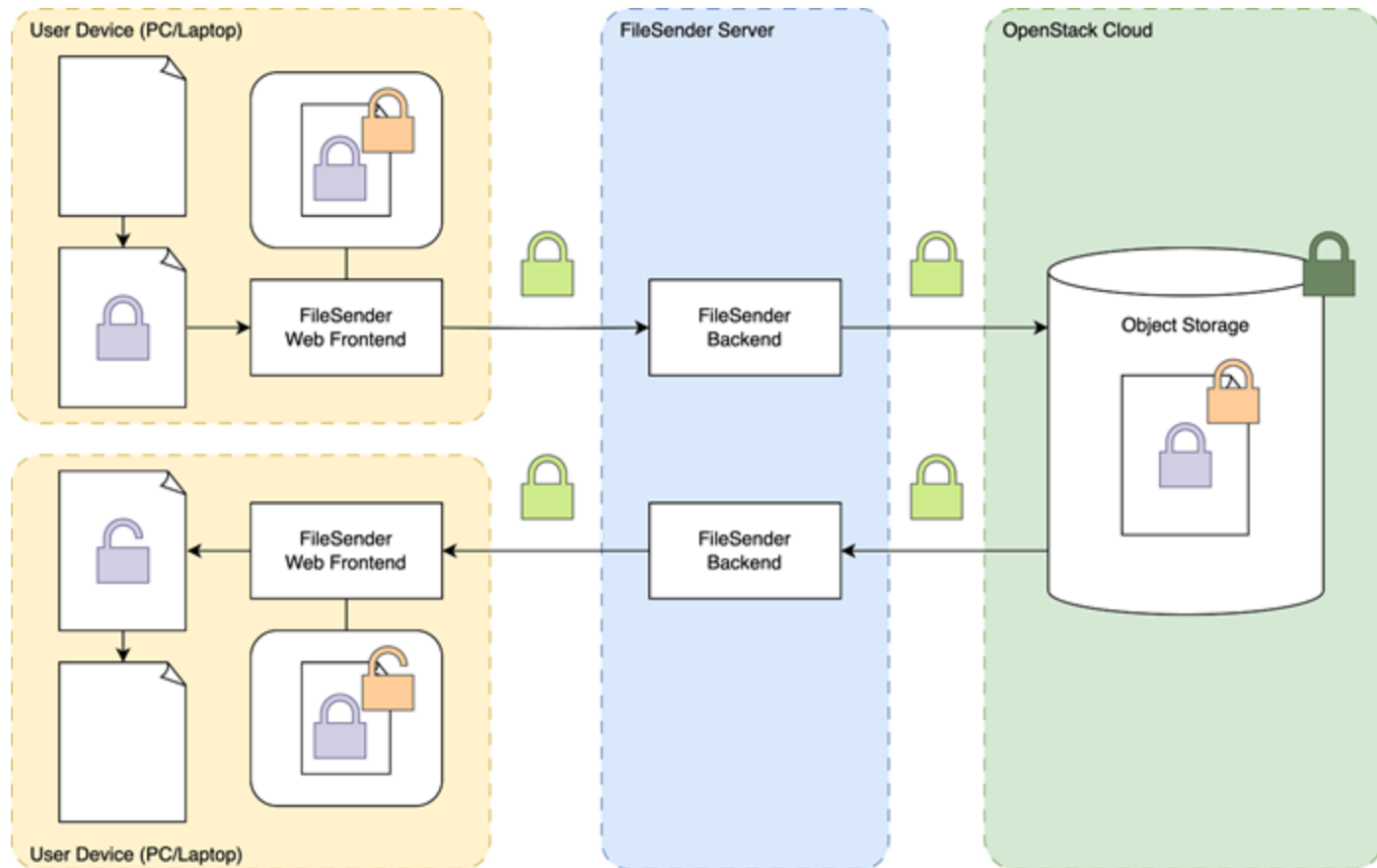
Download complete



Downloaded!







Recap

- Accessible
- Allows secure collaboration everywhere!

Guest transfer

Transfer files

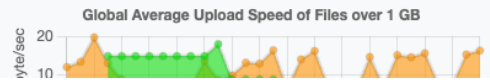
Guests

Get started by selecting files

+ drag & drop or click here to select

or

Send an entire directory



Guests

New Invitation

Invite someone to transfer files to me

You can send an invitation to someone to give them guest access to REANNZ Filesender, and enable them to send files to you or others.

+ New invitation

All my invitations

An overview of all invitations you have sent.

Invitation was sent on

Recipients

Expiration

Guest transfers

Actions

No guests



New invitation

Invite someone to transfer files to me

Send invitation to

awesome.human@example.com

Subject

Files Plz

Message

رسالة

Transfer settings



Does not expire

Guest's Email



Scroll



Transfer settings

Does not expire

Valid for one upload only

Can only send to me

Expires after

▼ Show advanced settings

Send

Send invitation

Delivered by:

REANVZ



New invitation

Sent!



Invitation sent!

Your invitation was sent to the following email address

awesome.human@example.com

The invitation expires in 21 days.

 [Go to all my invitations](#)

Delivered by:

REANVZ

REANNZ Filesender: Files Plz External Inbox x

REANNZ FileSender <no-reply@reannz.co.nz>
to me ▾

11:09 AM (22 minutes ago) ☆ ☺

Hello,

Please find below a voucher which grants access to [REANNZ Filesender](#). You can use this voucher to upload one set of files and make it available for download to a group of people.

Voucher details	
Issuer	chelsea.finnie@reannz.co.nz
Voucher link	https://filesender.reannz.co.nz/?s=upload&vid=224a29b0-65c4-4738-a3b6-b2a1e8da79a9
Valid until	14 July 2026

Upload Link

Personal message from chelsea.finnie@reannz.co.nz:

☺

Best regards,
REANNZ Filesender

For more information on FileSender, including FAQs, visit www.reannz.co.nz and go to Products and Services.

Disclaimer: This email is generated through the FileSender service and may contain content that is not controlled by REANNZ. The information contained in this email and any attachments are confidential. If you are not the intended recipient then you must not use, disseminate, distribute or copy any information contained in this email or any attachments. If you have received this email in error or you are not the originally intended recipient, please contact REANNZ by emailing help@reannz.co.nz immediately and destroy this email.

REANNZ

File
Sender



Transfer files

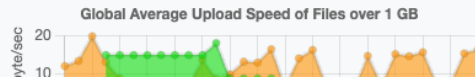
Get started by selecting files

+ drag & drop or click here to select

or

Send an entire directory

Upload



Select File

Today	Size	Kind	Date Added
awesome-file	104.9 MB	Document	Today at 10:39 AM

Cancel Open

Continue



Transfer files

Selected files

awesome-file

100 MB ×

+ Add files

Add directory

Clear all

Continue

Next →

Transfer files

Selected files

awesome-file

100 MB ✕

Choose how you want to transfer your files



An email

We send the transfer directly to your recipients

From

awesome.human@example.com

Send transfer to

chelsea.finnie@reannz.co.nz

Subject

Re: Files

Message

Here

Scroll



Transfer settings

Encrypt files with password

Expires after 10 days

Show advanced settings

Check T&Cs

I accept the terms and conditions of this service

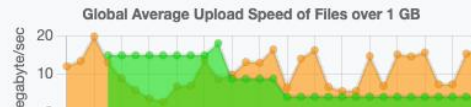
Show/Hide terms of use

← Previous

Cancel

Start Transfer

Confirm →



Transfer files

Selected files

awesome-file	100 MB
<div style="width: 100%;"><div style="width: 100%;">100.0%</div></div>	

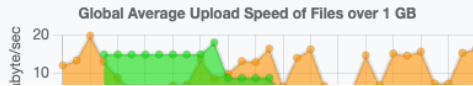
Transfer completed!

Uploaded!



Total size 100 MB

The transfer expires in 11 days.



REANNZ Filesender: Re: Files

RF REANNZ FileSender <no-reply@reannz.co.nz>
To: 🟢 Chelsea Finnie

😊 ↩️ Reply ↶ Reply all ↷ Forward 📄 ▾ 🗣️ ▾ 📄 ▾ 📄 ▾ ⋮

Wed 24/06/2026 11:14

Hello,

The following file has been uploaded to [REANNZ Filesender](#) by [awesome.human@example.com](#) and you have been granted permission to download its contents.

Transaction details

File	awesome-file (100 MB)
Expiry date	4 July 2026
Download link	https://filesender.reannz.co.nz/?s=download&token=aa132cd1-a244-40ff-a438-2a6694041f8d

Download Link



Personal message from awesome.human@example.com:

Here

Best regards,
REANNZ Filesender

For more information on FileSender, including FAQs, visit [www.reannz.co.nz](#) and go to Products and Services.

Disclaimer: This email is generated through the FileSender service and may contain content that is not controlled by REANNZ. The information contained in this email and any attachments are confidential. If you are not the intended recipient then you must not use, disseminate, distribute or copy any information contained in this email or any attachments. If you have received this email in error or you are not the originally intended recipient, please contact REANNZ by emailing help@reannz.co.nz immediately and destroy this email.

awesome.human@example.com transferred these files

This transfer expires in 10 days

Transfer details

Transfer sent on: 24 June 2026, 11:14:25 am
Expiration date: 4 July 2026, 11:14:24 am
From: awesome.human@example.com
Subject: Re: Files
Message: Here
Transfer size: 100 MB

[More information about downloading files](#)

Download files

Select the files you wish to download and download as .zip or .tar file, or download a file separately.

awesome-file

100 MB



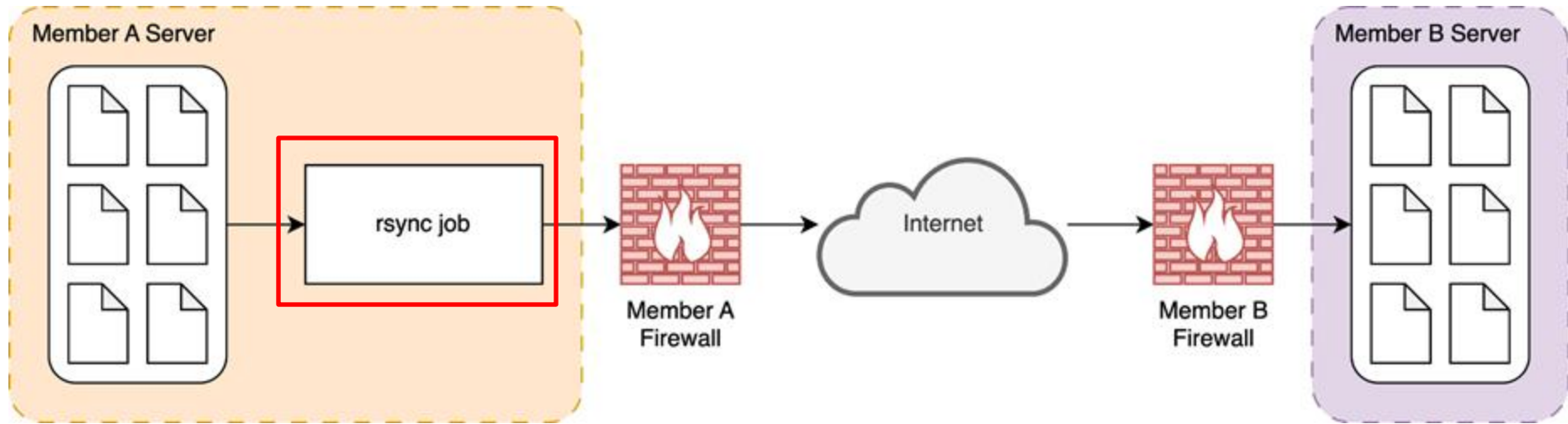
Download Button

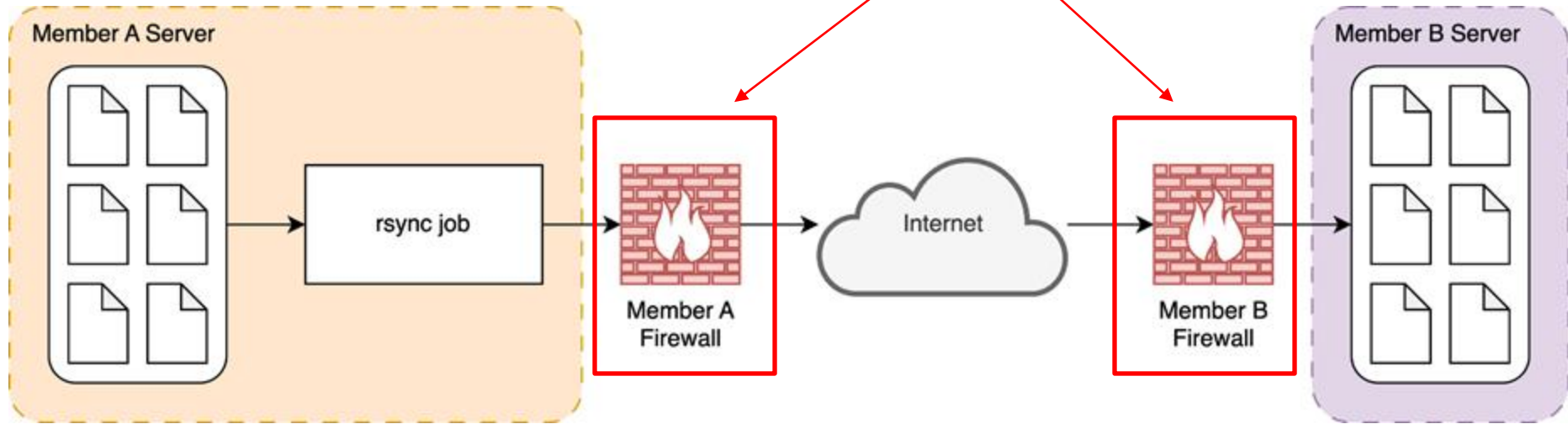
Now your turn!

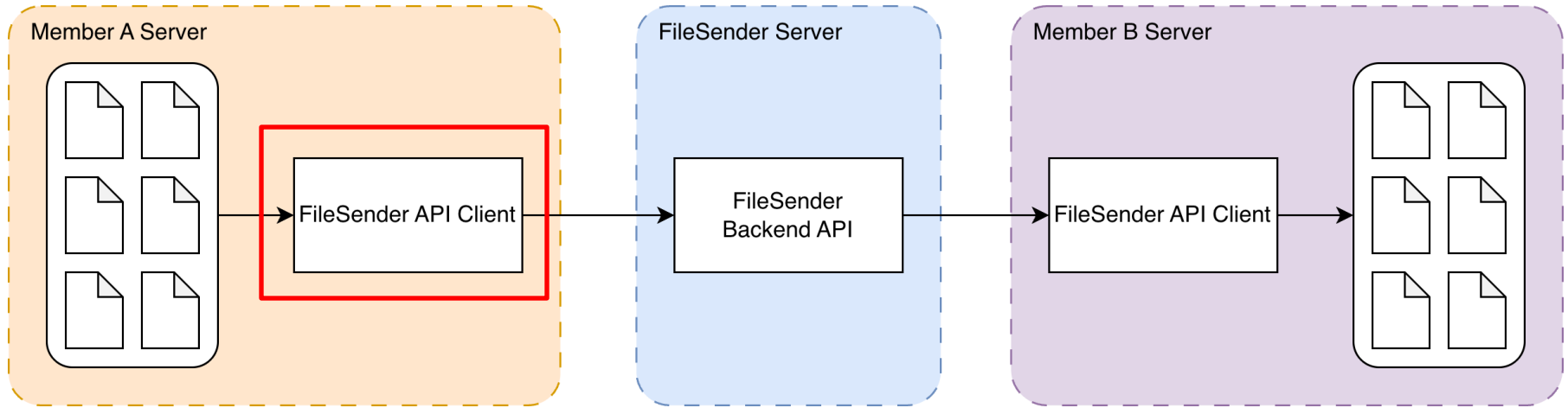
- Create a text file with a fun message to me.
- Go to the link posted in chat.
- Upload the file and make sure it's encrypted by setting the password to:
 - FileSenderResBaz2026!
- I will read out the best one (or more) at the end!

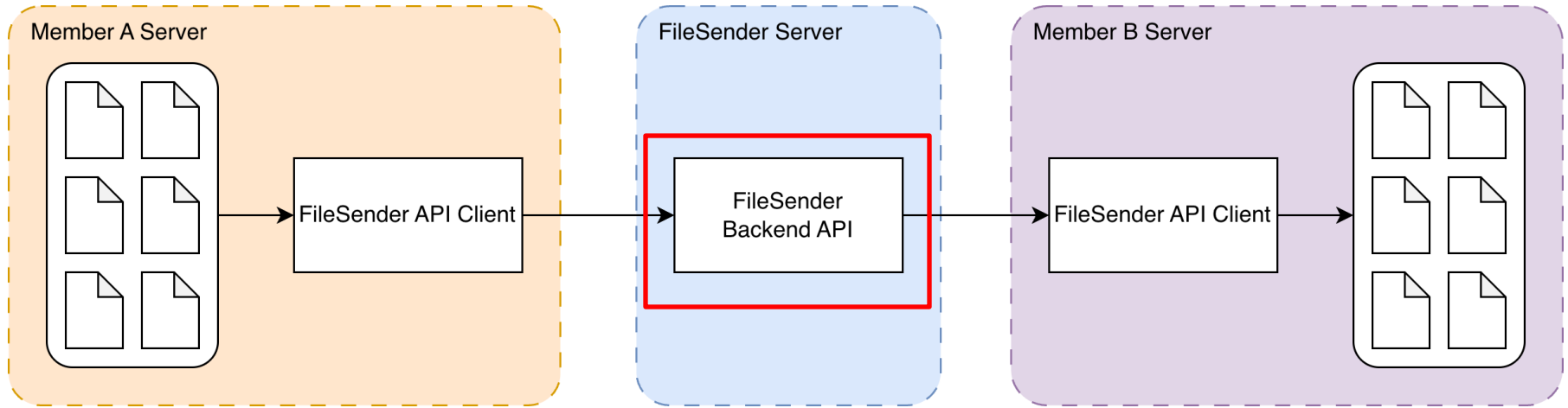
FileSender API

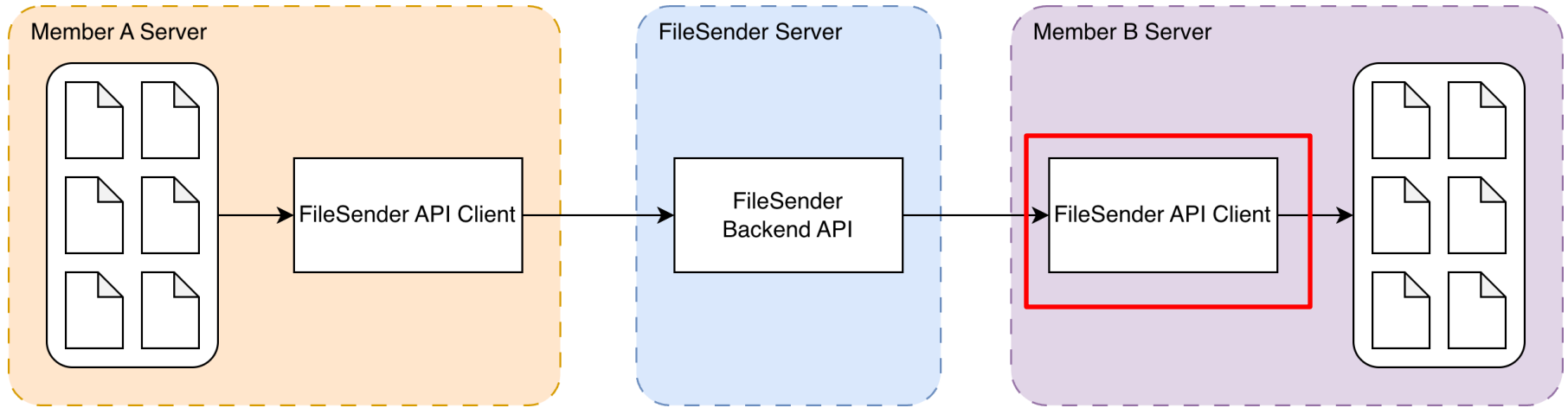
Why?

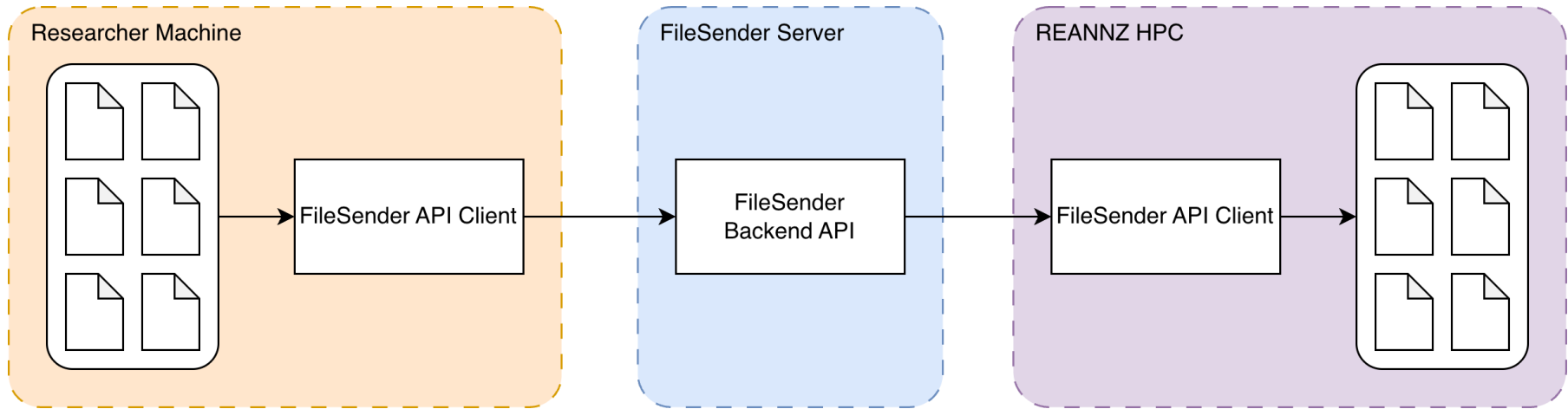












Using the API

Transfer files

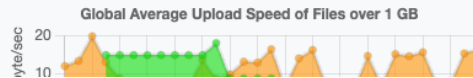
Profile

Get started by selecting files

+ drag & drop or click here to select

or


Send an entire directory



My profile

Preferences

- Use transfer settings from previous upload as default settings for next transfer.
- Save email recipients from past use (used to automatically complete email fields).

 Save preferences

Privacy

FileSender values your privacy. Please [click to see](#) how long information is retained by this installation

Account information

Email address: chelsea.finnie@reannz.co.nz

Identifiant: chelsea.finnie@reannz.co.nz

First login: 5 June 2024

 Log-off

Scroll



[page.](#)

Remote authentication **New Secret**

Use this information to authenticate with the system if you are developing REST clients.

API secret

[+ New API secret](#)

Generate a new API secret.

[× Clear API secret](#)

Delete the current API secret.

Python CLI Client

To use the Python CLI Client configuration, create a directory `~/filesender` and copy the configuration file `filesender.py.ini` to the directory `~/filesender`. The configuration file is optional but is recommended as it means you do not always have to specify all parameters on the command line. The python CLI Client can be downloaded to any location and requires Python version 3 to execute.

With the configuration file in place you can upload a file using

```
python3 filesender.py -r person-to-send-to@emailserver.edu research-data-f
```

```
python3 filesender.py -r person-to-send-to@emailserver.edu  
research-data-file.txt
```

[Copy](#)[Download Python CLI
Client](#)[Download Python CLI Client
configuration](#)

[page](#).

Remote authentication

Use this information to authenticate with the system if you are developing REST clients.

API secret

You generated this auth secret at: 24 June 2026, 12:00:15 pm

73abfa14311f08e7ab13a9d20664fd336dce7839ab599d7ce13a77f8de27fb38

Copy

+ New API secret

Generate a new API secret.

× Clear API secret

Delete the current API secret.

Download Client

Python CLI Client

To use the Python CLI Client configuration, create a directory `~/filesender` and copy the configuration file `filesender.py.ini` to the directory `~/filesender`. The configuration file is optional but is recommended as it means you do not always have to specify all parameters on the command line. The python CLI Client can be downloaded to any location and requires Python version 3 to execute.

With the configuration file in place you can upload a file using `python3 filesender.py -r person-to-send-to@emailserver.edu research-data-f`

```
python3 filesender.py -r person-to-send-to@emailserver.edu
research-data-file.txt
```

Copy

Download Config



Download Python CLI Client



Download Python CLI Client configuration

Config

```
filesender-pres % cat filesender.py.ini
[system]
base_url = https://filesender.reannz.co.nz/rest.php
default_transfer_days_valid = 10

[user]
username = chelsea.finnie@reannz.co.nz
apikey = 73abfa14311f08e7ab13a9d20664fd336dce7839ab599d7ce13a77f8de27fb38

filesender-pres %
```

Client Help Docs

```
filesender-pres % python3 filesender.py --help
<class 'ModuleNotFoundError'>
('No module named 'requests'',)
No module named 'requests'

ERROR: A required dependency is not installed, please check your
distribution packages or run something like the following

pip3 install requests urllib3
filesender-pres %
```

Missing Packages :(

Install Packages

```
⬢ ⬢ ⬢ Ƨ%3 -zsh
No module named 'requests'

ERROR: A required dependency is not installed, please check your
distribution packages or run something like the following

pip3 install requests urllib3
filesender-pres % pip3 install requests urllib3
Collecting requests
  Using cached requests-2.34.2-py3-none-any.whl.metadata (4.8 kB)
Collecting urllib3
  Using cached urllib3-2.7.0-py3-none-any.whl.metadata (6.9 kB)
Collecting charset_normalizer<4,>=2 (from requests)
  Using cached charset_normalizer-3.4.7-cp311-cp311-macosx_10_9_universal2.whl.metadata (40 kB)
Collecting idna<4,>=2.5 (from requests)
  Downloading idna-3.18-py3-none-any.whl.metadata (6.1 kB)
Requirement already satisfied: certifi>=2023.5.7 in /opt/homebrew/lib/python3.11/site-packages (from requ
sts) (2023.11.17)
Using cached requests-2.34.2-py3-none-any.whl (73 kB)
Using cached urllib3-2.7.0-py3-none-any.whl (131 kB)
Using cached charset_normalizer-3.4.7-cp311-cp311-macosx_10_9_universal2.whl (309 kB)
Downloading idna-3.18-py3-none-any.whl (65 kB)
 65.5/65.5 kB 8.7 MB/s eta 0:00:00
Installing collected packages: urllib3, idna, charset_normalizer, requests
Successfully installed charset_normalizer-3.4.7 idna-3.18 requests-2.34.2 urllib3-2.7.0

[notice] A new release of pip is available: 23.3.1 -> 26.1.2
[notice] To update, run: python3.11 -m pip install --upgrade pip
filesender-pres %
```

Client Help Docs

```
filesender-pres % python3 filesender.py --help
usage: filesender.py [-h] [-v] [-i] [-p] [-s SUBJECT] [-m MESSAGE] [-g] [-e ENCRYPTED] [-d DOWNLOAD]
                  [-o OUTPUT_DIR] [--days DAYS] [--threads THREADS] [--timeout TIMEOUT]
                  [--retries RETRIES] [-u USERNAME] [-a APIKEY] [-r RECIPIENTS] [-b BASE_URL]
                  [files ...]

File Sender CLI client.
Source code: https://github.com/filesender/filesender/blob/master/scripts/client/filesender.py

positional arguments:
  files                path to file(s) to send

options:
  -h, --help          show this help message and exit
  -v, --verbose
  -i, --insecure
  -p, --progress
  -s SUBJECT, --subject SUBJECT
  -m MESSAGE, --message MESSAGE
  -g, --guest
  -e ENCRYPTED, --encrypted ENCRYPTED
  -d DOWNLOAD, --download DOWNLOAD
  -o OUTPUT_DIR, --output_dir OUTPUT_DIR
  --days DAYS
  --threads THREADS
  --timeout TIMEOUT
  --retries RETRIES
  -u USERNAME, --username USERNAME
```

Example Usage

```

options:
  -h, --help            show this help message and exit
  -v, --verbose
  -i, --insecure
  -p, --progress
  -s SUBJECT, --subject SUBJECT
  -m MESSAGE, --message MESSAGE
  -g, --guest
  -e ENCRYPTED, --encrypted ENCRYPTED
  -d DOWNLOAD, --download DOWNLOAD
  -o OUTPUT_DIR, --output_dir OUTPUT_DIR
  --days DAYS
  --threads THREADS
  --timeout TIMEOUT
  --retries RETRIES
  -u USERNAME, --username USERNAME
  -a APIKEY, --apikey APIKEY
  -b BASE_URL, --base_url BASE_URL

required named arguments:
  -r RECIPIENTS, --recipients RECIPIENTS

A config file can be added to {homepath}/.filesender/filesender.py.ini to avoid having to specify base URL
, username and apikey on the command line.

Example (Config file is present):
python filesender.py -r recipient@example.com file1.txt

```

API Upload

```
filesender-pres $ python3 filesender.py -r chelsea.finnie@reannz.co.nz awesome-file
```

REANNZ Filesender: File available for download

REANNZ FileSender<no-reply@reannz.co.nz>
To: Chelsea Finnie

Reply Reply all Forward

Wed 24/06/2026 12:37

Hello,
The following file has been uploaded to REANNZ Filesender by chelsea.finnie@reannz.co.nz and you have been granted permission to download its contents.

Transaction details

File	awesome-file (100 MB)
Expiry date	Jul 4, 2026
Download link	https://filesender.reannz.co.nz/?s=download&token=807908c2-5d0c-4339-8356-c5f400ebcdca

Download Link
(Copy This)

Best regards,
REANNZ Filesender

For more information on FileSender, including FAQs, visit www.reannz.co.nz and go to Products and Services.

Disclaimer: This email is generated through the FileSender service and may contain content that is not controlled by REANNZ. The information contained in this email and any attachments are confidential. If you are not the intended recipient then you must not use, disseminate, distribute or copy any information contained in this email or any attachments. If you have received this email in error or you are not the originally intended recipient, please contact REANNZ by emailing help@reannz.co.nz immediately and destroy this email.

```
cfinnie@pengu: ~/filesender-pres
cfinnie@pengu:~/filesender-pres$ ls
filesender.py  filesender.py.ini
cfinnie@pengu:~/filesender-pres$
```

Client & Config

```
cfinnie@pengu: ~/filesender-pres
cfinnie@pengu:~/filesender-pres$ python3 filesender.py -d "https://filesender.reannz.co.nz/?s=download&token=807908c2-5d0c-4339-8356-c5f400ebcdca"
```

API Download

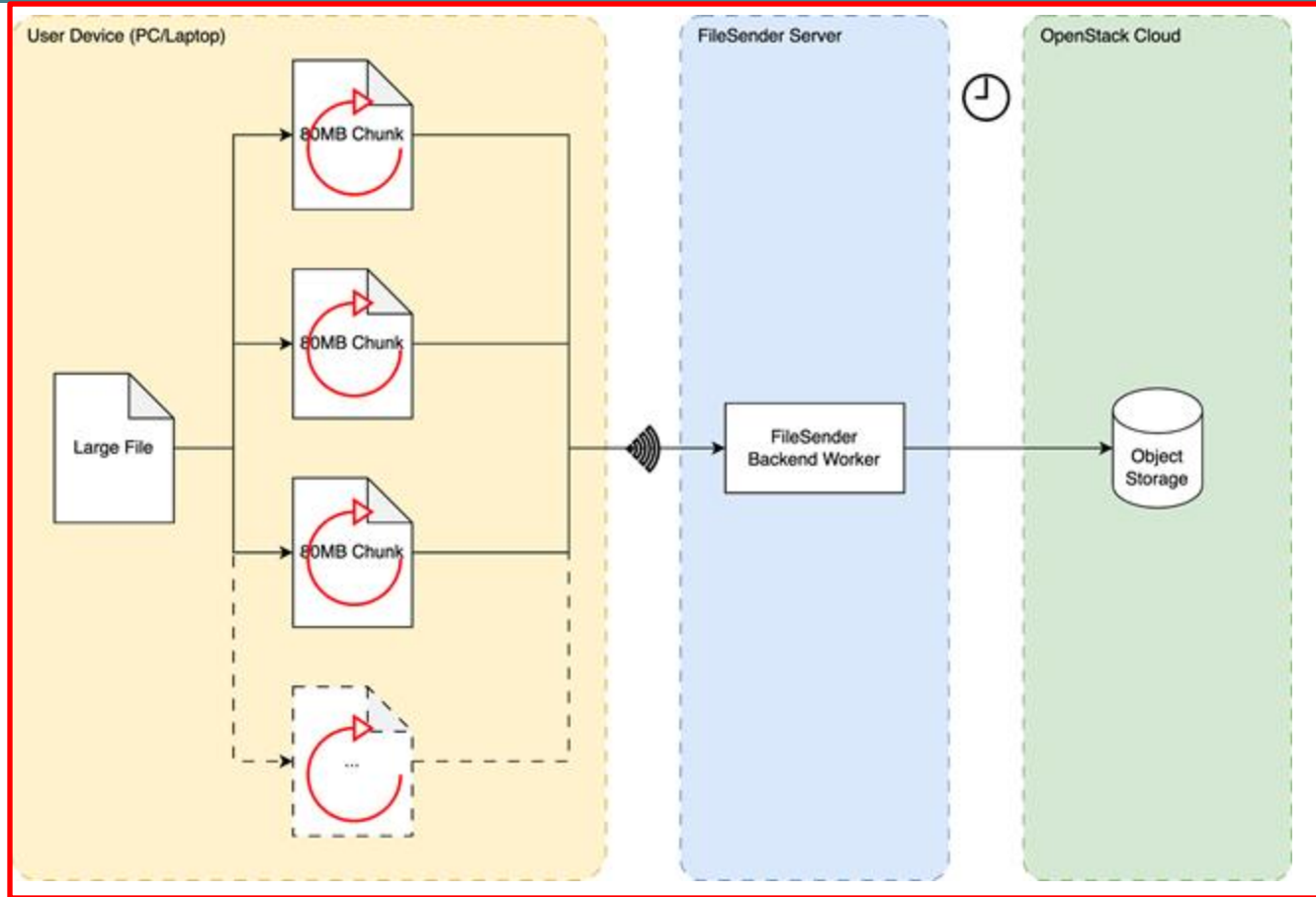
```
cfinnie@pengu: ~/filesender-pres
cfinnie@pengu:~/filesender-pres$ python3 filesender.py -d "https://filesender.reannz.co.nz/?s=download&token=807908c2-5d0c-4339-8356-c5f400ebcdca"
Downloading file "awesome-file" to "807908c2-5d0c-4339-8356-c5f400ebcdca/awesome-file"
cfinnie@pengu:~/filesender-pres$ ls
807908c2-5d0c-4339-8356-c5f400ebcdca filesender.py filesender.py.ini
cfinnie@pengu:~/filesender-pres$ ls 807908c2-5d0c-4339-8356-c5f400ebcdca
awesome-file
cfinnie@pengu:~/filesender-pres$
```

File Downloaded

REANNZ FileSender Best Practices

- Know when to use encryption.
- Review security and file handling policies/guidelines.
- Share links are more reliable.
- Archive small files.
- Use a wired connection.

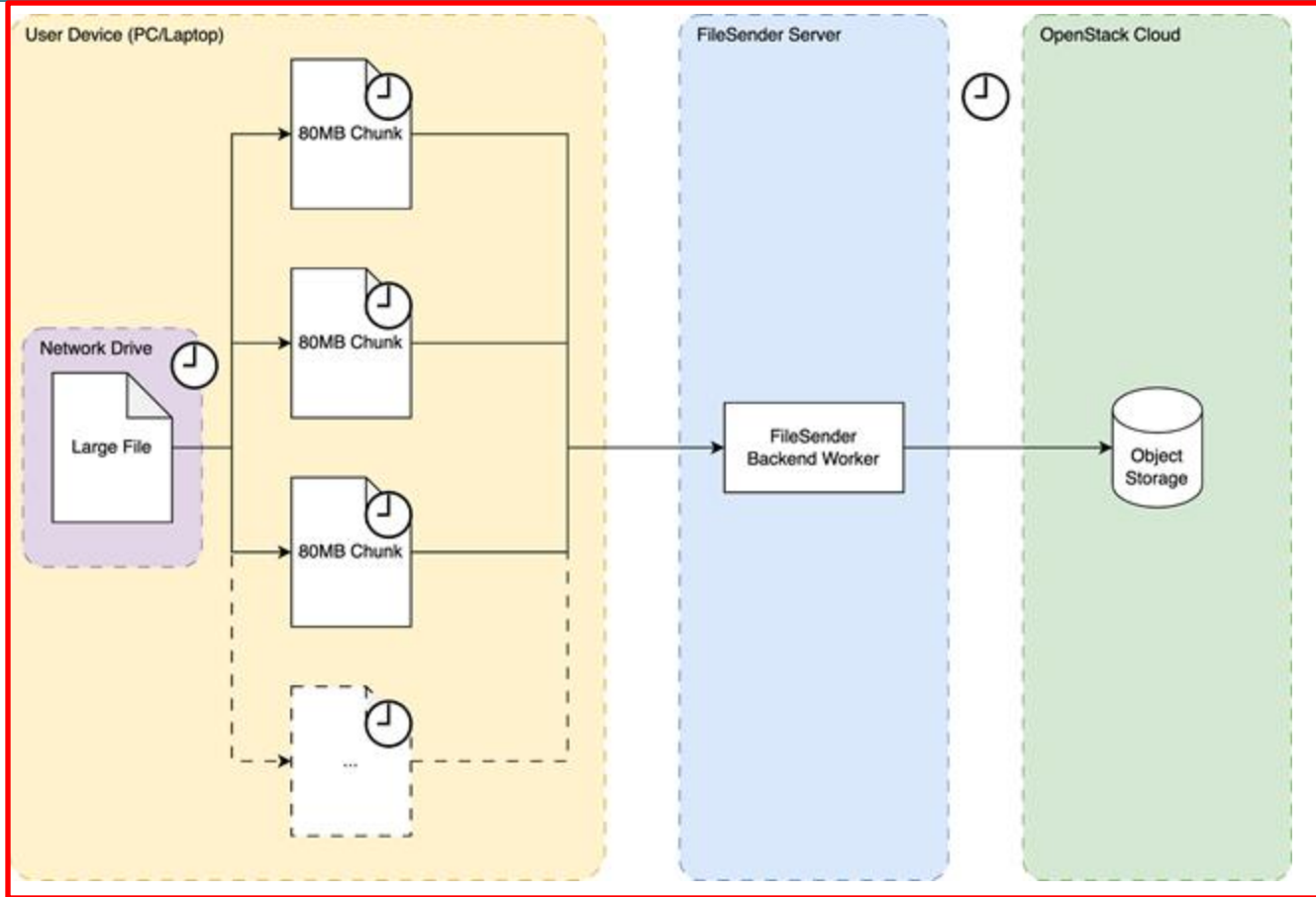
Slow



REANNZ FileSender Best Practices

- Know when to use encryption.
- Review security and file handling policies/guidelines.
- Share links are more reliable.
- Archive small files.
- Use a wired connection.
- Don't upload off a network drive.

Slow

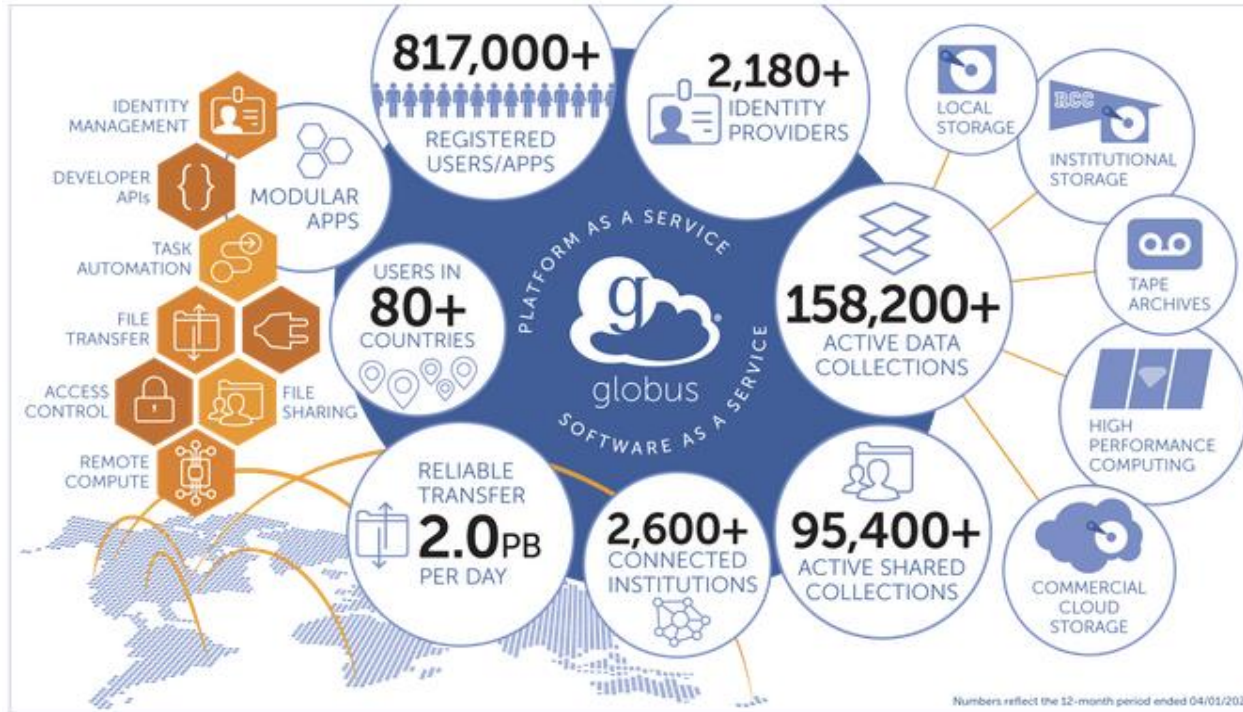


Is FileSender right for you?

- High performance
- Lots of data

Globus

What is Globus?



Why Globus?



Institutions / Collections / Endpoint	Description
REANNZ Mahuika	REANNZ Mahuika, located at Tamaki Data Centre
University of Otago – HCS University of Otago – CHC HCS	Collection for the High Capacity Research Storage Cluster (Dunedin) Collection for the High Capacity Research Storage Cluster (Christchurch)
University of Auckland Research Data Collection	Endpoint provides access to UoA research data.
AgResearch	A Globus collection attached to AgResearch's institutional Linux storage platform
PFR Globus Connect Server	Access to Plant Food Research data
MWLR PN-DTN-username	Customised endpoints for users to transfer data between MWLR and Mahuika, share data with collaborators
Scion Data	Endpoint provides access to Scion research data
ESR Endpoint	Provides access to ESR data

REANNZ Globus Collection Renaming (post 22 June 2026)

What's changed?

- The new names replace the “NeSI” prefix with a “REANNZ” prefix and include the name of the location where the datasets are hosted and managed. For example:
- NeSI HPC Storage mapped collection is now `REANNZ Mahuika`
- NeSI Freezer mapped collection is now `REANNZ Freezer`
- NeSI RDC Storage mapped collection is now `REANNZ Research Developer Cloud (RDC)`
- NeSI Data Transfer Node Tamaki endpoint is now `REANNZ Data Transfer Node Tamaki`

More details available on: <https://docs.nesi.org.nz/Announcements/Globus-renaming/>

Setting Up Globus Account

globus

Log in

Use your organizational login
e.g., university, national lab, facility, project

Look-up your organization...

By selecting Continue, you agree to Globus [terms of service](#) and [privacy policy](#).

Continue

LOG IN USING LESS COMMON OPTIONS

GitHub Google ID

Didn't find your organization? Then use [Globus ID to sign in](#). (What's this?)

- www.globus.org
- Log in using your Institutional credentials or create a new Globus ID

Transferring Data to/from Mahuika

The screenshot displays the File Manager interface with two collections selected for a transfer operation. The left collection is 'VF at REANNZ' with the path '/Users/vfan/Documents/Globus_Transfers/'. The right collection is 'REANNZ Mahuika' with the path '/nesi/nobackup/reannz99999/vfan001/ResBaz/'. A 'Start' button is visible above the file list. The file list shows a folder 'Demo_Transfer' (4/9/2026, 08:21 AM) and files 'hello.txt' (4/20/2026, 11:32 AM, 35 B) and 'test_files' (4/17/2026, 01:42 PM). A context menu is open over the 'Demo_Transfer' folder, listing actions such as Share, Transfer or Sync to..., New Folder, Rename, Delete Selected, Download, Open, Upload, Get Link, Show Hidden Items, and Manage Consent. The right pane shows 'This folder is empty.' and '1 item selected' is indicated at the bottom.

File Manager

Collection: VF at REANNZ REANNZ Mahuika

Path: /Users/vfan/Documents/Globus_Transfers/ /nesi/nobackup/reannz99999/vfan001/ResBaz/

Start

Transfer & Timer Options

Start

Share

Transfer or Sync to...

New Folder

Rename

Delete Selected

Download

Open

Upload

Get Link

Show Hidden Items

Manage Consent

This folder is empty.

1 item selected

Transfer Details

The screenshot displays the File Manager interface for a transfer operation. The interface includes a sidebar with navigation options: DASHBOARD, FILE MANAGER (active), ACTIVITY, COLLECTIONS, GROUPS, FLOWS, COMPUTE, TIMERS, STREAMS, and CONSOLE. The main content area is titled 'File Manager' and shows the following details:

- Collection:** VF at REANNZ
- Path:** /Users/vfan/Documents/Globus_Transfers/
- Destination Collection:** REANNZ Mahuika
- Destination Path:** /nesi/nobackup/reannz99999/vfan001/ResBaz/

At the top of the transfer configuration area, there are three buttons: 'Start' (play icon), 'Transfer & Timer Options' (gear icon), and 'Start' (back icon). Below these buttons, the configuration is divided into sections:

- Label This Transfer:** A text input field.
- Transfer Settings:** A section with a note: "NOTE: These settings will persist during this session unless changed." It contains a list of checkboxes:
 - apply sync level (i)
 - delete files on destination that do not exist on source (i)
 - preserve source file modification times (i)
 - do NOT verify file integrity after transfer (i)
 - encrypt transfer (i)
 - Skip files on source with errors (i)
 - Fail on quota errors (i)
 - Apply filter rules to the transfer (i)
- Notification Settings:** A section with a list of checkboxes:
 - Disable success notification (i)
 - Disable failure notification (i)
 - Disable inactive notification (i)

At the bottom, there is a 'Schedule Start' field with a date format 'dd / mm / yyyy. --:--:--' and a calendar icon.

Up/Downloading via Web Interface

The screenshot displays the ResBaz File Manager web interface. The main content area shows an empty folder with the message "This folder is empty." A context menu is open over the folder, listing various actions. The "Upload" option is highlighted with a blue border. The interface includes a sidebar with navigation icons for Dashboard, File Manager, Activity, Collections, Groups, Flows, Compute, Timers, and Streams. The top navigation bar shows the current collection as "REANNZ Mahuika" and the path as "/nesi/nobackup/reannz99999/vfan001/ResBaz/".

File Manager

Collection: REANNZ Mahuika

Path: /nesi/nobackup/reannz99999/vfan001/ResBaz/

select all up one folder refresh list filter view

This folder is empty.

- Share
- Transfer or Sync to...
- New Folder
- Rename
- Delete Selected
- Download
- Open
- Upload**
- Get Link

Guest Collection / Sharing Files

The screenshot displays a File Manager interface with a sidebar on the left containing navigation icons for Dashboard, File Manager, Activity, Collections, Groups, Flows, and Settings. The main area shows a collection named "REANNZ Mahuika" with the path "/nesi/nobackup/reannz99999/vfan001/ResBaz/". The folder is currently empty, displaying the message "This folder is empty." A context menu is open over the folder, listing actions: Share, Transfer or Sync to..., New Folder, Rename, Delete Selected, and Download. Below the main area, there are tabs for Overview, Collections, and Credentials. A "Next" button is visible at the bottom of the main area.

File Manager

Panels

Collection

Path

Bookmark

select all up one folder refresh list filter view

This folder is empty.

- Share
- Transfer or Sync to...
- New Folder
- Rename
- Delete Selected
- Download

REANNZ Mahuika

Overview Collections Credentials

Next >

CREATED BY ME

MANAGED BY ME

NEVER ACCESSED

90+ DAYS OLD

Add Guest Collection

Quick Globus Summary

- Good for large amounts of data
- Data does not pass through external server

- Transfers between collections
- Can create shared collection to share data with collaborators
- Can transfer data between two personal laptops/desktops

Quick Quizz

- **An external collaborator would like to send 80GB of files to you**
- **Move 10 TB between two institutions over a slow or flaky link, running unattended over the weekend.**
- **Download nightly research data backup from remote computer**
- **Transfer 400 TB**

Use Cases

Copy a small config file or script from your laptop to a server you have SSH access to.

Use Cases

Moving large files over a flaky connection to a server you have SSH access to.

Use Cases

Automated backup of a directory to a backup server you control.

Use Cases

Pull your analysis outputs from Mahuika back to your laptop, on job completion.

Ngā mihi nui ki a koe!
Thank you!

REANNZ

Pātai/Questions?

REANNZ HPC Support:

support@nesi.org.nz