

# UK PET Core Lab

## Work Instruction: MIMcloud Upload

*This work instruction describes the procedure for uploading DICOM data to MIMcloud for review at the UK PET Core Lab based at the King's College London & Guy's and St. Thomas' PET Centre*

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## 1 Introduction

This work instruction applies to the upload of DICOM data from external sites to the MIMcloud server for review at the King's College London & Guy's and St Thomas' PET Centre.

## 2 Aim

The purpose of this document is to ensure that the upload of DICOM data to the MIMcloud server is performed using consistent and secure methods.

MIMcloud can be used for transfer of phantom data as part of site accreditation procedures and pseudo-anonymised patient data as part of clinical trials.

## 3 Roles and Responsibilities

Designated users at external sites are responsible for pseudo-anonymising and uploading DICOM data to the MIMcloud server. Physicists at the King's College London & Guy's and St Thomas' PET Centre are responsible for maintaining access and permissions for external users. Principal Investigators are responsible for ensuring the ethics approval for individual trials covers the use of electronic transfer via the MIMcloud server.

## 4 Access to MIMcloud

The preferred method for transfer of phantom and patient DICOM images to the Core Lab is via MIMcloud. The Core Lab has a contract with MIM Software Inc to provide software and data storage services and there is no cost to sites uploading scans. Encrypted Data is stored on servers located in the EU and access to the data is strictly controlled by the Core Lab. Figure 1 shows a schematic of the data flow.

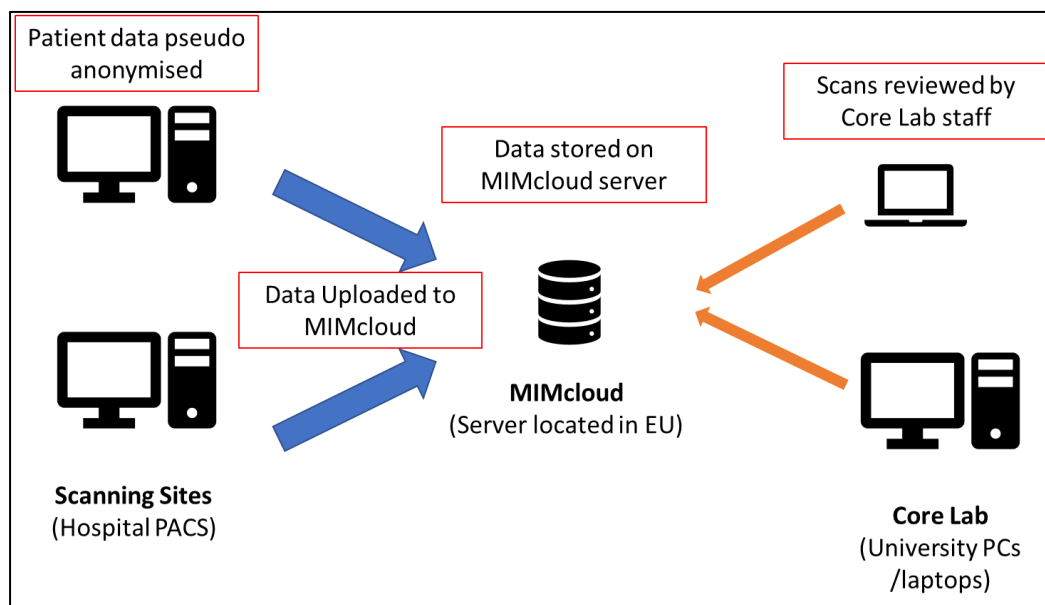


Figure 1. Schematic of data flow for central review by the Core Lab

1. Individual scanning sites pseudo-anonymise the patient data following local procedures.
2. The data is uploaded to the MIMcloud server using dedicated software.
3. Data on the cloud server is checked for integrity by Core Lab staff, any queries are raised with the scanning site.

4. Once the data is verified, the central review team are notified.
5. Central reviewers analyse the scans and send the report to the trials office and recruiting site.

### 4.1 Prerequisites

For sites to be able to upload data via MIMcloud they will need to install the MIMcloud organizer software® on a local PC (see section 4.3). If you do not have administrator privileges for the PC, please contact your local IT department to request installation. There are versions of the organiser for Windows 64-bit and mac, but Windows 32-bit PCs are not supported. If advice on installation or alternative transfer options are required please contact the Core Lab ([pet-trials@kcl.ac.uk](mailto:pet-trials@kcl.ac.uk)).

Users who have already set up a MIMcloud account and installed the Organizer software can skip to section 5.

### 4.2 Set Up a MIMcloud Account

1. Go to the MIMcloud website <https://mim-cloud.appspot.com/>
2. Click SIGN UP
3. Enter your contact information and set up a password & security questions.
4. Under Additional Information set the user type to **Clinician** and the Region to **EU (Ireland)**
5. Untick the box to receive MIMcloud updates

Contact Information	Security
<p>First Name <input type="text" value="Joe"/></p> <p>Last Name <input type="text" value="Bloggs"/></p> <p>Email <input type="text" value="joe.bloggs@somewhere.com"/></p> <p>Confirm Email <input type="text" value="joe.bloggs@somewhere.com"/></p>	<p>Password <input type="password" value="••••••••"/> Too Short</p> <p>Password Confirmation <input type="password"/></p> <p>Password security checked with data provided by <a href="#">haveibeenpwned.com</a></p>
<p><b>Additional Information</b></p> <p>User Type <input type="text" value="Clinician"/></p> <p>Region <input type="text" value="EU (Ireland)"/></p> <p><input type="checkbox"/> Receive MIMcloud update E-mails</p>	<p>Security Questions</p> <p>Please select and answer one of the following <input type="text"/></p> <p><i>(Answers include 5+ characters)</i></p> <p>Please select and answer one of the following <input type="text"/></p> <p><i>(Answers include 5+ characters)</i></p> <p>Please record and store your password and security responses someplace secure.</p> <p>Because this information is used to encrypt access to your data, we have no way of retrieving, resetting, or recovering it should it be lost.</p>

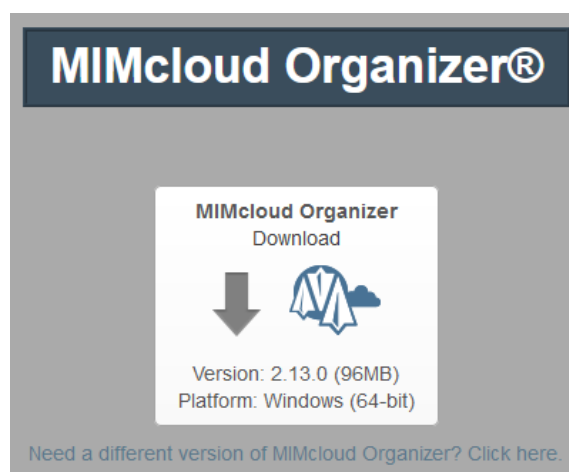
6. Click Register

7. Email the Core Lab ([pet-trials@kcl.ac.uk](mailto:pet-trials@kcl.ac.uk)) and give them the email used to set up the account. *Note: if several staff upload data, multiple MIMcloud accounts can be set up with the individuals email addresses and added to the same group(s).*

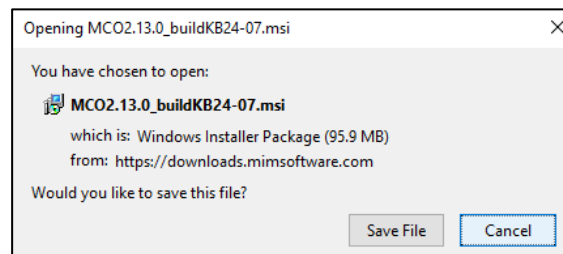
The Core Lab will set up your access to the relevant group(s) for upload and send an email to let you know when you can access the designated Group for uploading data.

### 4.3 Installing the MIM Organizer

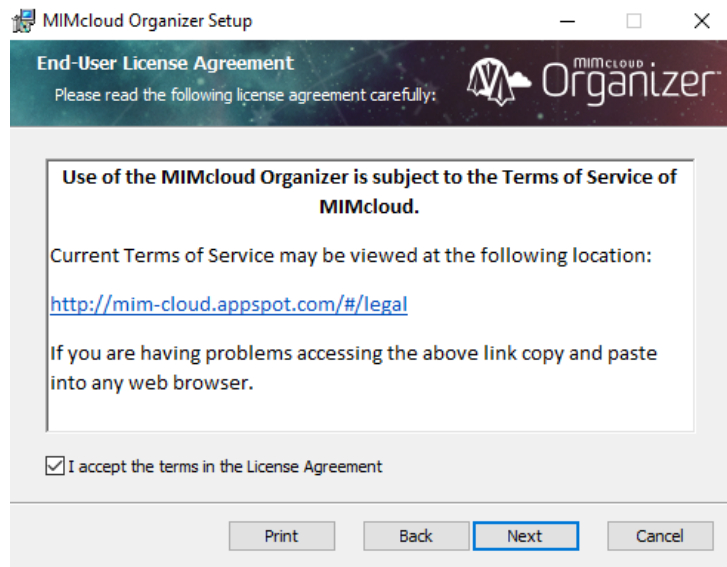
1. Go to the MIMcloud website <https://mim-cloud.appspot.com/>
2. Log into your account
3. On the left-hand menu, select Applications -> MIMcloud Organizer



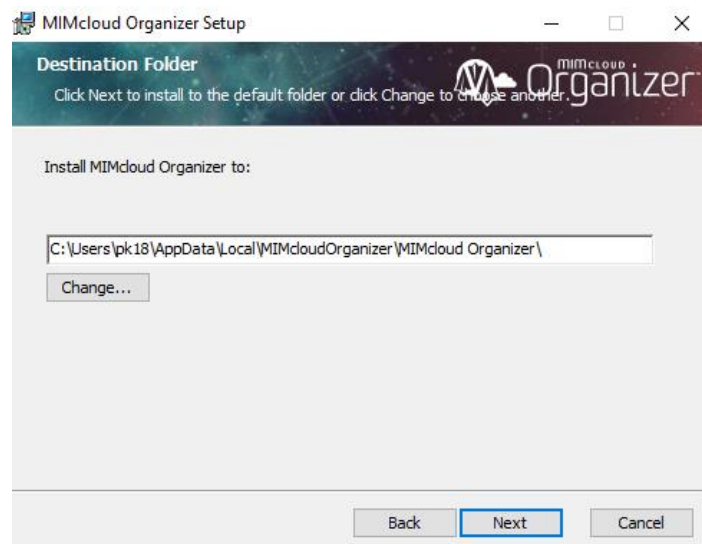
4. Click to install the MIMcloud organiser and save the file to the local hard drive.



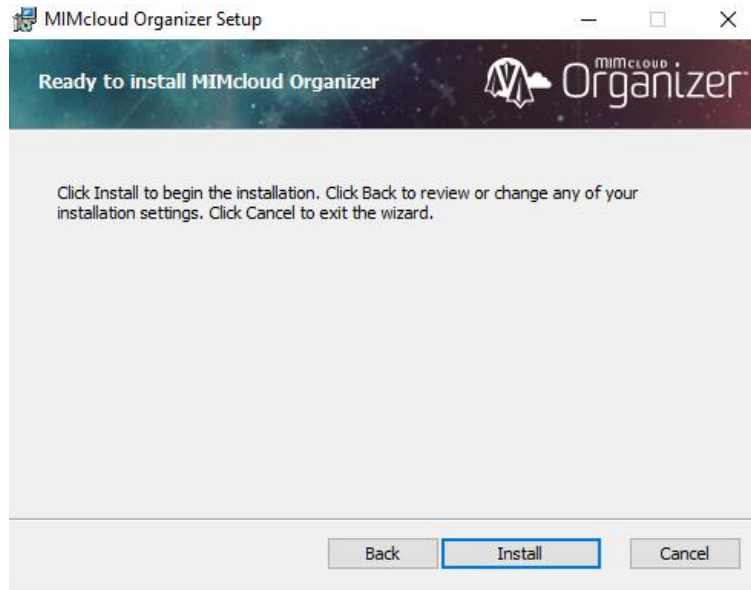
- a. Run the executable – you may need to right-click and run as administrator.



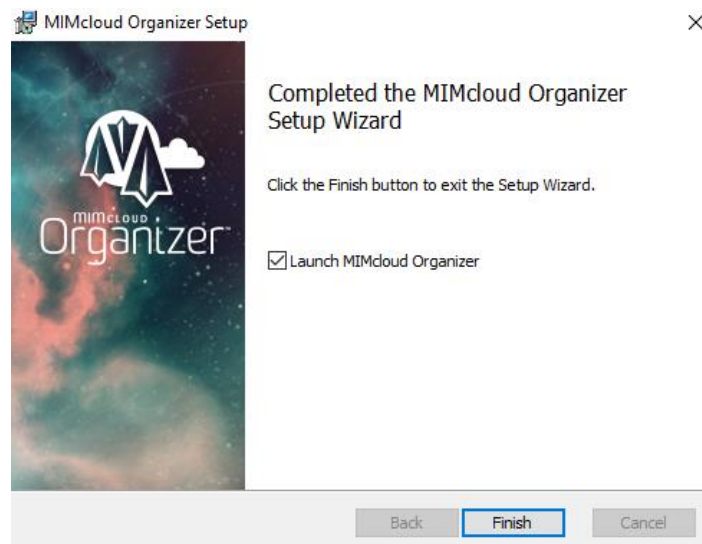
- b. Read the Terms of Service and click next



- c. Install to the default location



- d. Once installed you can Finish and launch the Organizer

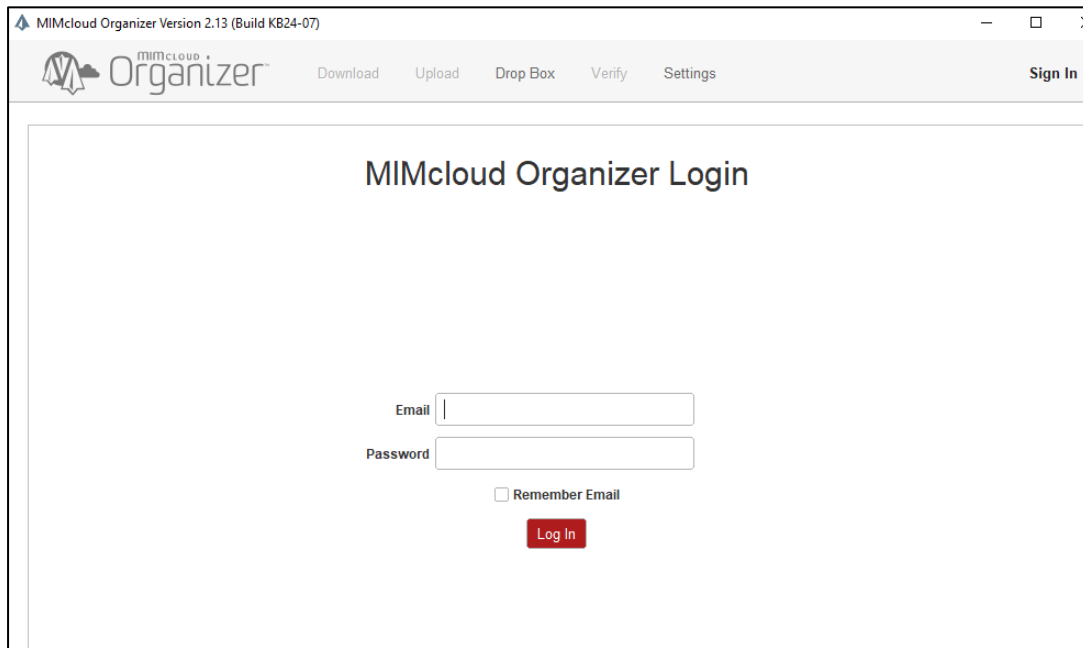


## 5 Uploading DICOM Data to MIMcloud

This assumes that MIMcloud Organizer is already installed on the local PC (please refer to the prerequisites in section 4).

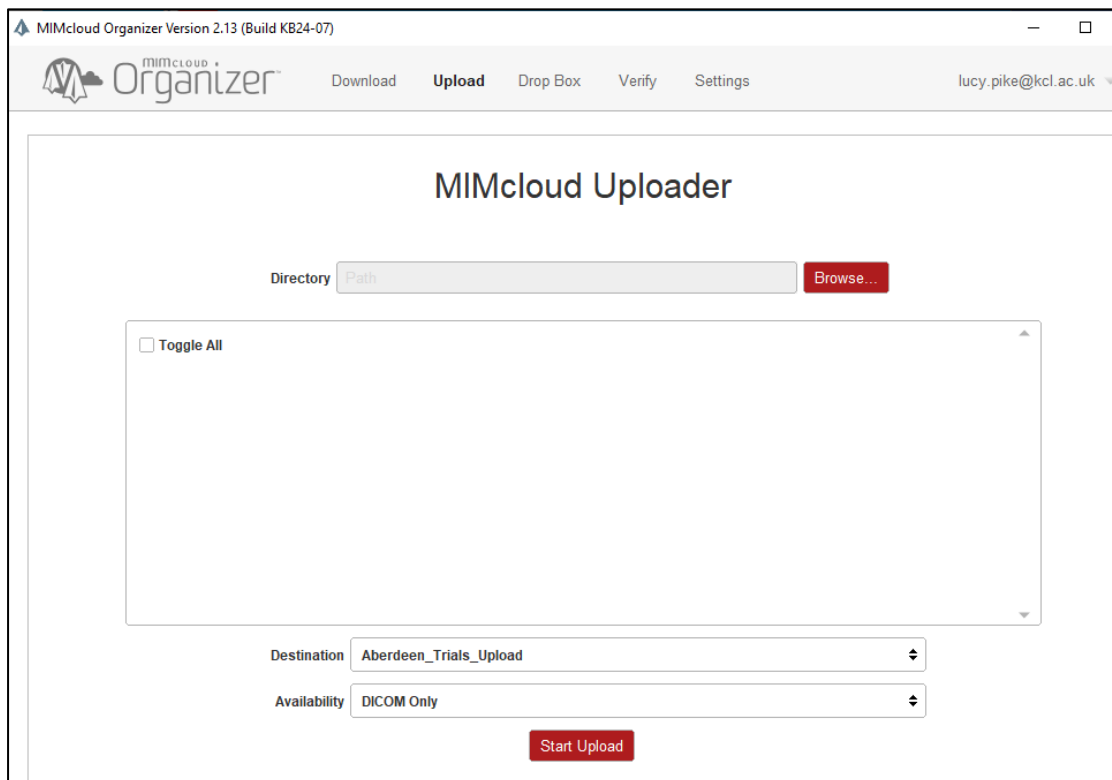
Before uploading any patient scan data to the server, it **MUST** be pseudo-anonymised following local procedures – refer to the relevant trial imaging manual for the trial specific naming convention.

1. Run the MIMcloud Organizer application
2. Log in using your MIMcloud credentials



The screenshot shows the MIMcloud Organizer Version 2.13 (Build KB24-07) application window. The title bar includes the version and build information. The menu bar contains 'Download', 'Upload', 'Drop Box', 'Verify', 'Settings', and 'Sign In'. The main content area is titled 'MIMcloud Organizer Login'. It features a login form with fields for 'Email' and 'Password', a 'Remember Email' checkbox, and a 'Log In' button.

3. Click on the Upload tab



The screenshot shows the MIMcloud Uploader screen within the MIMcloud Organizer Version 2.13 (Build KB24-07) application. The title bar and menu bar are consistent with the previous screenshot. The 'Upload' tab is selected in the menu bar. The main content area is titled 'MIMcloud Uploader'. It features a 'Directory' field with a 'Path' input and a 'Browse...' button. Below this is a large empty box with a 'Toggle All' checkbox. At the bottom, there are 'Destination' and 'Availability' dropdown menus, with 'Aberdeen\_Trials\_Upload' and 'DICOM Only' selected respectively. A 'Start Upload' button is at the bottom center.

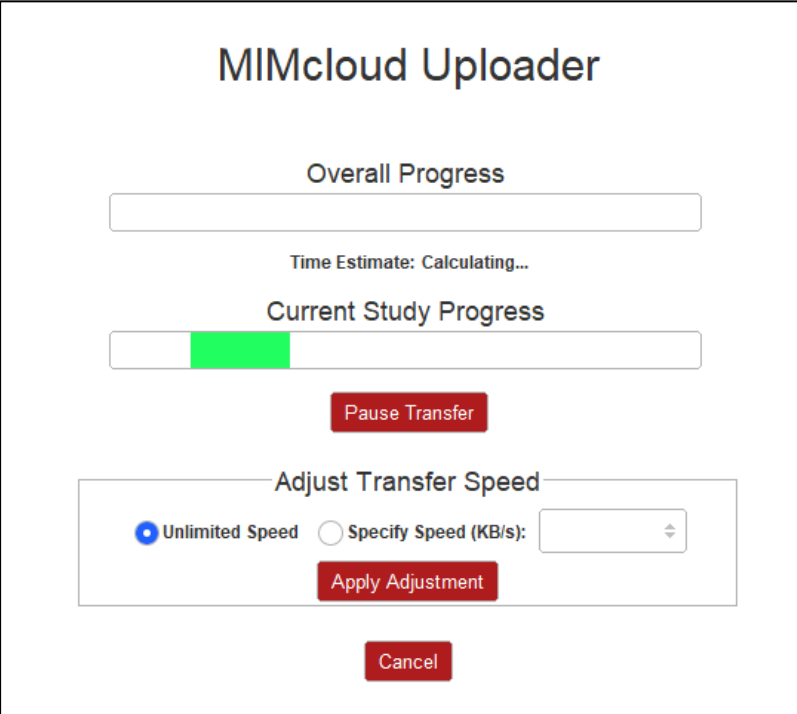
4. Click **browse** to navigate to the directory where the pseudo-anonymised patient or phantom scans are located on the local drive - the files should NOT be compressed (.zip or .7z) and multiple studies can be placed in the same folder to upload together so long as they are for the same trial.
5. Click Select Folder. The organizer will list all the DICOM studies and series found in the directory.
  - a. The top level is the study and gives the patient name and scan date.



- b. Click on the box next to the study to expand and see the series within the study:

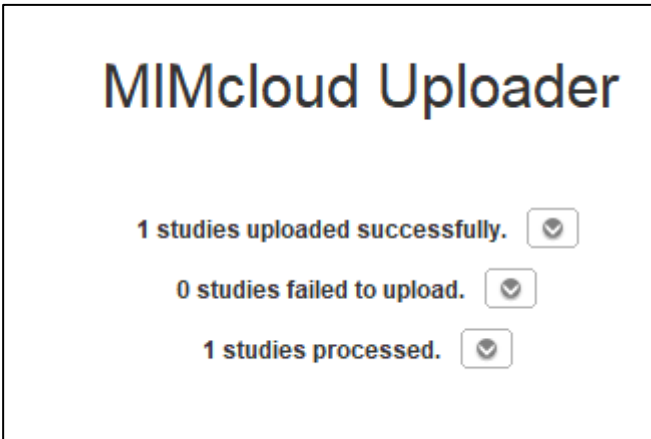
The screenshot shows the MIMcloud Uploader interface. At the top, the title 'MIMcloud Uploader' is centered. Below it, there is a 'Directory' field containing the path '.data\_backups\DICOM\_DATA\PHANTOMS\18F\D4\_Acr\_10022017' and a 'Browse...' button. A red box labeled 'Patient name and study date' points to the directory field. Below the directory field is a list of series with checkboxes. A red box labeled 'Scan modality and series name' points to the first series 'lcp\_acr\_phantom, 2017-02-10, , gYIZJKYG513X40WQsLKt2KLEweQ.1486713540.526'. To the right of the series list, a red box labeled 'Add attachments' points to a paperclip icon. At the bottom, there are two dropdown menus: 'Destination' set to 'Upload\_ANIMATE' and 'Availability' set to 'DICOM Only'. A red 'Start Upload' button is at the bottom center.

- c. Check the expected data is selected (patient name and scan date) and that the patient name is appropriately pseudo-anonymised
  - d. Check the correct series are selected – in general only series starting with CT or PT are required and all others should be deselected, do not send screen captures, movies or clinical reports. If unsure, please check with the Core Lab
  - e. To add the accompanying PET acquisition form, click on the paperclip icon and navigate to the completed form on the local PC to include in the upload (this will generate a DICOM encapsulated file).
6. Check the Destination is correct and change the availability to **DICOM only**.
- For clinical trials data, please select the upload folder for the trial e.g. Upload\_ANIMATE for all scans acquired for the ANIMATE trial – if the trial is not listed, please contact the Core Lab.
  - For site accreditation data (phantoms and anonymised example patient data), select the destination as Upload\_Accreditation
7. Click Start Upload



The image shows the MIMcloud Uploader interface. At the top, the title "MIMcloud Uploader" is centered. Below it, there is a section for "Overall Progress" with a horizontal progress bar. Underneath the progress bar, the text "Time Estimate: Calculating..." is displayed. Below this, there is a section for "Current Study Progress" with another horizontal progress bar, which is partially filled with green. Below the progress bars, there is a red button labeled "Pause Transfer". Further down, there is a section titled "Adjust Transfer Speed" containing two radio buttons: "Unlimited Speed" (which is selected) and "Specify Speed (KB/s):" followed by a dropdown menu. Below these options is a red button labeled "Apply Adjustment". At the bottom of the interface is a red button labeled "Cancel".

8. The time will depend on the local network speed and how many studies are being uploaded but should only take a few minutes per study.
9. If successful, the screen below will appear:



The image shows the MIMcloud Uploader interface after a successful upload. The title "MIMcloud Uploader" is centered at the top. Below the title, there are three lines of status information, each followed by a down arrow icon in a box: "1 studies uploaded successfully.", "0 studies failed to upload.", and "1 studies processed.".

- a. If there are any failures, you can click the down arrow to see which study/series failed and retry the upload if necessary.
10. Once finished, log out of the MIMcloud organizer and email the Core Lab to let them know that the data has been uploaded ([pet-trials@kcl.ac.uk](mailto:pet-trials@kcl.ac.uk)).