

Objective:

The purpose of this document is to illustrate step-by-step the actions which should be taken when an incident is reported by the ***** regarding an issue with imaging.

IT On-Call Triage/Escalation:

A call and/or email to IT On-call should come in only after the ***** have performed the necessary [troubleshooting steps](#).

Once you have acquired the [necessary documentation](#) from the ***** , proceed to triage the issue.

Confirm Member to *** Connection:**

The following queries will be essential to diagnose the source of the problem. This will provide a snapshot of the study in its entirety and what, if any, pieces are missing, status and other vital information that may need to be conveyed to *****.

1. Using Azure Data Studio or Microsoft SSMS, open the below scripts (*.sql files):
 - First, run the summary.

Next, run the audit.

Please Note: You will need read-access to ***** to execute the scripts.

2. Using the ***** ID that you obtained from the ***** , change the ***** field to reflect the member ID having the issue. Once you execute the query you will need to look for the “Status Description.” If the “Status Description” shows:

“Failed”

This status indicates an error reported by ***** during the upload process.

Possible causes:

Environmental issue or user error.

Service Desk/OC should have already followed procedure set forth in “Study Upload Assistant Support Process.”

***** *failure.*

IT On-call should escalate to the Manager On-Call to assist in contacting *****.

“Processing”

This status indicates that the upload is still occurring. This is only problematic if the upload was initiated more than 60 minute earlier.

Possible causes:

It is most likely that ***** has received but not processed the webhook from *****.

Please contact SE On-Call. The SE On-Call will investigate the ***** Message Listener logs and determine why this feature is failing. Logs [here](#).

Once the SE On-Call determines the faulting application, a request can be made to Operations On-Call to restart the ***** Message Listener service on M***** SVCS1 and M***** SVCS2.

***** *failed to send webhook.*

SE On-call should contact *****.

***** can review their audit log to verify whether the webhook was ever sent.

“Completed”

This status indicates that the upload completed successfully and should be visible in both ***** and ***** FileManagement.

If status is “Completed”, but the upload does not show on the donor record:

Possible causes:

FileManagement API cannot communicate with *****.

SE On-Call should [Review Imaging Logs](#).

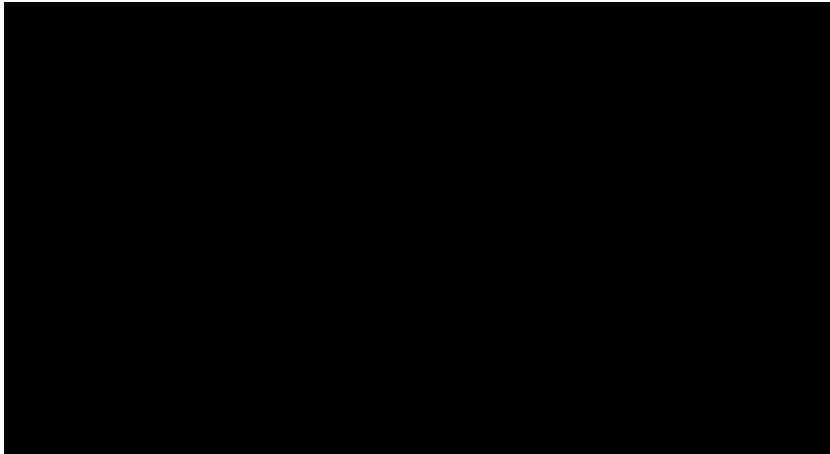
Confirm Imaging Service API Status:

Check the ***** , FileManagement and ***** API status.

- a. To check the ***** service status, open up Google Chrome and navigate to the ***** service status page:

https://*****

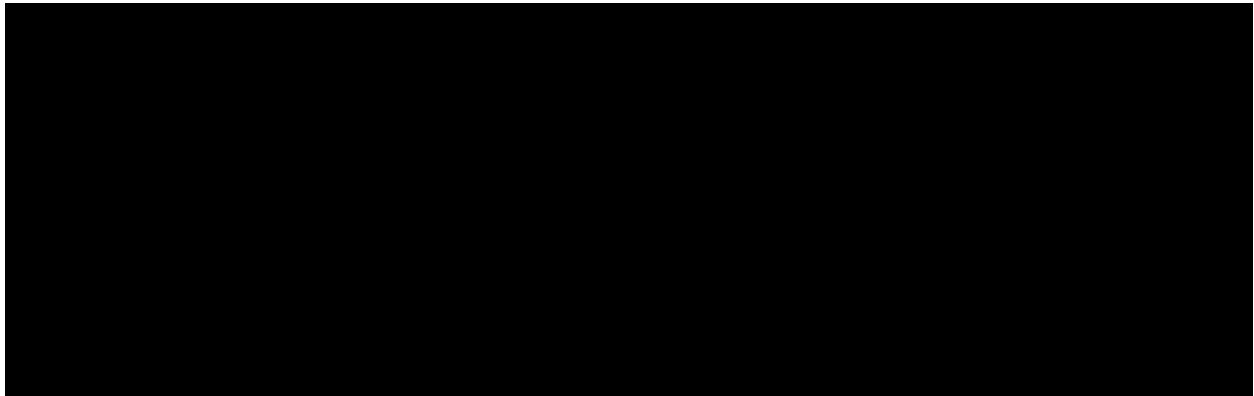
Please note – if this is the first time you are accessing this portal, you will be greeted with a certificate prompt. Chose the certificate assigned to your ID and hit the “Ok” button:



- b. Once opened, you will need to do a search for the following verbiage to ensure that ***** services are functioning properly. You should see the following language:

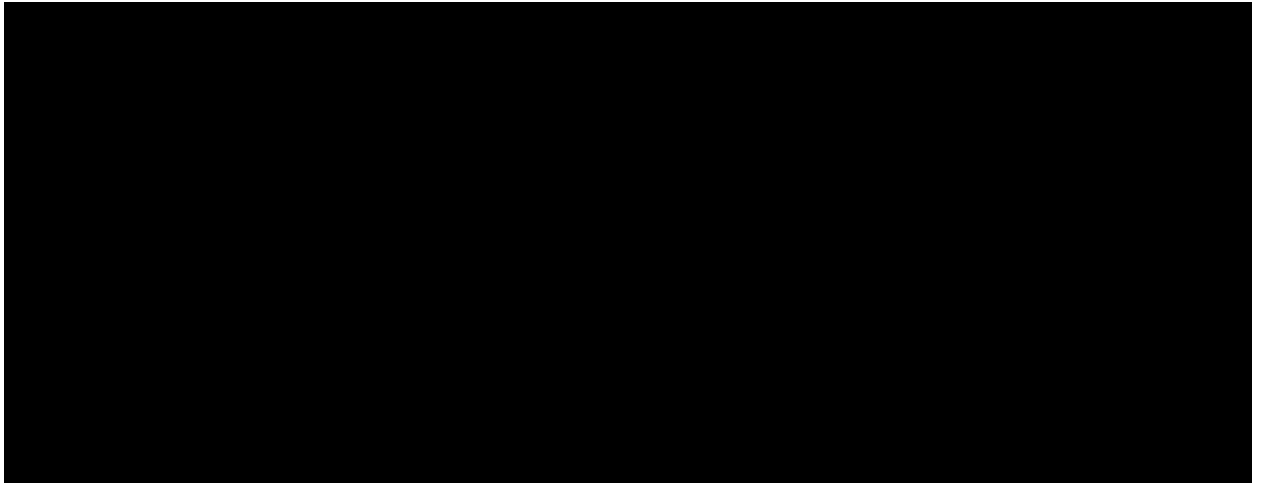
"Description": "Verifies connectivity to *** Health.", "Message": "Connection to ***** Health was successful."**

See screenshot below for more details:



- c. If this check passes, proceed to Step 2.
- d. If this process fails, contact SE On-Call. The SE On-Call will investigate the faulting application parsing the logs and determine why a feature is failing. Logs [here](#).
- e. Once SE oncall determines the faulting application, a request can be made to Operations On-Call to recycle the application pool.
2. If ***** services check out fine, you will need to check the status of the FileManagement API.
- a. FileManagement – https://*****
- b. One you open the above URL, hit F12 to bring up the inspector and click on the “Network” tab, then refresh the page. If the endpoint returns a status of 2xx (see

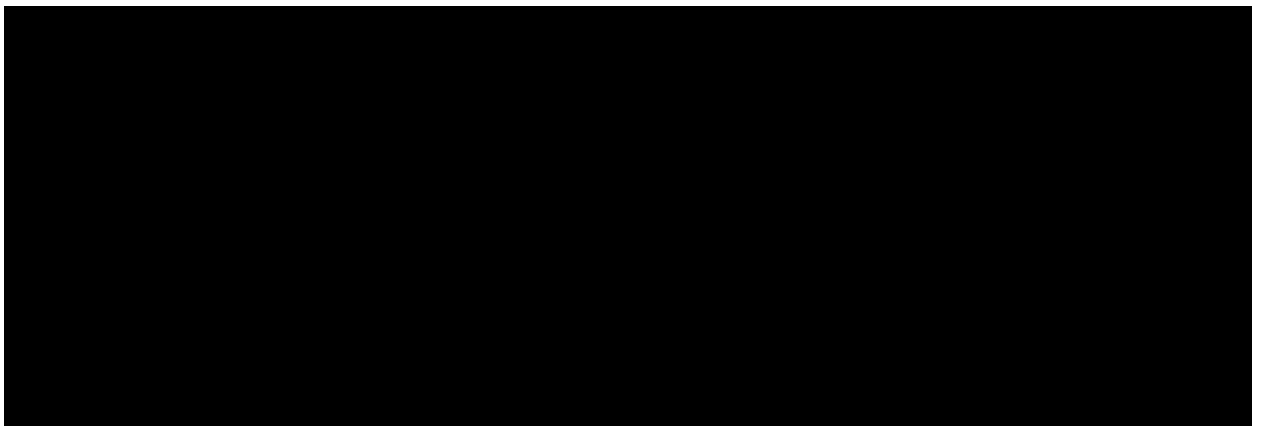
screenshot below) then the FileManagement API endpoint is operational. Proceed to Step 3.



- a. If this process fails contact SE On-Call. The SE On-Call will investigate the faulting application parsing the logs and determine why a feature is failing. Logs [here](#).
- b. Once SE On-Call determines the faulting application, a request can be made to Operations On-Call to recycle the application pool.

3. If FileManagement services check out fine, you will need to check the status of the ***** API.

- a. ***** – <https://...>
- b. Once you open the above URL, hit F12 to bring up the inspector and click on the “Network” tab, then refresh the page. If the endpoint returns a status of 2xx (see screenshot below) then the ***** API endpoint is operational. Proceed to the [“Confirm Member to ***** Connection”](#) section of the document.



- c. If this process fails, contact SE On-Call. The SE On-Call will investigate the faulting application parsing the logs and determine why a feature is failing. Logs [here](#).

- d. Once SE On-Call determines the faulting application, a request can be made to Operations On-Call to recycle the application pool.

Review Imaging Logs:

Check inner-system connection logs to determine where the failure occurred. To date there are 8 directories of logs that you will need to check on PROD3 and PROD4:

1. PROD3 Location: \\moresdev... (shortcut for all)
 - a. File Management
 - b. *****
 - c. MessageListenerLogs (check both servers for recent activity)
 - i. \\moapp...
 - ii. \\moapp...
 - d. *****.Application

2. PROD4 Location: \\moresdev\DEV\EventLogs\ImagingStudies\PROD4 (shortcut for all)
 - a. File Management
 - b. *****
 - c. MessageListenerLogs (check both servers for recent activity)
 - i. \\moapp...
 - ii. \\moapp...
 - d. *****.Application

What you are looking for in each log file will be based on the problem encountered. First thing to look for is any error messages or stack traces that align with the timeframe of the problem. Look for transaction ids to trace problematic studies in the FileManagement logs. Ncache can also be a problem, and will manifest as 'no server available' errors in the MessageListenerLogs files. If there has been a release or system update particularly for the Ncache server this can cause cache connections to become stale. The MessageListener in this case will throw errors, studies will upload but will not be assigned to the donor in the Studies table.

If you have consulted the logs and see no internal issue within the UNOS systems, proceed to the "[Contacting *****](#)" section of the document.

Contacting ***:**

IT On-Call staff should contact ***** directly only after it has been determined that there is either an issue on their side or an issue that requires assistance in troubleshooting. The information that ***** will require to look into the issue will likely come from the database and the transaction logs.

How to contact ***:**

The employee should identify as UNOS, provide a description of the issue, the MRN number associated with the study, and let them know we are using the UNOS production environment and PROD location. Let the support personnel know this is a STAT issue. For more detailed instructions, please consult the document below.

Stepped instructions for contacting *****.

***** will acknowledge all requests for support within 2 hours of receipt. This will include a ticket number and severity level. Below are the SLA's for each severity level:

- Severity 1 – ***** will use its best efforts to return to production status within 1 hour.
- Severity 2 – Resolution within 30 days.

******* Contact Information:**

- Email: [removed]
- Phone: [removed]
- Ticket: [removed]

*The following information can also be found in the ***** Desk Run Book. This troubleshooting precedes escalation to IT On Call.*

******* Center Troubleshooting Detailed Steps:**

The ***** Center will go through a series of basic troubleshooting steps to assist the user experiencing issues with ***** Imaging. To date Imaging works best with the Google Chrome Web Browser on both Windows and Macintosh platforms and it is essential to advise the OPO that any other browser will not work.

Below is a list of common scenarios and prescribed solutions:

Scenario 1: User cannot View an Image.

Most common issues:

1. OPO/TXC user:
 - a. Study is not visible in the Image Studies table.
 - i. **Solution:** Verify 2 minutes has passed. Ask them to refresh the page by clicking F5. They will have to click on the “Tests” tab again.
 - a. If the study is still not visible, proceed to [Scenario 3](#).
 - b. Study is visible in the Image Studies table, but the description is not clickable. i.
Solution: Verify the Status is “Completed”. It will not be clickable until then.
 1. If the status is “Completed” and the link is still not clickable:
 - a. Verify how long ago the upload completed. Link may take

up to 60 seconds to generate. If that time has passed, proceed to [Scenario 3](#).

c. Study is visible and clickable, but...

i. The viewer doesn't come up.

1. **Solution:** Contact [*****](#).

a. Additional info: Likely issue with *****.

ii. The viewer comes up but displays an error.

1. **Solution:** Contact [*****](#).

a. Additional info: Likely cause is ***** cannot generate an view link.

i. Likely issue with *****.

ii. Potential issue with ***** DonorStudies

GET to retrieve the Study View Link.

iii. The viewer comes up, but all expected images do not appear OR a tool in the viewer is not functioning as expected.

1. **Solution:** Initiate the Study Upload Assistant and follow the instructions there.

a. [Escalate to *****](#)

2. Specific to *** user:

a. Expected study is not visible in the Image Studies table.

Solution: ***s should be able to view any study as long as the upload's status is "Complete" and the "Fix Conflicts" button is not present on the study. If they are having an issue viewing the study, most likely it is because the corresponding OPO needs to review errors when they were presented with the "Fix Conflicts" button. If indeed the study reads "Complete" and does not have conflicts, proceed to [*****](#).

Scenario 2: User cannot upload an Image.

For Reference: Complete "Image Study Upload Workflow" guide found here.

Most common issues:

1. User cannot see the "Image Studies" button used for uploading an Image Study.

a. **Solution:** This is most likely due to the user not having permission to edit a ***** record and/or they are associated to an OPO which has not yet been on-boarded. You will need to validate this.

i. Only those users who have sufficient permission to edit a *****

record AND are associated with an OPO which has been on-boarded (record exists in Security.PilotCenter with PilotProgramId = 2) are permitted to upload image studies.

2. If they click “Image Studies” button, nothing happens.
 - a. **Solution:** Contact [*****](#).
 - i. Additional info: Likely issue with *****.
3. If they click “Image Studies” button and the modal displays with an error message.
 - a. **Solution:** Contact [*****](#).
 - i. Additional info: Likely cause is ***** cannot generate an upload link. 1. Likely issue with *****.
 2. Potential issue with FileManagement StudyUploadTransaction POST to retrieve the Study Upload Link.
4. If the modal displays but when they click the “Choose...” button to select their study, it does not allow them to select a directory, only a single file.
 - a. **Solution:** Verify that they are using a compatible browser. Google Chrome is recommended for uploading Internet Explorer often does not work for uploading, but will work for viewing.
5. If they are encountering any issues with uploads failing or taking too long, refer to the subsequent scenarios below.
6. If the issue persists after all of the above proceed to escalate to [*****](#).

Scenario3: ***** reports uploads are very slow or never finishes and the status on the ***** table on the ***** of the Donor shows "Failed".

Solution: Some uploads are quite large and take a while to process. Actual time will vary based on internet connection. You will need to perform the following steps to help resolve the issue:

1. Verify that the user is not minimizing or navigating away from the browser tab that the upload occurs in.
 - a. All browsers will throttle the upload speed if the tab/window running the upload is not the open tab/window on the screen.
2. Instruct the user to cancel any pending or failed uploads and try again this time making sure to keep the tab/window that the uploader and progress bar are running in are in focus or "on top", that they are visible.
 - a. If the user is uploading directly from a DVD, it is highly recommended that they

copy the files from the DVD locally to their machine and upload the files via the hard drive.

- b. Make sure the progress bar fully reaches 100% AND they get a confirmation message BEFORE closing the window.
3. After validating all the above, if the problem still exists:
 - a. Initiate the Study Upload Assistant and follow the instructions there.
 - b. Escalate to [*****](#).

Scenario 4: User gets a message from Windows asking them *“What would you like us to do with this disk drive?”*

Solution: Slow DVD drives can delay or even interrupt the upload. In some cases Windows also has trouble analyzing the disk to determine what to do with it which can also halt or delay the upload. You will need to perform the following steps to help resolve the issue:

1. If the user is uploading directly from a DVD, it is highly recommended that they copy the files from the DVD locally to their machine and upload the files via the hard-drive.
 - a. Some users *may not* have access to save something to the local hard drive of the computer they are on. For these users, instruct them to insert the disk and wait until Windows tells them it cannot recognize the files or suggest some action. Ignore that message from Windows, close it, and then start the upload from the disk.
 - b. If Windows does not actually tell the user anything about the disc you may have to just watch the drive and wait for it to stop being busy.
2. If after validating all the above, inform the customer to wait 45 minutes and if they report back that the issue still persists after waiting the prescribed amount of time, proceed to escalate to [*****](#).

Scenario 5: OPO reports that when they try to upload a study there is one or more error messages in red below the image study description in the Image Studies table.

Solution: This is mostly likely because the system has detected an issue and there will be a “Fix Conflicts” button present on the screen. The user will need to click on this button to review said conflicts. After reviewing/amending the conflicts, the errors should be resolved and turn gray. The study should then be viewable.

Scenario 6: User reports that when they try to upload a study there is a ‘storage error’ message.

Solution: ***** has provided a step by step guide to identify the storage node that the ***** client is currently using. The guide is located here :

[removed]

Follow the guide, annotate the node value, and escalate to IT On Call so that they can contact ***** support directly. ***** will have to take action to fix the problem node.

Escalating to IT On Call:

Phone No: Ext ***** (Internal), ***** (External)

Email: I*****

Procedure: When escalating to IT On Call please get the following information from the user reporting the issue. After speaking to IT On Call, please follow up with an email to **[removed]** that summarizes the problem.

Below are key criteria that the On Call member will need to help triage the issue:

- Nature of the problem
- What steps have been taken to attempt a fix?
- Username
- OPO/TXC
- Browser/Operating System used
- Device type (tablet, smartphone, pc, etc.)
- Donor ID
- Study Description
- Study Date (and time)
- MRN(Medical Record Number)