

- Select **Show Email Fields** to show a field that allows users to enter the recipient's email address.

Limit Number of Uses

- Select **Show Use Limit** to show a field that allows users to limit the number of uses for the study link.
- To specify a use limit that cannot be changed by the user, deselect **Use limit** and enter the limit in the **Default value** field.
- To specify a default value that can be changed by the user, select **Use limit** and enter the default value in the **Default value** field.

Time Limitations

- Select **Show Time Limitations** to show a field that allows users to set an expiration period for the study link.
- Select **Expiration Time Hours** to show a field that allows users to set an expiration time in hours. You can also enter a **Default value** that can be changed by the user. To specify an expiration period that cannot be changed by the user, deselect **Show Expiration Time Hours** and enter a **Default value**.
- Select **Expiration Time Days** to show a field that allows users to set an expiration time in days. You can also enter a **Default value** that can be changed by the user. To specify an expiration period that cannot be changed by the user, deselect **Show Expiration Time Days** and enter a **Default value**.

Login

- Select **Show Require Login Option** to show a field that allows users to require the recipient to log into their NilRead account before using the link.
- To select this option by default but allow the user to change it, select **Login Option** and select the **Default value** checkbox.
- To always require recipients to log into their NilRead account before using the link, deselect **Login Option** and select the **Default value** checkbox.

Password

- Select **Show Password Option** to show a field that allows users to specify a password the recipient is required to enter in order to use the link.

Two Step Confirmation

- Select **Show Two Step Confirmation Option** to show a field that allows users to use a two-step verification process. The recipient will receive an email with a link to confirm they are the intended recipient. When the recipient clicks the link, they will be sent a second email with the study link. Note that this option is only available if your organization uses an IIS SMTP mail server.
- To select this option by default but allow the user to change it, select **Two Step Confirmation** and select the **Default value** checkbox.
- To always require users to use a two-step verification process, deselect **Two Step Confirmation** and select the **Default value** checkbox.

Send Link Options

- Select **Show Copy to clipboard button** to show the **Copy link to clipboard** button to the user for use when sending the link.
- Select **Show email button** to show the **Click to send link by email** button to the user for use when sending the link.

Standalone Link Server Configuration

A standalone server can be configured to send secure links instead of the main server.

- To use a standalone server to serve links, select the **Use Standalone Server(s) to serve links** option.
- To specify the domain prefix for the configured standalone link server, enter the prefix in the **Link Server Domain Prefix** field.
- To specify another encryption key, enter the key in the **Overwrite Encryption Key** field.

Edit the secure link email template

You can modify the template used to create emails for secure links. The template is located in **\App_Data\Templates**.

View and revoke shared links

You can view an audit trail of study links that have been created. You can also revoke a study link so it is no longer active.

1. Select **Settings**.
2. Under **System**, select **Shared Links**. Shared links are shown in the Shared link type area. You can view **Remote Study Review Links** (study links sent by users) and **Remote Study Upload Links** (links that allow third-party users to upload studies to NilRead).

The screenshot shows the 'Settings' interface for NilRead. In the top navigation bar, 'NilRead by Hyland' is visible along with other menu items like 'Dicom Activity', 'Upload New Study', 'Studies', 'Collaboration Settings', 'Help', and 'Logout'. The main content area is titled 'Settings > System > Shared Links'. It contains two main sections: 'SecureLink Creation Policy' and 'NilRead URL Server Configuration'. The 'SecureLink Creation Policy' section includes checkboxes for various options like 'Show Email Fields', 'Show Use limit', 'Show Time Limitations', etc., with some having input fields for 'Default value'. The 'NilRead URL Server Configuration' section has fields for 'Link Server Domain Prefix', 'Use Standalone Server(s) to serve links', and 'Overwrite Encryption Key'. Below these sections is a 'Save' button. The bottom part of the screen shows a table titled 'Shared Link Type' with one row visible. The row details a 'Remote Study Review Link' sent by 'alias' at '7/16/2020' with the description: 'Link sent to: Unspecified, Use Limit: 3, Expire At: Never, Login required'.

3. To revoke a link so it is no longer active, select the checkbox beside the link, then select **Revoke**.
4. To remove a link from the list, select the checkbox beside the link, then select **Delete**.

Ruler display settings

ADMINISTRATORS ONLY

You can determine whether image rulers are shown by default. This setting will affect all sites. Rulers can only be displayed when the underlying meta-data provides known and consistent pixel spacing and image geometry is flat.

Note

To customize the ruler behaviour, see [Change modality preferences](#).

Note

NilRead users can use **Titles** to show or hide a ruler for an image (see [Titles](#)).

1. Select **Settings**.
2. Under **System**, select **Image Display**.
3. To show image rulers by default, select **When a ruler can be drawn, show it on initial display**. Deselect this option if you do not want to show rulers by default.
4. Select **Save**.

Configure DICOM CD images

ADMINISTRATORS ONLY

NilRead users can download studies as an ISO CD image (see [Download studies, series or images](#)). If you want to include a DICOM viewer in these CD images, place the DICOM viewer files in the **App_Data\CDViewer** folder. The files will be automatically added to the ISO CD image.

Manage system preferences

ADMINISTRATORS ONLY

You can manage system settings, such as the region where NilRead is deployed.

1. Select **Settings**.
2. Select **System**. You can change the following settings:
 - General
 - Launch
 - Extended Study Properties
 - Patient Search

- Patient Search Study Table
- Patient Search Query Panel
- Collaboration
- Login
- Timeline
- Timeline Reports
- Image Display
- Third Party Applications
- **Shared Links**

View the dashboard

Use the dashboard to view system information and counters regarding NilRead components and operational environment. The Dashboard is only available for single tenant configurations of NilRead.

1. Select **Settings**.
2. Select **Dashboard**. The dashboard contains the following areas:
 - **Server Status** NilRead server system level information including the server name, build version, current CPU utilization, available RAM, and current number of users. Select the number of users to view statistics for the users currently logged into NilRead.
 - **DICOM Statistics** NilRead DICOM service counters, including CPU utilization, inbound throughput, and total number of imported studies and images.
 - **User Statistics** Statistics for the users currently logged into NilRead, including the user account name, current session start time, and recent inactivity time.
 - **Database** Database information, including the database server name, database name, current database size, and database capacity usage.
 - **Licensing** NilRead licensing information, including the maximum number of concurrent users, expiration time, and enabled NilRead features.
 - **Network** NilRead server network interface card information, including the adapter name, network utilization, link speed, and operational status.

View analytics

Use the NilRead analytics to view detailed information including audit trails, user activity, study access and load-balancing statistics.

1. Select **Settings**.
2. Select **Analytics**. You can view the following information:

- Patient audit trail
- User activity
- Event audit trail
- Patients accessed by user
- Top users by patient access
- Study access by modality
- User login load-balancing across servers
- Study review load-balancing across servers
- Study review distribution over time
- Login distribution over time

View federation statistics

ADMINISTRATORS ONLY

Federation statistics are only available for single tenant configurations of NilRead.

1. Select **Settings**.
2. Select **Federation**. You can view the following information:
 - Status
 - Archiving & Backup
 - Software Updates
 - Network Utilization

Manage Automatic Reconciliation

About Automatic Reconciliation

The NilRead Automatic Reconciliation functionality is a QC feature allowing automatic reconciliation of MRN and other DICOM attributes of outside studies against a site's patient records.



These configuration options have a direct impact on patient safety and can result in hazards such as incorrect diagnosis due to images being associated with the wrong patient or delay in diagnosis due to images not being available in the patient record.



This feature may result in data being ingested into the system which can introduce cyber-security risks, or contain illegal or inappropriate images.



It is recommended to only use this feature when reconciliation cannot be done effectively by a trained QC technician or when existing VNA or PACS systems (the primary repositories of studies) cannot provide reconciliation capabilities.

Make sure that the provided functionality is well understood and to perform a hazard analysis of the whole system and not only the NilRead automatic reconciliation feature.

For other warnings, please refer to [Warnings and precautions, General usage](#).

Note

This functionality is only available if the automaticReconciliation license is present.

Configure automatic reconciliation

1. Select **Settings**.
2. Under **System**, select **MRN Reconciliation**.
3. Select the desired options and click **Save**.
4. Read and agree to the warning message that is displayed.

See the next sections for details on configuring each option.

Enable reconciliation

When this option is enabled, all ingested instances go through the automatic reconciliation process before they are stored in the local cache.

MRN source

The **MRN Source** drop-down list allows you to specify which system contains the correct MRN to be associated with a particular patient. The drop-down list contains all of the configured connections which support demographic queries.

In addition, you can specify to reconcile based on private DICOM attributes injected by an API initiated upload. To specify this, select **Tag (0A57, 1091)** in the drop-down list. When this option is used, instead of performing a demographics query, NilRead uses these attributes directly for reconciliation.

Origins

The **Origins** option allows you to define which ingestion sources should be evaluated for reconciliation. You can select any options that apply.

Note

In the majority of cases, only **nilfeed** should be used. **Nilfeed** corresponds to the NilRead uploader and NilFeed product data sources.

Tags to match

The **Tags to Match** option defines which demographic DICOM attributes present in the ingested data should be used to query the configured MRN source to obtain the site specific MRN.

If the MRN source is the private **Tag (0A57, 1091)** then the above demographics from the data set are verified against API injected tags for additional hazard reduction.

If the matching fails, the ingested data is marked with a configured fallback MRN, to be processed later by a trained QC technician. For more details, see the **Fallback MRN** section.

Note

It is recommended to use and ensure the availability of the minimum industry standard attributes such as patient's name, date of birth, and patient's sex for matching.

Tags to apply

The **Tags to Apply** option defines the tags that are modified after a successful match. It is recommended to apply only the **Patient ID** and **Issuer of Patient ID** tags to reduce the overall risk of hidden patient data mismatch.

Fallback MRN

The **Fallback MRN** option allows you to configure a specific MRN to be used for marking ingested data if it fails to find a match.

Fallback MRN issuer

The **Fallback MRN Issuer** option allows you to define the Issuer of Patient ID to be used for marking a study as a failed match.

This option supports the ability of preserving the original MRN. To preserve the original MRN, add Outside - {0} where {0} is the placeholder for the original MRN. In a failed match, this configuration results in the Issuer of Patient ID field containing the value "Outside - [Original MRN]". For example, Patient 12345 fails reconciliation, the Issuer of Patient ID field will contain 'Outside - 12345'.

Query timeout

The **Query Timeout** option allows you to define a timeout in seconds for the demographics query of the selected data source to complete.

The ingestion performance is directly dependent on the query performance. However, it may be necessary for busy systems to control how long the software will wait before closing the connection.

Manage data post automatic reconciliation

Once the data is stored in the local cache, it is recommended to manage the system by performing the following actions:

- Use a Data Lifecycle management activity to automatically send successfully-reconciled data to the final destination system. This destination system should send image availability notifications as needed upon ingestion of the data received from NilRead.
- Periodically check the local cache for failed studies and manually correct them by a trained QC technician. You can configure a worklist to select studies that are marked with the configured fallback MRN, using built-in QC tools.
- Periodically audit and verify that the system is functional and safe.