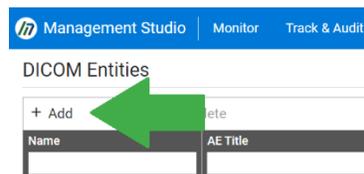# Add a New DICOM Entity to Mach7

The Mach7 system is non-promiscuous and all DICOM entities that will interact with the system, both sending and receiving imaging, will need to be added into Management Studio. Additional steps will need to be completed to allow archiving of imaging sent from the DICOM entity. This guide will go over the required steps when adding a new DICOM entity to your environment.
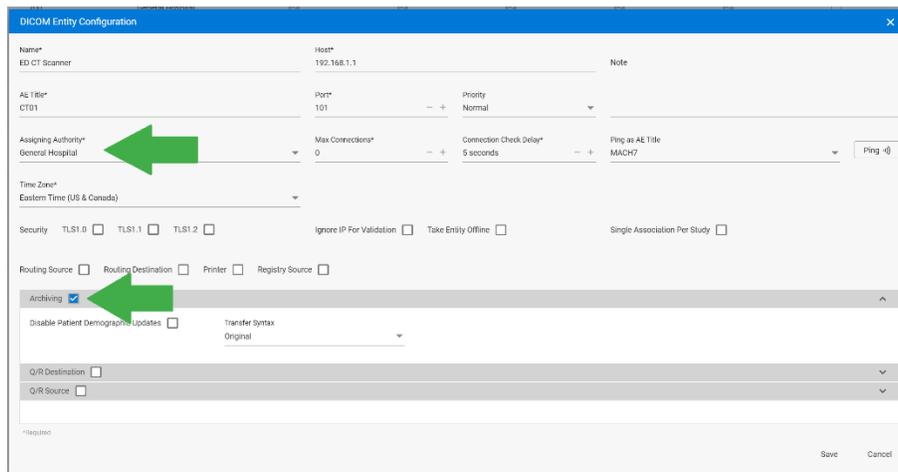
Required Steps:

1. Create DICOM Entity entry & assign appropriate role(s)
2. Create or Assign existing Archive Rule to the newly created DICOM Entity

Create the DICOM Entity

1. Log into Management Studio and navigate to Administration then DICOM Entities.
2. Click Add on the top left-hand corner.

3. Fill in the DICOM entity's network information.
4. Select the appropriate role(s) for the DICOM entity.
    a. Archiving (CSTORE SCU): Will enable this entity to archive studies.
    b. Printer: Will enable this entity to send data to a registered DICOM printer. Enabling this service will automatically mark this entity as a Routing Destination (see below).
    c. Routing Source (CSTORE SCU): Will enable this entity to trigger a Routing Service Workflow. This would be appropriate if the entity were the point of origin for images being routed.
    d. Routing Destination (CSTORE SCP): Will enable this entity to be a receiver of images in Routing and Export Workflows.
    e. Query / Retrieve Destination: Will enable this entity to Query and Retrieve from the Archive. This would be appropriate for PACS systems or viewers that need to obtain images from configured archive storage.
    f. Query / Retrieve Source: Will enable this entity to send DICOM Query and Retrieve requests to external sources.
    g. Registry Source: Will enable this entity to issue an XDS registry message.
5. Select the appropriate Assigning Authority from the drop down.
6. Click Save when finished.

Note: Failure to create the DICOM entity within Mach7 will result in a DICOM association rejection error on the sending device
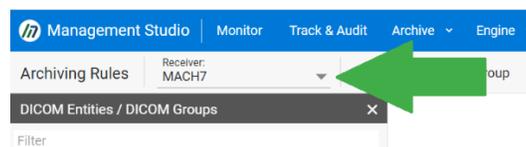
Assign an Archive Rule to the DICOM Entity

An active Archive Rule needs to be assigned to any DICOM entity that will be sending imaging that should be stored in the Mach7 VNA. There are three ways of assigning an Archive Rule to a DICOM entity:

    a.   Create a New Archive Rule
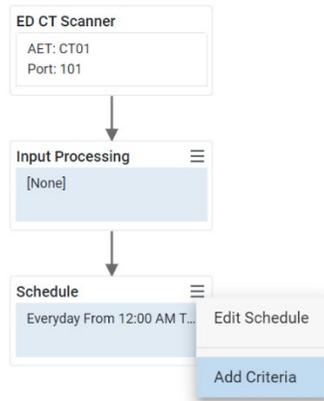   b.   Copy an Existing Archive Rule
    c.   Utilize DICOM Entity Groups

Create a new Archive Rule

1. Within Management Studio, navigate to Archive then Archiving Rules.
2. Select the appropriate DICOM receiver from the dropdown menu to which the DICOM entity will be sending imaging.
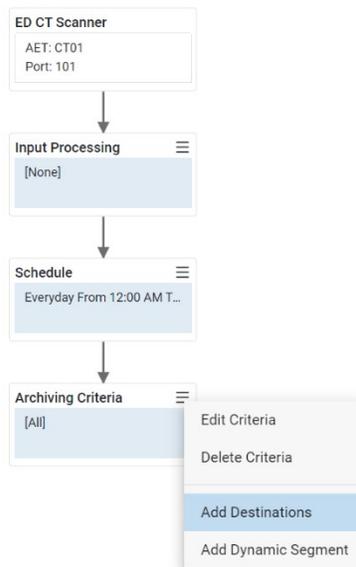

3. Select the newly created DICOM entity from the list on the left side of the screen
    a.   Entities with a white dot do not have an active Archive Rule assigned
    b.   Entities with a green dot have an active rule assigned
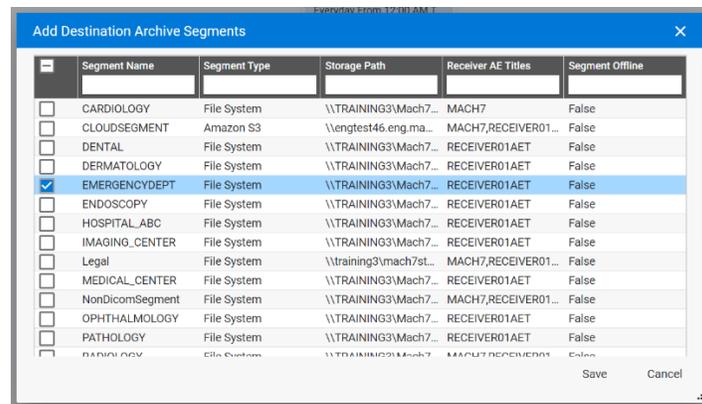
4. Click on the menu button on the top right area of the Schedule block and select Add Criteria.
    a. This will automatically create a criteria set that can be utilized to archive imaging to different/multiple segments as needed. By default, the Destination Criteria will be set to ALL meaning no filtering will take place.

5. Click on the menu button on the top right area of the Archiving Criteria block and select Add Destinations.

6. The Destination Archive Segments dialog will appear. Select the desired archive segment(s) from the dialog box and click Save when finished.

7. At this point the dot next to the DICOM entity's name will turn green on the left navigation bar and the Archive Rule is active. Click Reload Settings to immediately propagate the changes to the other Mach7 nodes.
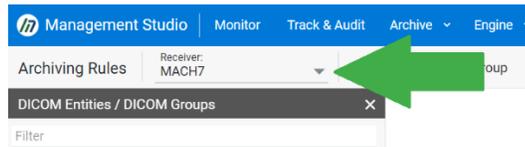

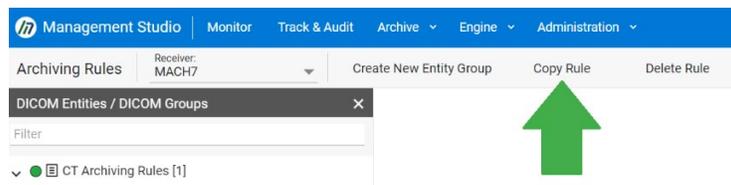8. Send in test imaging to verify the Archive Rule works as expected.

Note: Failure to assign an active Archive Rule will result in imaging sent from the device to be "silently rejected". In this scenario, imaging will not be archived in Mach7 and no errors will be presented on the sending device.
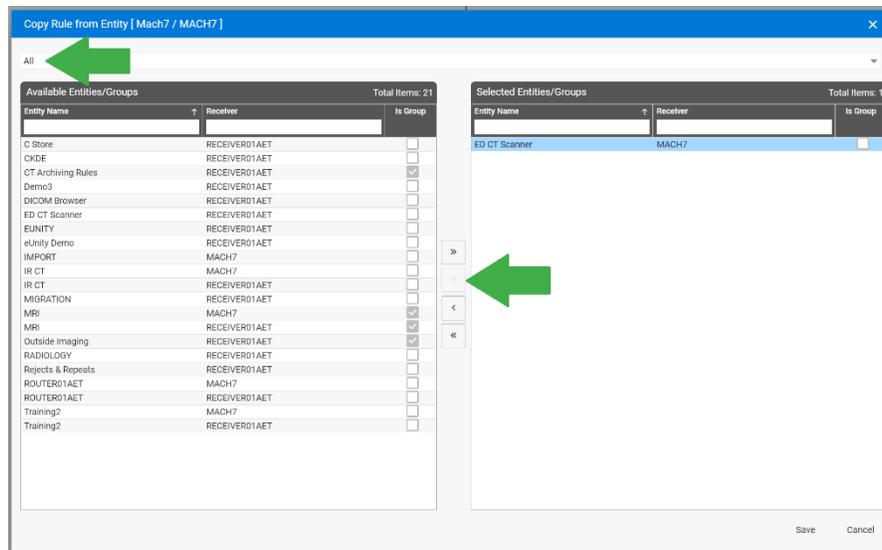
Copy an Existing Archive Rule

1. Within Management Studio, navigate to Archive then Archiving Rules.
2. Select the appropriate DICOM receiver from the dropdown menu to which the DICOM entity will be sending imaging.
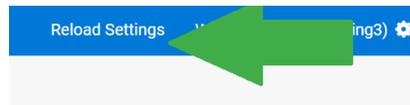
3. Select the DICOM entity from the list on the left side of the screen which has the Archive Rule that should be copied to the new entity.
4. select Copy Rule.

5. Select the newly created DICOM entity from the left-hand Available Entities/Groups column.
   a. If the Mach7 system has multiple DICOM receivers, DICOM entities will be listed once per receiver with the format: **DICOM ENTITY NAME – RECEIVER NAME**
   b. Alternatively, selecting a DICOM receiver from the Select Receiver dropdown menu will filter the list and display each available DICOM entity only once
6. Click the > button to move the selected DICOM entity to the right-hand Selected Entities/Groups column and click Save when finished.

7. At this point the dot next to the DICOM entity's name will turn green on the left navigation bar and the Archive Rule is active. Click Reload Settings to immediately propagate the changes to the other Mach7 nodes.
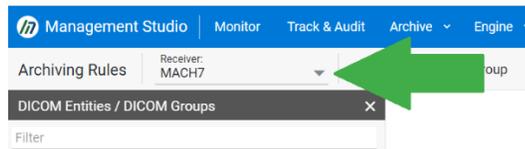

8. Send in test imaging to verify the Archive Rule works as expected.

Note: Failure to assign an active Archive Rule will result in imaging sent from the device to be "silently rejected". In this scenario, imaging will not be archived in Mach7 and no errors will be presented on the sending device.
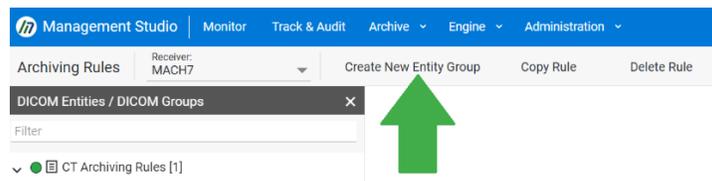
Utilize DICOM Entity Groups

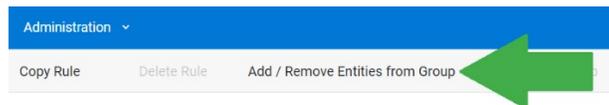DICOM Entity Groups can be utilized to apply a single Archive Rule to multiple DICOM entities.

1. Within Management Studio, navigate to Archive then Archiving Rules.
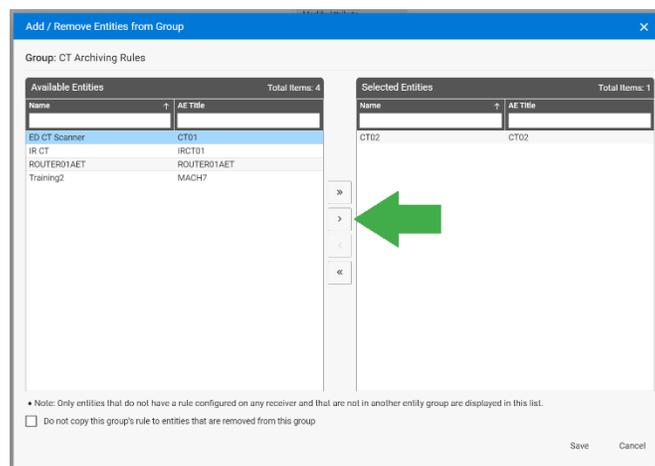2. Select the appropriate receiver from the dropdown menu to which the DICOM entity will be sending imaging.

3. If creating a new DICOM Entity Group, click Create new Entity Group. If adding a DICOM entity to an existing group skip to step 6 below.
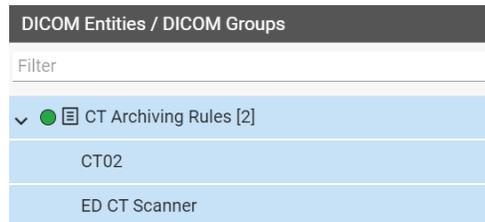

4. Name the new DICOM Entity Group.
5. Follow steps 4 – 8 from the Create new Archive Rule section above.
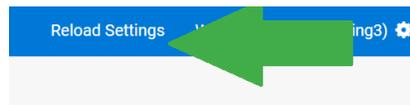6. To add DICOM Entities to a group, click on the group and select Add/Remove Entities from Group.

9. Select the desired DICOM entity from the list and click the > button to move the selected DICOM entity to the right-hand Selected Entities/Groups column and click Save when finished.

10. At this point the DICOM entity will be moved to the selected group.

11. Click Reload Settings to immediately propagate the changes to the other Mach7 nodes.

12. Send in test imaging to verify the Archive Rule works as expected.

Note: Failure to assign an active Archive Rule will result in imaging sent from the device to be "silently rejected". In this scenario, imaging will not be archived in Mach7 and no errors will be presented on the sending device.