



NumaLink Advanced Customization Features

1. **Summary:** NumaLink has many advanced customization features. These features account for the differences in the way the various vendors workstation's store, process or display images. The DICOM standard is open for interpretation. Different vendor's workstations supply information about a study in multiple different ways or locations within the DICOM standard. Also, many modern systems use automated processing protocols or workflows which require the studies to be standardized before they will display or process properly. NumaLink addresses these differences and allows images from various workstations to process and display properly.

2. **Labeling:**

A: **The Problem:** Various vendors imaging systems use different labels within the images to describe the type of studies that are acquired. Many systems have unusual labels or allow the user to create, edit and customize them. This causes problems when DICOM or native images are transferred from one workstation to another because the receiving workstation does not recognize these custom labels.

B: **The Solution:** The Native and DICOM labeling rules and customizations within NumaLink allows for selecting the appropriate labels or combinations of labels in the source data to be mapped to the appropriate labels on destination workstations. These label customizations are based on destination vendor(s) workstation and the site's labeling practices.

C: **The Benefit:** Images with the proper labeling are identified by the automated processing or display protocols on the destination workstation so that less user interaction is required, thus saving time.

D: **The Examples:**

1. Image type information can be optionally appended to series descriptions to ease file identification for selection.
2. Ambiguous file labels such as "Stress" or "RAW DATA" can be identified as "Stress <RGTomoSAX>" or "RstGTomo"
3. Replace specific labels with user defined labels to simplify workflows and image identification
4. Inhibit duplicate or vague label information
5. Unusual labeling can be customized to the user's requirements.

3. **Grouping:**

A: **The Problem:** Nuclear Medicine images are grouped in subsets or folders by Patient, Study UID, Series UID and Image UIDs. The DICOM guidelines for grouping the images are interpreted differently by the various vendors. When studies are transferred between systems the images are not grouped into the correct subset, folder or UID.

B: **The Solution:** NumaLink simplifies processing by grouping images in the way the destination workstations expects them.

C: The **Benefit**: The user has the advantage of allowing the system to automatically select the correct images for processing instead of manually searching through folders to find the images that need to be grouped together. This improves the accuracy and speed of processing and displaying the images within desired workflows.

D: The **Examples**:

1. Multiple related images can be grouped into the same series UID (i.e. Statics, Screen (Secondary) Captures, Whole Bodies).
2. Images can be grouped into default or user defined series names (i.e. "VENT" or "PERF" "STATICS" or "SCREENS")
3. New Study and Series UID's can be generated to combine related files for processing.
4. Choose to combine or split specific studies by the number of camera detectors based on your workstation's requirements.
5. Combine multiple single phase dynamic studies into multiphase dynamic studies.

4. **Correct missing information**

A: The **Problem**: Some DICOM fields are mandatory and some are not. Some vendors' workstations require information within DICOM fields that other vendors do not support. Not all the images in a study may have all the fields completed. Studies will not display or process if they don't have all the information that is required on the destination workstations

B: The **Solution**: NumaLink interprets all the images in a study and enters the information in the correct field that the destination workstation requires to display or process images properly

C: The **Benefit**: The destination system will process the studies from the source system correctly without errors. User will no longer need to manually edit the image sets to input information saving time.

D: The **Examples**:

1. Add the correct Cardiac State (Stress, Rest...)
2. Add the correct Recon Type (Short Axis...)
3. Add the Accession numbers in Secondary Capture images
4. Add the Patient Gender and Birthdates
5. Detector information to identify true multiple detector studies.
6. Read the worklist information in the native files and provide the correct information in DICOM.

5. **Reduce File Clutter**

A: The **Problem**: Nuclear Medicine workstations generate work files during the acquisitions, reconstruction or processing of imaging studies. These additional files are not required or supported by the receiving workstation when a study is exported from the source workstation

B: The **Solution**: The advanced configuration setting of NumaLink can be set to reject unwanted files.

C: The **Benefit**: These files can cause problems for the operation of the receiving workstation and use up unnecessary disk space.

D: The **Examples**:

1. Some systems only want to process raw data. Processed or reconstructed data can be filtered out.
2. Too many files can cause error messages on the destination system.